Water Resources Data California Water Year 1994

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

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-94-4
Prepared in cooperation with the California Department of Water Resources and with other agencies

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CALENDAR FOR WATER YEAR 1994

1993

OCTOBER

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1994

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Water Resources Data California Water Year 1994

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

by M.F. Friebel, K.L. Markham, S.W. Anderson, and G.L. Rockwell

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-94-4
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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 for the 1994 water year for California consist of records of stage, discharge, and water quality of streams, stage and contents in lakes and reservoirs, and water levels and water quality in wells. Volume 4 contains discharge records for 187 gaging stations, stage and contents for 47 lakes and reservoirs, precipitation data for 3 stations, and water quality for 6 stations. Also included are two low-flow partial-record stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in California.

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C—041977

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CONTENTS

	Page
Preface	III
Surface-water and water-quality stations, in downstream order, for which records are published	IX
Discontinued gaging stations	XIII
Discontinued lakes and reservoirs	XVII
Discontinued water-quality stations	XVII
Introduction	1
Cooperation	2
Summary of hydrologic conditions	2
Surface water	2
Water quality	6
Sediment	6
Special networks and programs	7
Explanation of the records	7
Station identification numbers	7
Downstream-order system	7
Latitude-longitude system	8
Records of stage and water discharge	8
Data collection and computation	8
Data presentation	9
Identifying estimated daily discharge	12
Accuracy of the records	12
Other records available	12
Records of surface-water quality	12
Classification of records	12
Arrangement of records	13
Onsite measurements and sample collection	13
Water temperature	13
Sediment	13
Cross-sectional data	14
Laboratory measurements	14
Data presentation	14
Access to WATSTORE data	15
Definition of terms	15
Publications on Techniques of Water-Resources Investigations	23
Gaging station and water-quality records	47
Remark codes	47
Discharge at partial-record stations and miscellaneous sites	426
Index	428

ILLUSTRATIONS

		Page
Figure 1.	Map of California showing runoff, in percent of median, for the 1994 water year	3
2-4.	Graphs showing:	
2.	Discharge and precipitation during water year 1994 and long-term average at four representative gaging stations	4
3.	Annual departure from 1961-90 mean discharge for period of record at selected gaging stations	5
4.	Comparison of monthly mean dissolved-solids concentrations during water year 1994 with long-term dissolved-solids concentrations at two selected stations	6
5.	Diagram showing system for numbering miscellaneous sites (latitude and longitude)	8
6-16.	Maps showing location of discharge and water-quality stations:	
6.	Alpine County	26
7.	Amador County	27
8.	Butte County	28
9.	Colusa County	29
10.	El Dorado County	30
11.	Glenn County	31
12.	Lake County	32
13.	Lassen County	33
14.	Modoc County	34
15.	Napa County	35
16.	Nevada County	36
17.	Placer County	37
18.	Plumas County	38
19.	Sacramento County	39

C—041978

C-041978

Page

17-26. Maps showing location of discharge and water-quality stations--Continued:
20. Shasta County..... 40
21. Sierra County..... 41
22. Siskiyou County..... 42
23. Sutter County..... 43
24. Tehama County..... 44
25. Yolo County..... 45
26. Yuba County..... 46
27-37. Schematic diagrams showing diversions and storage:
27. Pit and McCloud River basins..... 55
28. Upper Sacramento River basin..... 104
29. Battle Creek basin..... 123
30. Lower Sacramento River basin..... 149
31. South Fork Feather River basin..... 166
32. North Fork Feather River basin..... 183
33. Feather River at Lake Oroville..... 216
34. Yuba River basin..... 229
35. Bear River basin..... 296
36. Middle Fork American and Rubicon River basins..... 322
37. South Fork American River basin..... 359
38. Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta..... 425

TABLES

Page

Table 1. Comparison of peak discharge for 1994 water year with those for period of record for selected stations..... 2
2. Comparison of 7-day and 1-day low flow for 1994 water year with 7-day, 1-day, and minimum daily flow for 30-year base period 1961-90 for selected stations..... 2

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

	Station No.	Page
THE GREAT BASIN		
HONEY LAKE BASIN		
Long Valley Creek near Scotts (d)	10354000	49
Susan River at Susanville (d)	10356500	51
Willow Creek near Susanville (d)	10358500	53
PACIFIC SLOPE BASINS IN CALIFORNIA		
SACRAMENTO RIVER BASIN		
Sacramento River at Delta (d)	11342000	56
North Fork Pit River:		
South Fork Pit River near Likely (d)	11345500	58
Pit River near Canby (d)	11348500	60
Collett Reservoir near Little Valley (l)	11351600	62
Pit No. 1 Powerplant near Fall River Mills (d)	11354200	63
Pit River below Pit No. 1 Powerplant, near Fall River Mills (d)	11355010	65
Hat Creek near Hat Creek (d)	11355500	67
Lost Creek below diversion to Lost Creek Powerplant No. 1, near Old Station (d)	11358020	69
Hat Creek below Hat No. 1 Diversion Dam, near Burney (d)	11358700	70
Hat Creek No. 1 Powerplant near Burney (d)	11358800	71
Hat No. 2 Power Canal Diversion to Hat Creek near Burney (d)	11359100	73
Reservoirs in Pit and McCloud River basins:		
Lake Britton near Burney (l)	11361400	74
Iron Canyon Reservoir near Big Bend (l)	11363920	74
Lake McCloud near McCloud (l)	11367740	74
Pit River below Pit No. 4 Dam (d)	11362500	76
Nelson Creek below diversion to Nelson Creek Powerplant near Big Bend (d)	11362900	78
East Fork Nelson Creek below diversion to Nelson Creek near Big Bend (d)	11362950	80
Pit River at Big Bend (d)	11363000	82
James B. Black Powerplant near Big Bend (d)	11363910	84
Iron Canyon Creek below Iron Canyon Dam, near Big Bend (d)	11363930	86
Roaring Creek below diversion to Roaring Creek Powerplant, near Montgomery Creek (d)	11364200	88
Hatchet Creek below diversion to Hatchet Creek Powerplant, near Montgomery Creek (d)	11364300	90
Pit River near Montgomery Creek (d)	11365000	92
McCloud River near McCloud (d)	11367500	94
McCloud-Iron Canyon Diversion Tunnel near McCloud (d)	11367720	96
McCloud River below McCloud Dam, near McCloud (d)	11367760	98
McCloud River at Ah-Di-Na, near McCloud (d)	11367800	99
McCloud River above Shasta Lake (d)	11368000	101
Shasta Lake near Redding (l)	11370000	103
Sacramento River at Keswick (dcs)	11370500	105
Anderson-Cottonwood Irrigation District Canal at Sharon Street, at Redding (d)	11370700	109
Judge Francis Carr Powerplant near French Gulch (d)	11525430	110
Spring Creek Powerplant at Keswick (d)	11371600	112
Whiskeytown Lake near Igo (l)	11371700	114
Clear Creek near Igo (d)	11372000	115
South Cow Creek Canal Diversion to South Cow Creek near Whitmore (d)	11372080	117
Kilarc Canal Diversion to Old Cow Creek near Whitmore (d)	11372325	118
Cow Creek near Millville (d)	11374000	119
Cottonwood Creek near Cottonwood (d)	11376000	121
Battle Creek:		
North Fork Battle Creek below North Battle Creek Dam, near Manzanita Lake (d)	11376015	124
North Fork Battle Creek below McCumber Dam, near Manzanita Lake (d)	11376025	125
Powerplants in Battle Creek basin:		
Volta No. 1 Powerplant near Manton (d)	11376043	126
Volta No. 2 Powerplant near Manton (d)	11376046	126
South Powerplant near Manton (d)	11376410	126
Inskip Powerplant near Manton (d)	11376430	126
Coleman Powerplant near Cottonwood (d)	11376458	126
North Fork Battle Creek below diversion to Keswick Ditch, near Manton (d)	11376050	127
Bailey Creek below diversion to Ponderosa-Bailey Creek Powerplant, near Manton (d)	11376120	128
North Fork Battle Creek below diversion to Cross Country Canal, near Manton (d)	11376140	129
North Fork Battle Creek below diversion to Eagle Canyon Canal, near Manton (d)	11376150	130
North Fork Battle Creek below diversion to Wildcat Canal, near Manton (d)	11376160	131
South Fork Battle Creek below diversion to South Battle Creek Canal, near Manton (d)	11376420	132
South Fork Battle Creek below diversion to Inskip Canal, near Manton (d)	11376440	133
South Fork Battle Creek below diversion to Coleman Ditch, near Manton (d)	11376460	134
Battle Creek below Coleman Fish Hatchery, near Cottonwood (d)	11376550	135
Sacramento River above Bend Bridge, near Red Bluff (d)	11377100	137
Elder Creek near Paskenta (d)	11379500	139
Mill Creek near Los Molinos (d)	11381500	141
Thomes Creek at Paskenta (d)	11382000	143
Deer Creek near Vina (d)	11383500	145
Stony Creek:		
Reservoirs in Stony Creek basin:		
East Park Reservoir near Stonyford (l)	11385100	148
Stony Gorge Reservoir near Elk Creek (l)	11386100	148

C—041980

C-041980

	Station No.	Page
PACIFIC SLOPE BASINS IN CALIFORNIA--Continued		
SACRAMENTO RIVER BASIN--Continued		
Sacramento River--Continued		
Stony Creek below Black Butte Dam, near Orland (t)	11388000	150
Sacramento River at Butte City (d)	11389000	152
Sacramento River at Colusa (d)	11389500	154
Butte Creek below diversion dam, near Stirling City (d)	11389720	156
Butte Creek below forks of Butte Diversion Dam, near De Sabla (d)	11389740	157
Butte Creek below Centerville Diversion Dam, near Paradise (d)	11389780	158
Toadtown Canal above Butte Canal, near Stirling City (d)	11389800	159
Butte Creek near Chico (d)	11390000	160
Sacramento River below Wilkins Slough, near Grimes (dt)	11390500	162
Middle Fork Feather River (head of Feather River):		
Little Grass Valley Reservoir near La Porte (l)	11395020	167
South Fork Feather River below Little Grass Valley Dam (d)	11395030	168
South Fork Tunnel near Strawberry Valley (d)	11395150	170
South Fork Feather River below diversion dam, near Strawberry Valley (d)	11395200	171
Lost Creek:		
Sly Creek Reservoir near Strawberry Valley (l)	11395400	173
Oroville-Wyandotte Canal near Clipper Mills (d)	11395500	174
Lost Creek near Clipper Mills (d)	11396000	175
South Fork Feather River below Forbestown Dam (d)	11396200	177
Miners Ranch Canal below Ponderosa Dam, near Forbestown (d)	11396310	179
Bangor Canal below Miners Ranch Reservoir, near Oroville (d)	11396330	180
Sucker Run at Kanaka Diversion, near Feather Falls (d)	11396395	181
Lake Almanor at Prattville (l)	11399000	184
North Fork Feather River near Prattville (d)	11399500	185
Butt Creek below Almanor-Butt Creek Tunnel, near Prattville (d)	11400500	187
Butt Valley Reservoir near Caribou (l)	11401050	189
North Fork Feather River below Belden Dam (d)	11401112	190
South Branch Ward Creek below diversion dam, near Genesee (d)	11401165	192
Spanish Creek above Blackhawk Creek, at Keddie (d)	11402000	194
North Fork Feather River below Rock Creek Diversion Dam (d)	11403200	196
Bucks Creek:		
Milk Ranch Conduit at outlet, near Bucks Lodge (d)	11403450	198
Bucks Lake near Bucks Lodge (l)	11403500	200
Lower Bucks Lake near Bucks Lodge (l)	11403520	201
Bucks Creek below diversion dam, near Bucks Lodge (d)	11403530	202
Bucks Creek Tunnel outlet near Storrie (d)	11404100	203
Grizzly Forebay near Storrie (l)	11404250	205
Grizzly Creek below diversion dam, near Storrie (d)	11404300	206
North Fork Feather River below Grizzly Creek (d)	11404330	208
Camp Creek near Pulga (d)	11404380	210
North Fork Feather River at Pulga (d)	11404500	212
Philbrook Creek below Philbrook Dam, near Butte Meadows (d)	11405120	214
West Branch Feather River below Hendricks Diversion Dam, near Stirling City (d)	11405200	215
Feather River:		
Lake Oroville near Oroville (l)	11406800	217
Palermo Canal near Oroville (d)	11406810	218
Thermalito Afterbay near Oroville (l)	11406870	219
Western Canal at intake, near Oroville (d)	11406880	220
Richvale Canal at intake, near Oroville (d)	11406890	221
Pacific Gas & Electric Co. Lateral at intake, near Oroville (d)	11406900	222
Sutter-Butte Canal at intake, near Oroville (d)	11406910	223
Thermalito Afterbay release to Feather River near Oroville (d)	11406920	224
Feather River at Oroville (d)	11407000	225
Feather River near Gridley (d)	11407150	227
Middle Yuba River (head of Yuba River):		
Jackson Meadows Reservoir near Sierra City (l)	11407800	230
Middle Yuba River at Jackson Meadows Dam, near Sierra City (d)	11407810	231
Middle Yuba River, controlled release at Jackson Meadows Dam, near Sierra City (d)	11407815	232
Milton-Bowman Tunnel outlet near Graniteville (d)	11408000	233
Middle Yuba River below Milton Dam, near Sierra City (d)	11408550	235
Lohman Ridge Tunnel at intake, near Camptonville (d)	11408870	237
Middle Yuba River below Our House Dam, near Camptonville (d)	11408880	238
Oregon Creek at Camptonville (d)	11409300	240
Camptonville Tunnel at intake, near Camptonville (d)	11409350	242
Oregon Creek below Log Cabin Dam, near Camptonville (d)	11409400	243
North Yuba River below Goodyears Bar (d)	11413000	245
Slate Creek:		
Slate Creek Tunnel near Strawberry Valley (d)	11413250	247
Slate Creek below diversion dam, near Strawberry Valley (d)	11413300	248
New Colgate Powerplant near French Corral (d)	11413510	250
New Bullards Bar Reservoir near North San Juan (l)	11413515	251
North Yuba River below New Bullards Bar Dam, near North San Juan (d)	11413520	252
Kidd Lake near Soda Springs (l)	11413940	254
Lower Cascade Lake near Soda Springs (l)	11413945	255
South Yuba River near Cisco (d)	11414000	256
Fordyce Lake near Cisco (l)	11414090	258
Fordyce Creek below Fordyce Dam, near Cisco (d)	11414100	259

	Station No.	Page
PACIFIC SLOPE BASINS IN CALIFORNIA--Continued		
SACRAMENTO RIVER BASIN--Continued		
Lake Spaulding near Emigrant Gap (l)	11414140	261
Drum Canal at tunnel outlet, near Emigrant Gap (d)	11414170	262
Feather River--Continued		
South Yuba Canal near Emigrant Gap (d)	11414200	264
South Yuba River below Spaulding No. 2 Powerplant, near Emigrant Gap (d)	11414210	265
South Yuba River at Langs Crossing, near Emigrant Gap (d)	11414250	267
Canyon Creek:		
French Lake near Cisco (l)	11414400	269
Canyon Creek below French Lake, near Cisco (d)	11414410	270
Faucherie Lake near Cisco (l)	11414440	271
Canyon Creek below Faucherie Lake, near Cisco (d)	11414450	272
Sawmill Lake near Graniteville (l)	11414465	273
Canyon Creek below Sawmill Lake, near Graniteville (d)	11414470	274
Jackson Lake near Sierra City (l)	11414690	276
Jackson Creek below Jackson Lake, near Sierra City (d)	11414700	277
Bowman Lake near Graniteville (l)	11415500	278
Bowman-Spaulding Canal intake near Graniteville (d)	11416000	279
Bowman-Spaulding Canal at Jordan Creek Siphon Venturi, near Emigrant Gap (d)	11416100	280
Canyon Creek below Bowman Lake (d)	11416500	282
Texas Creek Tributary below Culbertson Lake, near Graniteville (d)	11416620	284
Lindsey Creek below Lower Lindsey Lake, near Graniteville (d)	11416700	285
South Yuba River at Jones Bar, near Grass Valley (d)	11417500	286
Yuba River below Englebright Dam, near Smartville (d)	11418000	288
Deer Creek near Smartville (d)	11418500	290
Yuba River near Marysville (dt)	11421000	292
Bear River near Emigrant Gap (d)	11421710	297
Dutch Flat No. 1 Powerplant near Dutch Flat (d)	11421750	298
Dutch Flat No. 2 Flume near Blue Canyon (d)	11421760	299
Bear River below Drum Afterbay, near Blue Canyon (d)	11421770	300
Chicago Park Flume near Dutch Flat (d)	11421780	302
Bear River below Dutch Flat Afterbay, near Dutch Flat (d)	11421790	303
Rollins Reservoir near Colfax (l)	11421800	305
Bear River Canal intake near Colfax (d)	11422000	306
Bear River below Rollins Dam, near Colfax (d)	11422500	308
Bear River fish release below New Camp Far West Reservoir, near Wheatland (d)	11423800	310
Bear River near Wheatland (d)	11424000	311
Mormon Ravine near Newcastle (d)	11425418	313
Sacramento River at Verona (d)	11425500	314
Sacramento Weir spill to Yolo Bypass near Sacramento (d)	11426000	316
North Fork American River (head of American River):		
Lake Valley Reservoir near Cisco (l)	11426170	317
Kelly Lake near Cisco (l)	11426180	318
Lake Valley Canal near Emigrant Gap (d)	11426190	319
North Fork American River at North Fork Dam (d)	11427000	320
Middle Fork American River:		
French Meadows Reservoir near Foresthill (l)	11427400	323
Middle Fork American River at French Meadows (d)	11427500	324
Duncan Creek near French Meadows (d)	11427700	326
Duncan Creek below diversion dam, near French Meadows (d)	11427750	328
Middle Fork American River above Middle Fork Powerplant, near Foresthill (d)	11427760	330
Middle Fork American River below Interbay Dam, near Foresthill (d)	11427770	332
Rubicon River:		
Rubicon-Rockbound Tunnel near Meeks Bay (d)	11427940	334
Rubicon River below Rubicon Dam near Meeks Bay (d)	11427960	336
Little Rubicon River:		
Buck Island Lake:		
Buck-Loon Tunnel near Meeks Bay (d)	11428300	337
Little Rubicon River below Buck Island Dam, near Meeks Bay (d)	11428400	338
Hell Hole Reservoir near Meeks Bay (l)	11428700	339
Rubicon River below Hell Hole Dam, near Meeks Bay (d)	11428800	340
South Fork Rubicon River:		
Robbs Peak Reservoir:		
Robbs Peak Powerplant near Kyburz (d)	11429300	342
Gerle Creek:		
Loon Lake near Meeks Bay (l)	11429350	343
Gerle Creek below Loon Lake Dam, near Meeks Bay (d)	11429500	344
Gerle Reservoir near Meeks Bay (l)	11429600	346
South Fork Rubicon River below Gerle Creek, near Georgetown (d)	11430000	347
Pilot Creek above Stumpy Meadows Lake (d)	11431800	349
Pilot Creek below Mutton Canyon, near Georgetown (d)	11433040	351
Long Canyon Creek:		
South Fork Long Canyon Creek Diversion Tunnel near Volcanoville (d)	11433060	353
South Fork Long Canyon Creek below diversion dam, near Volcanoville (d)	11433065	354
North Fork Long Canyon Creek Diversion Tunnel near Volcanoville (d)	11433080	355
North Fork Long Canyon Creek below diversion dam, near Volcanoville (d)	11433085	356
Middle Fork American River near Foresthill (d)	11433300	357
South Fork American River:		
Echo Lake Conduit near Phillips (d)	11434500	360

C-041982

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

	Station No.	Page
PACIFIC SLOPE BASINS IN CALIFORNIA--Continued		
SACRAMENTO RIVER BASIN--Continued		
South Fork American River--Continued		
Pyramid Creek at Twin Bridges (d)	11435100	362
Silver Lake (head of Silver Fork of South Fork American River) near Kirkwood (l)	11435900	364
Silver Lake Outlet near Kirkwood (d)	11436000	365
Caples Lake near Kirkwood (l)	11436950	367
Caples Creek Release below Caples Dam near Kirkwood (d)	11436999	368
South Fork American River near Kyburz (d)	11439500	370
Silver Creek:		
Union Valley Reservoir near Riverton (l)	11441001	373
South Fork Silver Creek:		
Ice House Reservoir near Kyburz (l)	11441100	374
South Fork Silver Creek near Ice House (d)	11441500	375
Junction Reservoir near Pollock Pines (l)	11441760	377
Silver Creek below Junction Dam, near Pollock Pines (d)	11441800	378
Camino Reservoir near Pollock Pines (l)	11441890	379
Silver Creek below Camino Diversion Dam (d)	11441900	380
Brush Creek Reservoir near Pollock Pines (l)	11442690	382
Brush Creek below Brush Creek Dam, near Pollock Pines (d)	11442700	383
Slab Creek Reservoir near Camino (l)	11443450	385
South Fork American River near Camino (d)	11443500	386
Rock Creek near Placerville (d)	11444201	388
South Fork American River near Placerville (d)	11444500	390
South Fork American River near Lotus (dct)	11445500	392
American River:		
Folsom Lake near Folsom (l)	11446200	396
American River at Fair Oaks (d)	11446500	397
Sacramento River at Sacramento (g)	11447500	399
Sacramento River at Freeport (dcts)	11447650	401
Yolo Bypass:		
Clear Lake (head of Cache Creek):		
Kelsey Creek near Kelseyville (d)	11449500	410
Clear Lake at Lakeport (g)	11450000	412
Cache Creek near Lower Lake (dp)	11451000	413
North Fork Cache Creek at Hough Springs, near Clearlake Oaks (dp)	11451100	415
North Fork Cache Creek near Clearlake Oaks (dp)	11451300	417
Cache Creek at Yolo (d)	11452500	419
Yolo Bypass near Woodland (d)	11453000	421
Lake Berryessa near Winters (l)	11453900	422
Putah Creek near Winters (d)	11454000	423

C-041983

DISCONTINUED GAGING STATIONS

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

Station No.	Station name	Drainage area (mi^2)	Period of record
10354000	Long Valley Creek near Scotts	125	1917, 1919, 1989-94
10354700	Mill Creek at Milford	2.26	1963-69
10355000	Baxter Creek near Janesville	19.6	1913-16, 1918-19
10355500	Schloss Creek at Janesville	1.05	1915, 1918-19
10356500	Susan River at Susanville	184	1900-05, 1913, 1917-21, 1951-94
10357000	Gold Run Creek near Susanville	15.1	1915-16
10358470	Willow Creek Tributary near Susanville	3.08	1966-71
10358500	Willow Creek near Susanville	90.4	1951-94
10359100	Shaffer Creek near Litchfield	5.63	1970-73
10359250	Pine Creek near Westwood	24.8	1951-61
10359300	Pine Creek near Susanville	226	1961-66, 1968, 1970-82
10359350	Eagle Lake Tributary near Susanville	.91	1963-65
10360230	Eagle Creek at Eagleville	6.36	1962-64, 1966-68, 1970
10360900	Bidwell Creek below Mill Creek, near Fort Bidwell	25.6	1961-82
10361000	Bidwell Creek at Fort Bidwell	--	1912, 1918-19
11341400	Sacramento River near Mount Shasta	135	1960-87
11341500	Sacramento River at Castella	256	1911-17, 1920-23
11342500	Sacramento River at Antler	460	1911, 1920-41
11343000	Parker Creek near Alturas	80.9	1931
11343500	North Fork Pit River near Alturas	203	1930-32, 1958-67
11344000	North Fork Pit River at Alturas	212	1929-31, 1972-85
11344500	South Fork Pit River at Jess Valley	100	1929-31
11346000	Crooks Canyon Creek near Likely	33.8	1929-31
11346500	Fitzhugh Creek near Alturas	36.7	1930-31
11347500	Pine Creek near Alturas	23.5	1919-31
11348000	Pit River at Alturas	857	1929-31
11348200	Pit River near Alturas	1,080	1966-71
11349000	Pit River near Lookout	1,585	1929-31, 1958-71, 1978-80
11349500	Ash Creek at Ash Valley	136	1929-31
11350500	Ash Creek at Adin	258	1904-6, 1929-33, 1958-70, 1972-82
11351000	Willow Creek near Adin	--	1930-31
11351500	Widow Valley Creek near Lookout	27.7	1930-31
11352000	Pit River near Bieber	2,475	1904-8, 1922-26, 1929-31, 1952-70, 1972-75
11352500	Horse Creek at Little Valley, near Pittville	237	1929-31, 1960-67
11352900	Beaver Creek near Hat Creek	23.2	1970-73
11353500	Bear Creek near Dana	84	1921-26
11353600	Dry Creek near Dana	6.46	1967-70
11353700	Fall River near Dana	123	1959-67
11354500	Fall River at Fall River Mills	--	1912-13, 1922
11355000	Pit River at Fall River Mills	3,651	1921-51, 1981
11355500	Hat Creek near Hat Creek	162	1926-29, 1930-94
11356500	Hat Creek at Hawkins Ranch, near Hat Creek	190	1912-13
11357000	Hat Creek at Wilcox Ranch, near Cassel	193	1922
11358000	Lost Creek near Bald Mountain	7.51	1930
11358500	Rising River near Cassel	22.2	1912-13, 1921-22
11359500	Hat Creek at Carbon	364	1922
11360000	Burney Creek above Burney	60.1	1922
11360500	Burney Creek at Park Avenue, near Burney	94.6	1912-13, 1921-22, 1958-64, 1966-75, 1977-80
11363500	Kosk Creek near Henderson	54.8	1911-13, 1915-16
11364000	Pit River above Hatchet Creek	4,819	1926-37
11365500	Squaw Creek above Shasta Lake	64	1945-66
11366000	Squaw Creek at Ydalpom	99.5	1912-13
11366500	Pit River near Ydalpom	5,030	1911-43
11367000	Mud Creek near McCloud	--	1927-32
11367200	McCloud River below Big Springs, near McCloud	322	1956-59
11367300	Angel Creek near McCloud	17.1	1955-59
11367700	McCloud River above Panther Creek, near McCloud	401	1955-59
11368500	McCloud River near Gregory	633	1903-08
11369000	McCloud River at Baird	673	1911-43
11369500	Sacramento River at Kennett	6,355	1926-42
11371000	Clear Creek at French Gulch	115	1950-93

C—041984

C-041984

DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11371500	Clear Creek near Shasta	172	1912-13
11372050	Churn Creek near Redding	9.35	1961-66
11372060	Churn Creek below Newton Creek, near Redding	11.9	1966-72
11372200	South Cow Creek near Millville	77.3	1957-72
11372700	Clover Creek near Oak Run	19	1957-59
11373200	Oak Run Creek near Oak Run	11.0	1957-66
11373300	Little Cow Creek near Ingot	60.8	1958-65
11374060	Shingle Creek near Shingletown	3.25	1964-67
11374100	Bear Creek near Millville	75.7	1960-67
11374400	Middle Fork Cottonwood Creek near Ono	244	1957-75
11375500	North Fork Cottonwood Creek at Ono	58.8	1908-13
11375700	North Fork Cottonwood Creek near Igo	88.7	1957-80
11375810	Cottonwood Creek near Olinda	395	1971-86
11375815	Cottonwood Creek above South Fork, near Cottonwood	478	1982-85
11375820	South Fork Cottonwood Creek near Cottonwood	217	1963-78
11375870	South Fork Cottonwood Creek near Olinda	371	1977-86
11375900	South Fork Cottonwood Creek at Evergreen Road, near Cottonwood	397	1982-85
11376038	Manzanita Creek at park boundary, near Manzanita Lake	11.6	1979-81
11376450	Coleman Canal above Coleman Forebay, near Cottonwood	--	1979-85
11376490	Battle Creek above Coleman Powerhouse, near Cottonwood	355	1979
11376500	Battle Creek near Cottonwood	356	1941-61
11377200	Sacramento River at Bend Bridge	8,900	1968-70
11377500	Paynes Creek near Red Bluff	92.8	1950-66
11378500	Sacramento River at Red Bluff	9,077	1957-66
11378800	Red Bank Creek near Red Bluff	89.6	1960-82
11378860	Red Bank Creek at Rawson Road Bridge, near Red Bluff	109	1965-67
11379000	Antelope Creek near Red Bluff	123	1941-82
11380000	Elder Creek near Henleyville	130	1931-41
11380500	Elder Creek at Gerber	136	1941-69, 1977-79
11381000	Mill Creek near Mineral	21.2	1929-32
11381595	Mill Creek at Sherwood Bridge, near Los Molinos	13.3	1977-78
11381990	Thomes Creek tributary at Paskenta	.65	1968-70
11382090	Thomes Creek at Rawson Road Bridge, near Richfield	28.4	1978-80
11382500	Deer Creek at Deer Creek Meadows	50.5	1929-32
11382550	Deer Creek below Slate Creek, near Deer Creek Meadows	69.4	1961-70
11383000	Deer Creek at Polk Springs	134	1929-31
11383600	Deer Creek at Red Bridge, near Vina	210	1977
11383730	Sacramento River at Vina Bridge, near Corning	--	1945-78, 1980
11383800	Sacramento River near Hamilton City	10,833	1945-80
11384000	Big Chico Creek near Chico	72.4	1931-86
11384340	Mud Creek at Cohasset Road, near Chico	21.9	1968-69
11384350	Mud Creek near Chico	48.9	1966-74
11384500	Stony Creek near Stonyford	102	1914-15, 1919-34
11384600	Little Stony Creek above East Park Reservoir, near Lodoga	45.6	1967-82
11385000	Little Stony Creek near Lodoga	98.2	1909-34
11385500	Stony Creek above Stony Gorge Reservoir	281	1934-41
11386500	Grindstone Creek near Elk Creek	157	1936-37, 1940, 1966-72
11387000	Stony Creek near Fruto	597	1901-12, 1961-78
11387200	Stony Creek above Black Butte Lake, near Orland	623	1909, 1981-83
11387500	Stony Creek near Orland	635	1920-34
11387800	North Fork Stony Creek near Newville	63.4	1963-73
11387990	South Diverson Canal near Orland	--	1955-90
11388000	Stony Creek below Black Butte Dam, near Orland	738	1955-90
11388500	Stony Creek near Hamilton City	773	1941-73
11389700	Butte Creek at Butte Meadows	44.4	1960-74
11389950	Little Butte Creek at Magalia	11.4	1969-85
11390200	Gold Run Creek Tributary near Nelson	1.31	1961
11390210	Cherokee Canal near Nelson	--	1970-74
11390655	South Fork Willow Creek near Fruto	38.9	1963-78
11390660	Walker Creek at Artois	60.4	1965-81
11390672	Stone Corral Creek near Sites	38.2	1958-64, 1966-85
11391000	Sacramento River at Knights Landing	14,535	1941-80
11391400	Little Last Chance Creek below Frenchman Dam, near Chilcoot	81.1	1959-80
11391460	Berry Creek near Sattley	7.54	1973-81
11391500	Big Grizzly Creek at Grizzly Valley Dam, near Portola	44	1926-32, 1951-53, 1955-67, 1969-80
11392100	Middle Fork Feather River near Portola	586	1969-76, 1978-80
11392500	Middle Fork Feather River near Clio	686	1926-79
11393000	Middle Fork Feather River at Sloat	775	1911-27
11393500	Middle Fork Feather River below Sloat	819	1941-62
11394000	Middle Fork Feather River near Nelson Point	883	1924-32
11394500	Middle Fork Feather River near Merrimac	1,062	1952-86
11394620	Fall River near Feather Falls	9.89	1963-79
11394800	South Fork Feather River above Little Grass Valley Reservoir	8.09	1961-79

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C-041985

DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11395300	Lost Creek above Sly Creek Reservoir, near Strawberry Valley	14.1	1961-70
11396300	South Fork Feather River near Forbestown	105	1958-61
11396350	South Fork Feather River at Ponderosa Dam	108	1962-87, 1990
11396400	Sucker Run near Forbestown	18.7	1965-87
11396500	Palmero Canal at Enterprise	--	1912-65
11397000	South Fork Feather River at Enterprise	132	1912-66
11397500	Feather River at Bidwell Bar	1,341	1912-64
11400000	Butt Creek above Almanor-Butt Creek Tunnel, near Prattville	69.0	1937-64
11401000	Butt Creek at Butt Valley	81.3	1905-21
11401100	Butt Creek near Caribou	85.5	1970, 1976-81
11401125	Indian Creek near Boulder Creek Guard Station, near Taylorsville	68.6	1966-80
11401150	Red Clover Creek near Genesee	122	1959-65
11401180	Little Grizzly Creek near Genesee	29.6	1964-79
11401200	Indian Creek near Taylorsville	526	1958-73, 1975-76, 1979-80
11401300	Lights Creek near Taylorsville	57.6	1958-62
11401500	Indian Creek near Crescent Mills	739	1906-09, 1911-18, 1930-93
11401900	Spanish Creek near Quincy	69.1	1959-63
11401940	Mill Creek near Quincy	6.72	1966-71
11402500	Spanish Creek at Keddie	194	1912-33
11403000	East Branch of North Fork Feather River near Rich Bar	1,025	1951-61, 1968-82
11403510	Bucks Creek Tunnel inlet near Storrie	--	1970, 1976
11404000	Grizzly Creek near Storrie	5.20	1930-44
11404100	Bucks Creek Tunnel Outlet near Storrie	--	1986-94
11405000	North Fork Feather River at Big Bend	1,965	1905-11
11405300	West Branch Feather River near Paradise	--	1958-86
11405500	Spring Valley Diversion near Yankee Hill	--	1926-52
11406000	Concow Creek near Yankee Hill	15.1	1928-30, 1932-52
11406500	West Branch Feather River near Yankee Hill	146	1931-63
11407300	North Honcut Creek near Bangor	47.1	1961-81
11407500	South Honcut Creek near Bangor	30.6	1951-86
11407700	Feather River at Yuba City	3,974	1965-84
11407810	Middle Yuba River at Jackson Meadows Dam, near Sierra City	37.6	1989-94
11407900	Middle Yuba River below Jackson Meadows Dam, near Sierra City	38.3	1965-87
11408500	Middle Yuba River at Milton	39.8	1926-34, 1935-64,
11408700	Middle Yuba River near Alleghany	96.6	1958-66
11408850	Middle Yuba River near Camptonville	136	1967-89
11409000	Middle Yuba River above Oregon Creek, near North San Juan	162	1941-69
11409500	Oregon Creek near North San Juan	34.4	1912-69
11410000	Middle Yuba River below Oregon Creek, near North San Juan	198	1912-41
11410400	Haypress Creek near Sierra City	18.2	1961-66
11410500	North Yuba River near Sierra City	94.7	1924-44
11411000	Downie River at Downieville	72.7	1911-26
11411500	North Yuba River at Goodyears Bar	221	1911-31
11412000	Rock Creek at Goodyears Bar	8.98	1911-33
11412500	Goodyears Creek at Goodyears Bar	12.9	1911-33
11413100	North Yuba River above Slate Creek, near Strawberry Valley	351	1968-87
11413500	North Yuba River below Bullards Bar Dam	487	1941-66
11413600	Sweetland Creek near North San Juan	2.68	1969-73
11413900	Upper Castle Creek at Soda Springs	3.96	1958-63
11413950	South Yuba River Tributary near Soda Springs	.92	1972-73
11414000	South Yuba River near Cisco	51.8	1942-94
11414190	Drum Canal above Drum Forebay, near Blue Canyon	--	1964-91
11414500	Canyon Creek above Jackson Creek	16.6	1926-30
11415000	Jackson Creek at Mouth	5.45	1926-30
11417000	South Yuba River near Washington	198	1942-53, 1957-72
11417100	Poorman Creek near Washington	23.1	1961-71
11419000	Yuba River at Smartville	1,200	1904-41
11420000	Dry Creek near Brownsville	20.4	1949-60
11420500	Dry Creek at Virginia Ranch	71.3	1949-61
11420700	Dry Creek near Browns Valley	87.1	1964-80
11421500	Yuba River at Marysville	1,344	1944-57
11421700	Feather River below Shanghai Bend, near Olivehurst	5,334	1970-80
11421720	Boardman Canal near Emigrant Gap	--	1965-86
11421730	Bear River below Boardman Diversion Dam, near Emigrant Gap	4.01	1979-85
11423000	Bear River near Auburn	140	1941-67
11423500	Bear River at Van Trent	265	1905-27
11424500	Dry Creek near Wheatland	99.9	1947-62
11424600	Wellman Creek near Smartville	.59	1968-73
11425000	Feather River at Nicolaus	5,921	1942, 1944-83, 1985
11426110	Onion Creek Tributary No. 3 near Soda Springs	.65	1959-64, 1966-67
11426120	Onion Creek Tributary No. 5A near Soda Springs	.39	1959-64, 1966
11426130	Onion Creek Tributary No. 2 near Soda Springs	.48	1958-64, 1966-67
11426140	Onion Creek Tributary No. 1 near Soda Springs	.19	1958-64, 1966-67

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C-041986

DISCONTINUED GAGING STATIONS--Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11426150	Onion Creek near Soda Springs	3.58	1960-79
11426160	Onion Creek Tributary No. 7 near Soda Springs	.80	1959-64
11426200	North Fork Forbes Creek near Dutch Flat	1.68	1956-85
11426400	North Shirttail Creek near Dutch Flat	9.10	1957-85
11426500	North Fork American River near Colfax	308	1912-41
11428000	Rubicon River at Rubicon Springs, near Meeks Bay	31.4	1910-13, 1957-86
11429000	South Fork Rubicon River at sawmill, near Quintette	16.1	1910-14
11429800	Robbs Peak Tunnel near Riverton	--	1963-67
11430500	South Fork Rubicon River at Mouth, near Georgetown	56.9	1956-62
11431000	Rubicon River near Georgetown	195	1910-14, 1944-65
11431500	Georgetown Divide Ditch above Pilot Creek, near Georgetown	--	1951-62
11432000	Georgetown Divide Ditch near Georgetown	--	1947-60
11432500	Pilot Creek near Georgetown	15.1	1946-60
11433100	Long Canyon Creek near French Meadows	18.0	1960-92
11433200	Rubicon River near Foresthill	315	1959-84
11433260	North Fork of Middle Fork American River near Foresthill	88.9	1965-85
11433400	Canyon Creek near Georgetown	12.7	1966-79
11433420	Maine Bar Canyon Creek near Greenwood	.75	1973-86
11433500	Middle Fork American River near Auburn	614	1912-86
11433800	North Fork American River below Auburn Damsite, near Auburn	973	1972-86
11434000	North Fork American River at Rattlesnake Bridge	996	1931-37, 1939-55
11435000	Pyramid Creek near Phillips	3.73	1961-64, 1966-70
11435500	South Fork American River at Kyburz	73.2	1924
11437000	Caples Lake Outlet near Kirkwood	13.5	1922-92
11438000	Silver Fork of South Fork American River near Kyburz	107	1925-44
11439950	Alder Creek Pipeline Diversion near Whitehall	--	1976-82
11440000	Alder Creek near Whitehall	22.1	1923-81
11440500	Plum Creek near Riverton	7.32	1923-39
11440850	Picket Pen Creek near Kyburz	.49	1964-68
11441000	Silver Creek at Union Valley	83.0	1925-60
11442000	Silver Creek near Placerville	177	1922-61
11442500	South Fork American River below Silver Creek, near Pollock Pines	449	1923, 1970-93
11443000	American River Flume near Camino	--	1923-57
11445000	South Fork American River at Coloma	631	1930-41
11446000	Weber Creek near Salmon Falls	97.6	1943-59
11447000	American River at Sacramento	1,936	1944-59
11447030	Strong Ranch Slough at Sacramento	5.02	1972-75
11447300	Dry Creek Tributary near Roseville	.39	1964-67
11447360	Arcade Creek near Del Paso Heights	31.4	1963-78
11448500	Adobe Creek near Kelseyville	6.36	1955-78
11448900	Highland Creek above Highland Creek Dam	11.9	1963-78
11449000	Highland Creek near Kelseyville	12.6	1955-62
11449010	Highland Creek below Highland Creek Dam, near Kelseyville	14.2	1966-77
11449100	Scotts Creek near Lakeport	55.2	1961-80
11449350	Burns Valley Creek near Clearlake Highlands	4.37	1963-69
11449450	Copsey Creek near Lower Lake	13.2	1961-68
11449460	Seigler Creek at Lower Lake	12.5	1966-73
11450500	Cache Creek at Lower Lake	488	1901-15
11451500	North Fork Cache Creek near Lower Lake	197	1931-81
11451700	Bear Creek Tributary near Wilbur Springs	4.49	1962-63
11451720	Bear Creek near Rumsey	100	1959-80
11451760	Cache Creek above Rumsey	955	1961-62, 1965-73, 1976-82, 1984-86
11451950	Cache Creek near Brooks	1,041	1983-86
11452000	Cache Creek near Capay	1,044	1943-77
11453170	Dry Creek above Appletree Creek, near Middletown	.83	1978
11453200	Dry Creek near Middletown	8.35	1960-72, 1979-80
11453500	Putah Creek near Guenoc	113	1905-6, 1931-76
11453550	Hunting Creek near Knoxville	37.8	1969-76
11453570	Adams Creek near Knoxville	7.42	1970-76
11453580	Nevada Creek near Knoxville	7.06	1969-76
11453600	Pope Creek near Pope Valley	78.3	1961-80
11453700	Capell Creek Tributary near Wooden Valley	.87	1962-65
11454100	Pleasants Creek near Winters	15.9	1960-68
11454500	Putah Creek at Winters	635	1906-31
11455000	Putah Creek near Davis	638	1949-63

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DISCONTINUED LAKES AND RESERVOIRS

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

Station No.	Station name	Drainage area (mi^2)	Period of record
11362650	Pit no. 5 Powerplant Forebay near Big Bend	--	1986-89
11387995	Black Butte Lake near Orland	738	1964-90
11403300	Three Lakes Reservoir near Bucks Lake	1.0	1984-87
11423700	New Camp Far West Reservoir near Wheatland	283	1967-76, 1977-83
11425300	Halsey Forebay near Auburn	--	1980-86
11425320	Lake Arthur near Auburn	.86	1982-83
11425330	Halsey Afterbay near Auburn	--	1980-85

DISCONTINUED WATER-QUALITY STATIONS

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

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record
10356500	Susan River at Susanville	184	WQ,B,S	1952-93
10341950	Little Truckee River below Diversion Dam near Sierraville	36.1	T	1994
11341400	Sacramento River near Mt Shasta	135	T	1966-71, 1973-87
11342000	Sacramento River at Delta	425	WQ,T	1951-81
11345500	South Fork Pit River near Likely	247	WQ,T,S	1951-79
11348500	Pit River near Canby	1,431	WQ,T,S	1951-79
11365000	Pit River near Montgomery Creek	4,952	WQ,T	1951, 1953-81
11368000	McCloud River above Shasta Lake	604	T	1957-59
11370000	Shasta Lake near Redding	6,421	WQ	1978-80
11370500	Sacramento River at Keswick	6,648	B,WQ,C, T,S	1951-94
11371000	Clear Creek at French Gulch	115	S	1966-67
11372000	Clear Creek near Igo	228	WQ,T	1958-79
11372200	South Cow Creek near Millville	77.3	T	1966-71
11374000	Cow Creek near Millville	425	WQ,T,S	1959-71, 1973-76, 1978-79
11374400	Middle Fork Cottonwood Creek near Ono	244	T,S	1965, 1968-73 1977-79
11375700	North Fork Cottonwood Creek near Igo	88.7	T	1977-79
11375810	Cottonwood Creek near Olinda	395	T,S	1973-80
11375820	South Fork Cottonwood Creek near Cottonwood	217	T	1977-79
11375870	South Fork Cottownood Creek near Olinda	371	T,S	1878, 1977-80
11376000	Cottonwood Creek near Cottonwood	927	WQ,T,S	1957-67, 1977-85
11376038	Manzanita Creek at park boundary, near Manzanita Lake	11.6	C,T	1980-81
11376550	Battle Creek below Colman Fish Hatchery, near Cottonwood	357	WQ,T,S	1962-79
11377100	Sacramento River above Bend Bridge, near Red Bluff	8,900	WQ,C,T,S	1955-83
11377200	Sacramento River at Bend Bridge	--	T,S	1959-63, 1967, 1969-70
11378000	Sacramento River near Red Bluff	9,020	T,S	1961-68
11378500	Sacramento River at Red Bluff	9,077	T,S	1958-66
11379500	Elder Creek near Paskenta	92.4	WQ,T,S	1959-70
11380500	Elder Creek at Gerber	136	T,S	1972-79
11381595	Mill Creek at Sherwood Bridge, near Los Molinos	133	T,S	1977-79
11382000	Thomes Creek at Paskenta	203	WQ,T,S	1959-83
11382090	Thomes Creek at Rawson Road Bridge, near Richfield	284	T,S	1978-80
11383600	Deer Creek at Red Bridge, near Vina	210	T,S	1977
11383800	Sacramento River near Hamilton City	10,833	T,S	1977
11384600	Little Stony Creek above East Park Reservoir, near Lodoga	45.6	T	1967-79
11387000	Stony Creek near Fruto	597	T	1971-78
11387200	Stony Creek above Black Butte Lake, near Orland	623	T,S	1981-83
11387900	Masterson Hollow Creek near Newville	.96	T	1982
11388000	Stony Creek below Black Butte Dam, near Orland	738	WQ,S,T	1958-94
11389000	Sacramento River at Butte City	12,080	WQ,T,S	1955-67,1969-81
11389470	Colusa Weir Spill, Butte basin, near Colusa	--	T,S	1975
11389500	Sacramento River at Colusa	12,090	WQ,T,S	1959-66, 1973-80
11390000	Butte Creek near Chico	147	WQ,T	1953-79
11390210	Cherokee Canal near Nelson	--	T,S	1970-74
11390425	Sutter Bypass at Long Bridge, near Meridian	--	T,S	1979
11390480	Tisdale Weir near Grimes	--	S	1978-80

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DISCONTINUED WATER-QUALITY STATIONS--Continued

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record
11390600	Sacramento River at Boyers Bend, near Dunnig	--	T	1960-63
11391000	Sacramento River at Knights Landing	14,535	T,S	1959-60, 1978-80
11391050	Sutter Bypass near Nicolaus	--	T,S	1980-81
11391500	Big Grizzly Creek at Grizzly Valley Dam, near Portola	44	T	1963-67
11392500	Middle Fork Feather River near Clio	686	T	1964-82
11394500	Middle Fork Feather River near Merrimac	1,062	T	1963-82
11396350	South Fork Feather River at Ponderosa Dam	108	T	1963-67
11401180	Little Grizzly Creek near Genesee	29.6	T	1964-79
11401500	Indian Creek near Crescent Mills	739	WQ,T,S	1951-79
11404500	North Fork Feather River at Pulga	1,953	WQ,T	1963-83
11405300	West Branch Feather River near Paradise	--	T	1963-80
11406870	Thermolito Afterbay at river outlet	--	T	1968
11406920	Thermolito Afterbay Release to Feather River near Oroville	--	T	1969-92
11407000	Feather River at Oroville	3,624	C,S,T	1906-07, 1951-92
11407150	Feather River near Gridley	3,676	WQ,T,S	1965-93
11407700	Feather River at Yuba City	3,974	T	1964-76
11409000	Middle Yuba River above Oregon Creek, near San Juan	162	T	1965-69
11409400	Oregon Creek below Log Cabin Dam, near Camptonville	29.1	T	1972-79
11409500	Oregon Creek near San Juan	34.4	T	1965-69
11410000	Middle Yuba River below Oregon Creek, near North San Juan	198	T	1974-77
11413100	North Yuba River above Slate Creek, near Strawberry Valley	351	T	1968-69, 1974-77
11413520	North Yuba River below New Bullards Bar Dam, near North San Juan	490	T	1971-74
11413700	Yuba River below Colgate Powerhouse, near French Corral	729	T	1975-78
11417500	South Yuba River at Jones Bar, near Grass Valley	308	T,S	1965-79
11418000	Yuba River below Englebright Dam, near Smartville	1,108	T	1973-78
11418500	Deer Creek near Smartville	84.6	T,S	1974-79
11420800	Yuba River at Daquerra Point Dam, near Browns Valley	1,330	T	1975-77
11421000	Yuba River near Marysville	1,339	WQ	1951-52, 1973-80
11421500	Yuba River at Marysville	1,344	WQ,T	1964, 1966, 1969-70,1973-76
11425000	Feather River at Nicolaus	5,921	T,S	1960-68, 1973-84
11425100	Feather River near Nicolaus	--	T	1969-72, 1974
11425500	Sacramento River at Verona	21,251	WQ,T,S	1952, 1969-70, 1980
11427000	North Fork American River at North Fork Dam	342	T,WQ,S	1959-83
11433300	Middle Fork American River, near Foresthill	524	WQ,B	1979
11433400	Canyon Creek near Georgetown	12.7	T	1966-71, 1973-79
11433800	North Fork American River below Auburn dam site, near Auburn	973	T	1983-86
11439500	South Fork American River near Kyburz	193	WQ,T,B,S	1966-79, 1980
11445500	South Fork American River near Lotus	673	B,S,WQ,T	1957-68, 1970-94
11446500	American River at Fair Oaks	1,888	WQ,T	1960-65
11447030	Strong Ranch Slough at Sacramento	5.02	C	1973-75
11447500	Sacramento River at Sacramento	23,502	S	1957-79
11447650	Sacramento River at Freeport	--	B,C	1974-81, 1988-94
11447810	Sacramento River at Greens Landing	--	C	1974-81
11449010	Highland Creek below Highland Creek Dam, near Kelseyville	14.2	T,S	1967-77
11451760	Cache Creek above Rumsey	955	T,S	1960-70, 1976, 1984-86
11451950	Cache Creek near Brooks	1,041	T,S	1984-86
11452500	Cache Creek at Yolo	1,139	T,S	1959-65, 1966-67, 1986
11453000	Yolo Bypass near Woodland	--	S	1957-61, 1980
11453170	Dry Creek above Appletree Creek, near Middletown	.83	C,T	1978
11453500	Putah Creek near Guenoc	113	T,S	1960-73
11453550	Hunting Creek near Knoxville	37.8	T,S	1973-74
11454000	Putah Creek near Winters	574	WQ,T	1951-81

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

C-041989

WATER RESOURCES DATA--CALIFORNIA, WATER YEAR 1994

VOLUME 4--NORTHERN CENTRAL VALLEY BASINS AND THE GREAT BASIN

FROM HONEY LAKE BASIN TO OREGON STATE LINE

By M.F. Friebel, K.L. Markham, S.W. Anderson, and G.L. Rockwell

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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 187 streamflow-gaging stations; (2) stage and content records for 47 lakes and reservoirs; (3) precipitation records for 3 stations; (4) water-quality records for 6 streamflow-gaging stations; and (5) 2 partial-record stations.

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

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

Publications similar to this report are published annually by the U.S. Geological Survey for all States. Each report has an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CA-94-4." 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, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports also will be available on Compact Disc-Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including current prices, for ordering specific reports may be obtained from the District Office at the address given on the back of the title page or by telephone (916) 979-2605. A limited number of CD-ROM discs will be available for purchase from U.S. Geological Survey, Earth Science Information Center, Open-File Reports Section, Box 25286, MS 517, Denver Federal Center, Denver, CO 80225.

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COOPERATION

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

California Department of Water Resources, David N. Kennedy, Director.
Georgetown Divide Public Utility District, Charles F. Gierau, General Manager.
Sacramento Municipal Utility District, John P. Hiltz, Manager.
Sacramento Regional County Sanitation District, Douglas Fraleigh, Director.
Yolo County Flood Control and Water Conservation District, James F. Eagan, General Manager.
Yuba County Water Agency, Donn Wilson, Engineer-Administrator.

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

The following organizations aided in collecting records: California Department of Water Resources; Energy Growth Partnership I; Five Bears Hydro, Inc.; Highland Hydro Construction; Independent Hydro; International Energy Services; Malacha Power Project, Inc.; Nelson Creek Power Co.; Pacific Gas and Electric Co.; Rock Creek Limited Partnership; Sacramento Municipal Utility District; Nevada and Oroville-Wyandotte Irrigation Districts; South Sutter Water District; STS Hydropower; Synergics, Inc.; Western Hydrologic Systems; and Placer and Yuba County Water Agencies.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Runoff during the 1994 water year in the area covered by this volume was about 36 percent of the 1961-90 median (based on five representative streamflow records). Total runoff in percent of median, at selected sites in California is shown in figure 1. Runoff ranged from 25 percent of median at Thomes Creek at Paskenta (11382000) to 43 percent of median at Sacramento River at Delta (11342000) and North Yuba River below Goodyears Bar (11413000). In figure 2, monthly mean discharge in the 1994 water year at four representative gaging stations is compared to the 1961-90 median, maximum, and minimum monthly mean discharge. Water year 1994 is considered a critically dry year, based on flows in the Sacramento River basin. Annual departure from 1961-90 mean discharge for four selected gaging stations is shown in figure 3. A comparison of 1994 peaks with peaks of record is given in table 1 for selected stations. A comparison of low-flow data for various years is given in table 2.

The 1994 water year saw the return of below-average precipitaion throughout California. Precipitation in the area covered by this volume (based on seven representative rain gages) was 69 percent of the long-term average. Monthly precipitation is compared with the long-term monthly means at selected stations in figure 2.

Table 1. Comparison of peak discharge for 1994 water year with those for period of record for selected stations

Station No.	Station name	1994 water year		Period of record	
		Date	Peak discharge (ft^3/s)	Water year	Peak discharge (ft^3/s)
10358500	Willow Creek near Susanville	Mar. 5	51	1986	1,210
11342000	Sacramento River at Delta	Jan. 24	6,280	1974	69,800
11382000	Thomes Creek at Paskenta	Dec. 8	1,210	1964	37,800
11413000	North Yuba River below Goodyears Bar	Apr. 19	1,500	1963	40,000

Table 2. Comparison of 7-day and 1-day low flow for 1994 water year with 7-day, 1-day, and minimum daily flow for 30-year base period 1961-90 for selected stations

Station No.	Station name	7-day low flow (ft^3/s)		1-day low flow (ft^3/s)		Period of record	
		1994 water year	Base period 1961-90	1994 water year	Base period 1961-90	Water year	Minimum daily (ft^3/s)
10358500	Willow Creek near Susanville	1.8	3.04	1.7	2.81	1992	1.4
11342000	Sacramento River at Delta	172	117	171	117	1977	117
11382000	Thomes Creek at Paskenta	0	0	0	0	several	0
11413000	North Yuba River below Goodyears Bar	87	60	86	60	1977	60

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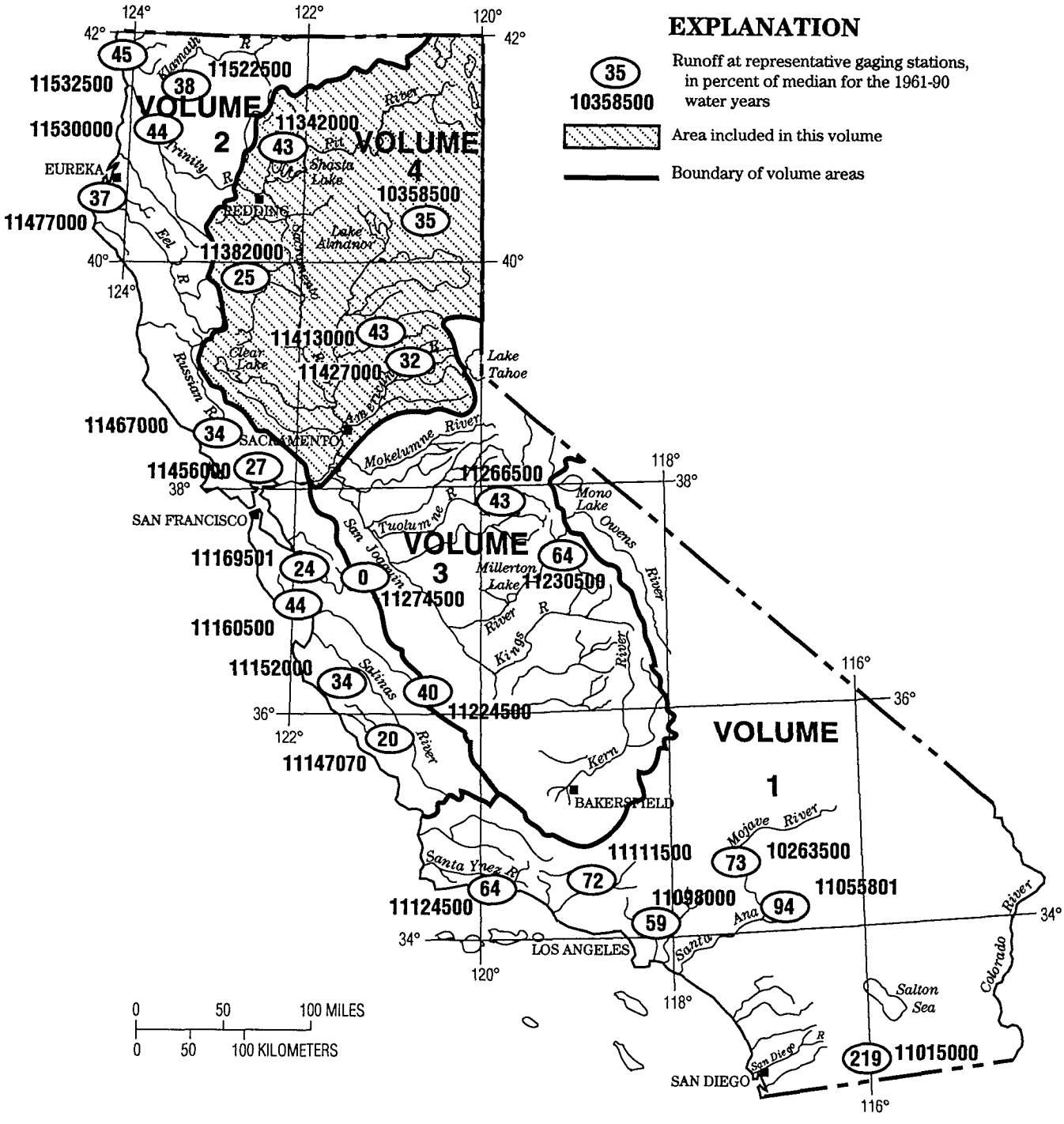

Figure 1. Runoff, in percent of median, for the 1994 water year.

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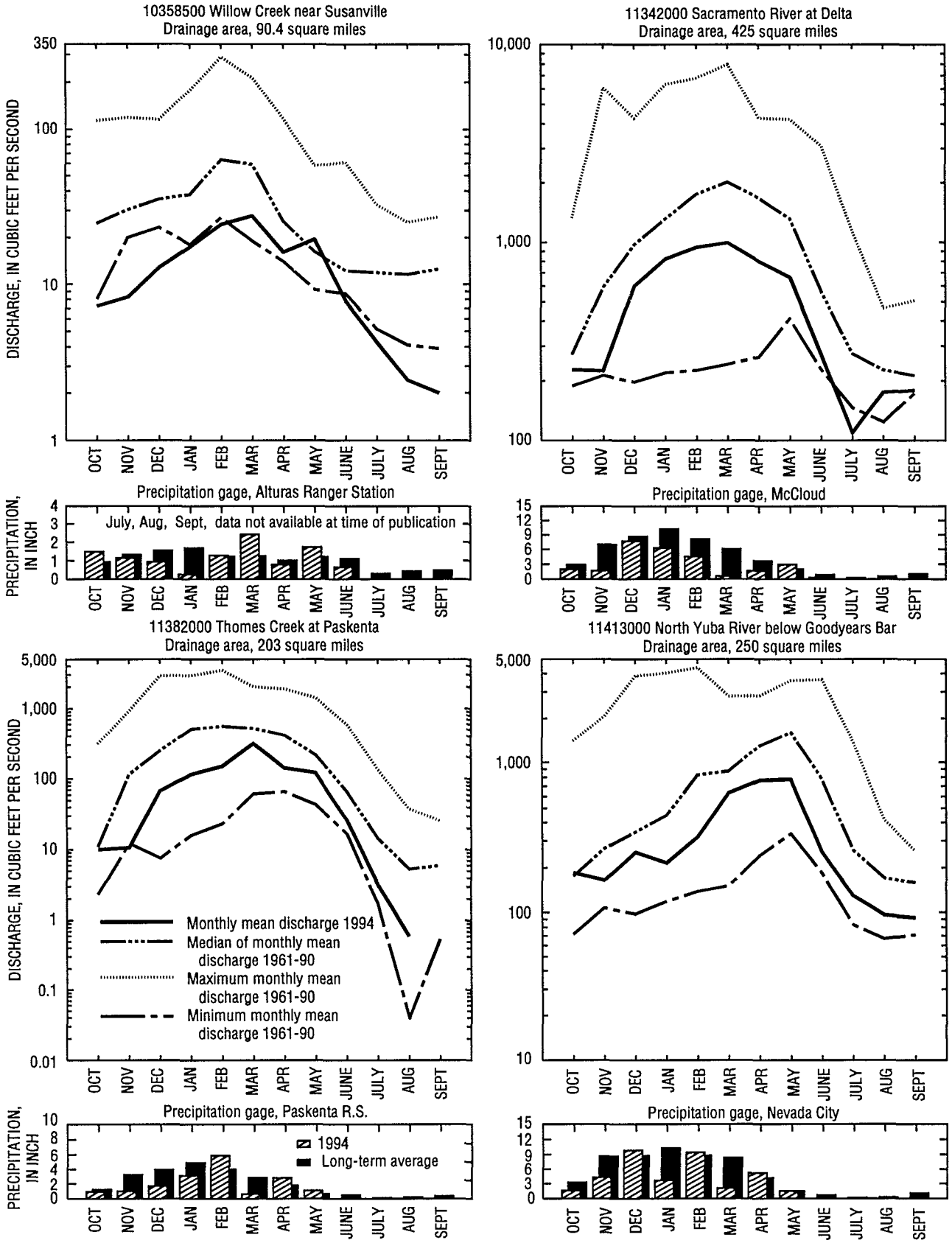

Figure 2. Discharge and precipitation during water year 1994 and long-term average at four representative gaging stations. Precipitation data from National Oceanic and Atmospheric Administration 1994, Climatological Data, annual summary: v. 98.

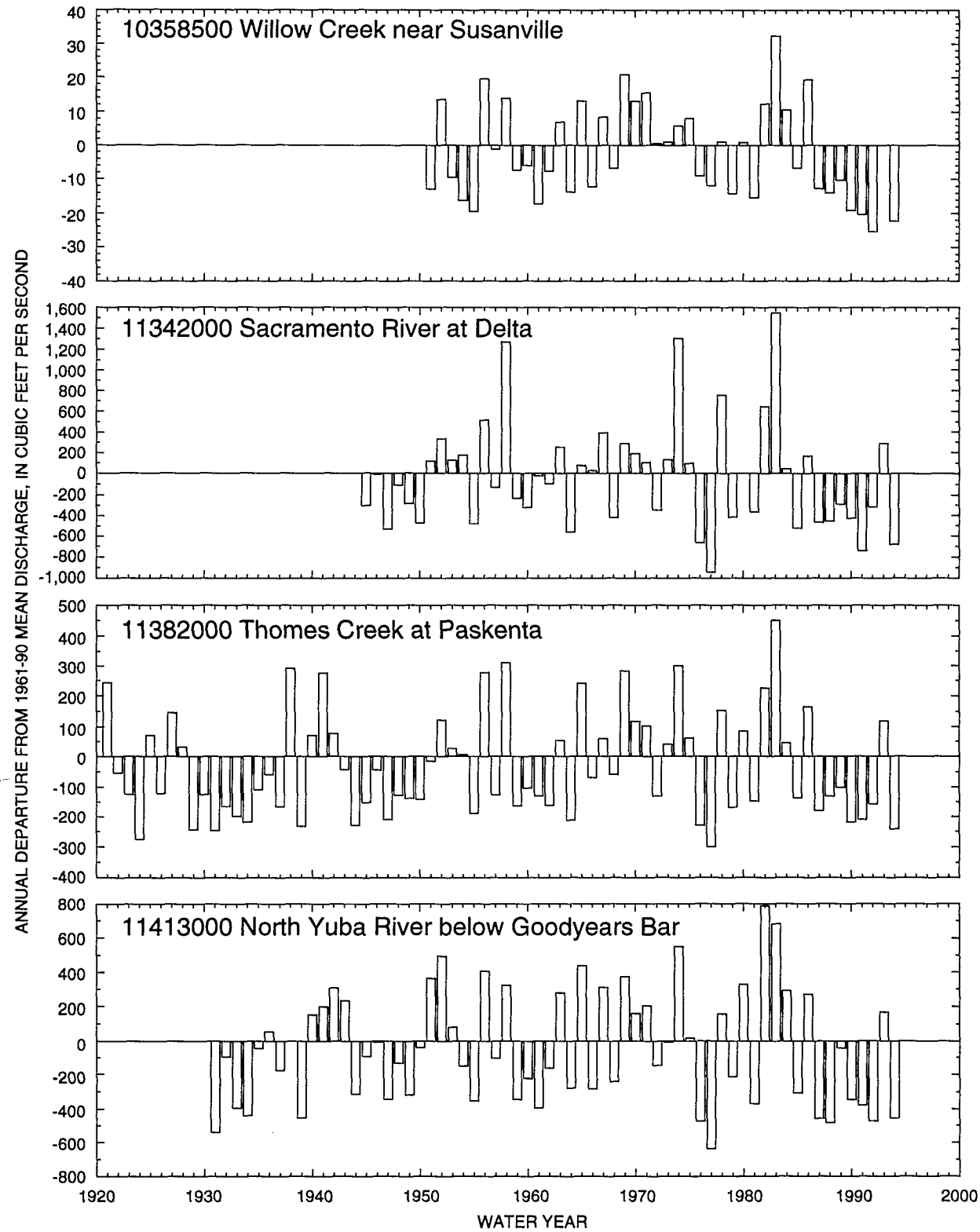

Figure 3. Annual departure from 1961-90 mean discharge for period of record at selected gaging stations.

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Most demands for water supplies were met in 1994. Reservoir storage accumulated during 1993 provided a buffer to the State's water supply, lessening the adverse impacts of another dry year. Runoff in the Sacramento River basin, which normally supplies about 25 percent of the water used by California's farms and cities, was less than for any year of the recent drought and the fourth driest on record, following the years 1977, 1924, and 1931, respectively. By the end of the water year, reservoir storage had declined to about 73 percent, slightly above the 70 percent "drought" threshold established by the State. While the entire eight-year period 1987-94 may not be considered one "drought" because of a wet 1993, it is the driest eight-year period in the 123 years of record for the Sacramento River basin.

In the Sierra foothills, population has increased about 73 percent since 1977, and water use has increased 40 percent. In the valley areas, population has increased about 40 percent. There have not been concomitant increases in reservoir storage capacity. Many reservoirs had 100 percent of average in storage. In anticipation of a less than normal water year, many water agencies limited reservoir releases to maximize storage.

Water Quality

Water samples collected at the two NASQAN stations reported in this volume were analyzed for water-quality constituents. Mean dissolved-solids concentrations varied slightly from the previous year. Figure 4 shows monthly mean dissolved-solids concentrations during water year 1994 compared with long-term dissolved-solids concentrations at two selected stations. No chemical-constituent concentrations exceeded water-quality criteria recommended by the U.S. Environmental Protection Agency.

The largest densities of fecal-coliform (600 colonies per 100 milliliters) and fecal-streptococcus bacteria (1,400 colonies per 100 milliliters) were detected in water samples from Sacramento River at Freeport (station 11447650).

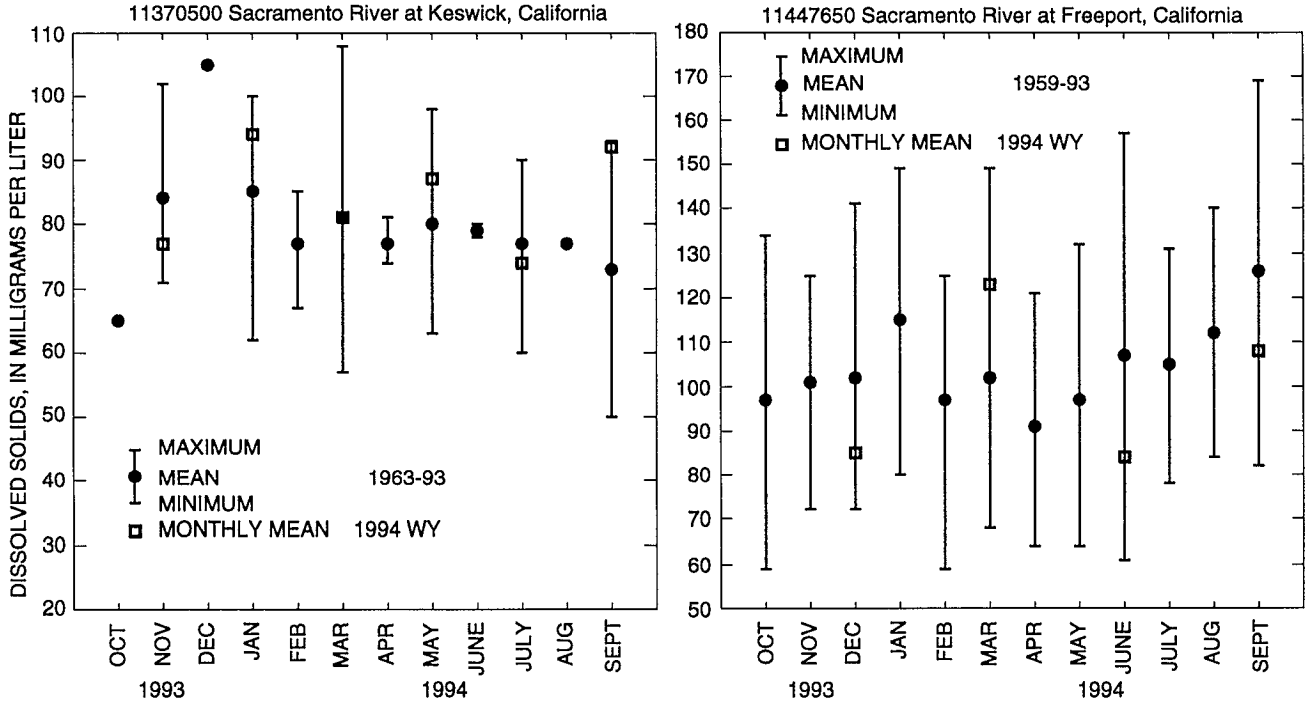

Figure 4. Comparison of monthly mean dissolved-solids concentrations during water year 1994 with long-term dissolved-solids concentrations at two selected stations.

Sediment

Suspended-sediment discharge and concentrations were monitored daily at one station and periodically at one station in the area included in this volume. The variation in precipitation, drainage-basin characteristics, and stream regulation in northern California resulted in significant differences in sediment-discharge rates and concentrations at the sampled streams.

Suspended-sediment discharge was substantially less than that of the 1993 water year, when compared with the 1968-93 mean suspended-sediment discharge at the one long-term daily station. Annual suspended-sediment discharge was 19.8 percent of the mean for the Sacramento River at Freeport (station 11447650).

Annual suspended-sediment discharge at Sacramento River at Freeport was 389,000 tons. This equates to an annual suspended-sediment yield of 16.5 tons per square mile of drainage area and is a decrease of 638 percent from the 1993 water year.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 53 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide. The data provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 284 sites in NASQAN are located generally at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting that the data may be used for, (2) to describe the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) to detect changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) to provide a nationally consistent database useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gasses. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in about two-thirds of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

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

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

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1994 water year that began October 1, 1993, and ended September 30, 1994. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and contents data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

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

Downstream Order System

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

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The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station such as 11396310, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "396310." The part number designates the major river basin; for example, part "11" is the Pacific Slope Basins in California.

Latitude-Longitude System

The identification numbers for miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the other sites within a 1-second grid. This site-identification number, [Aonce assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description (fig. 5).

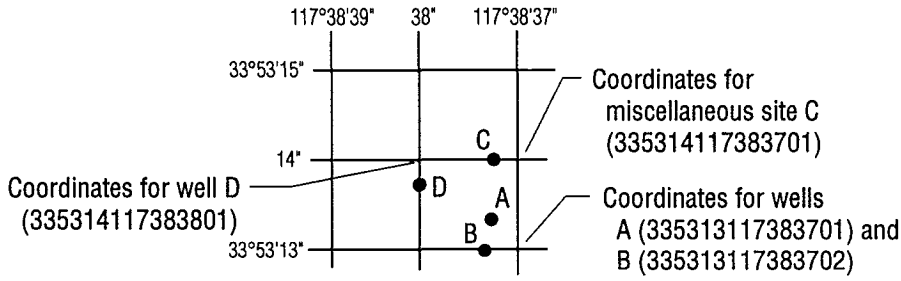

Figure 5. System for numbering miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record stations for which data are given in this report are shown, by county, in figures 6 through 26.

Data Collection and Computation

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

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

C-041997

C-041997

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

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

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

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

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

Data Presentation

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

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

Station manuscript

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

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

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

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

C—041998

C-041998

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

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

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

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

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

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

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

REVISIONS.--If a critical error is discovered in published records, a revision is included in the first report published following discovery of the error.

Occasionally the records of a discontinued gaging station may need revision. Because for these stations there would be no current or, possible, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office to determine if the published records were revised after the station was discontinued. If the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

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

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also usually is expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN."); or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS _____-_____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS _____-_____," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data also are given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

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

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

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

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

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

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

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

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

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

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

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

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

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

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

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

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements generally are made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing the table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage and discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second (ft^3/s) for values less than 1 ft^3/s, to the nearest tenth between 1.0 and 10 ft^3/s, to whole numbers between 10 and 1,000 ft^3/s, and to three significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of sites as well as an index of records of discharge collected by other agencies but not published by the U.S. Geological Survey. Information on records at specific sites can be obtained from that office upon request.

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

Records of Surface-Water Quality

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

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 6 through 26.

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C-042001

Arrangement of Records

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

Onsite Measurements and Sample Collection

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

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

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

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

Historical and current (1994) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter (ng/L). If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter (μg/L) and could reflect contamination introduced during some phase of the procedure.

Water Temperature

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

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

Sediment

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

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

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

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

Cross-Sectional Data

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

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

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

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

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ACCESS TO WATSTORE DATA

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

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

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

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

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

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

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

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

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

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Bottom material: See Bed material.

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

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

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

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

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

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

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

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

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C-042005

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gage datum is the elevation of the zero point of the reference gage from which gage height is determined as compared to the National Geodetic Vertical Datum of 1929. This elevation is established by a system of levels from known bench marks or by approximation from topographic maps.

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

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

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

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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

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

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

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

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

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

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

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

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

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

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

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

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 408 sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting that the data may be used for, (2) to describe the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) to detect changes in trends with time in the pattern occurrence of water-quality characteristics, and (4) to provide a nationally consistent data base useful for water-quality assessment and hydrologic research.

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.

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

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

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

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

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

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

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

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

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C-042007

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

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

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

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

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

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants, respectively, are the two categories reported.

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

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

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

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

Blue-green algae are phytoplankton organisms having a blue pigment in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Solute is any substance that is dissolved in water.

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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C-042009

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1994, is called the "1994 water year."

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

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

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

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

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

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

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

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

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

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

2-F1. Application of drilling, coring, and sampling techniques to test holes and wells, by Eugene Shuter and W.E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.

3-A1. General field and office procedures for indirect discharge measurements, by M.A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. Measurement of peak discharge by slope-area method, by Tate Dalrymple and M.A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3-B7. Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow, by E.J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 90 pages.

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

3-C2. Field methods for measurement of fluvial sediment, by H.P. Guy and V.W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

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

4-A1. Some statistical tools in hydrology, by H.C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

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

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

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

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

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

5-A1. Methods for determination of inorganic substances in water and fluvial sediments, edited by M.J. Fishman and L.C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.

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

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

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

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

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

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

6-A1. A modular three-dimensional finite-difference ground-water flow model, by M.G. McDonald and A.W. Harbaugh: USGS-TWRI Book 6, Chapter A1. 1988. 586 pages.

C-042013

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

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

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

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

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

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

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

8-A1. Methods of measuring water levels in deep wells, by M.S. Garber and F.C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

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

8-B2. Calibration and maintenance of vertical-axis type current meters, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

C—0 4 2 0 1 4

C-042014

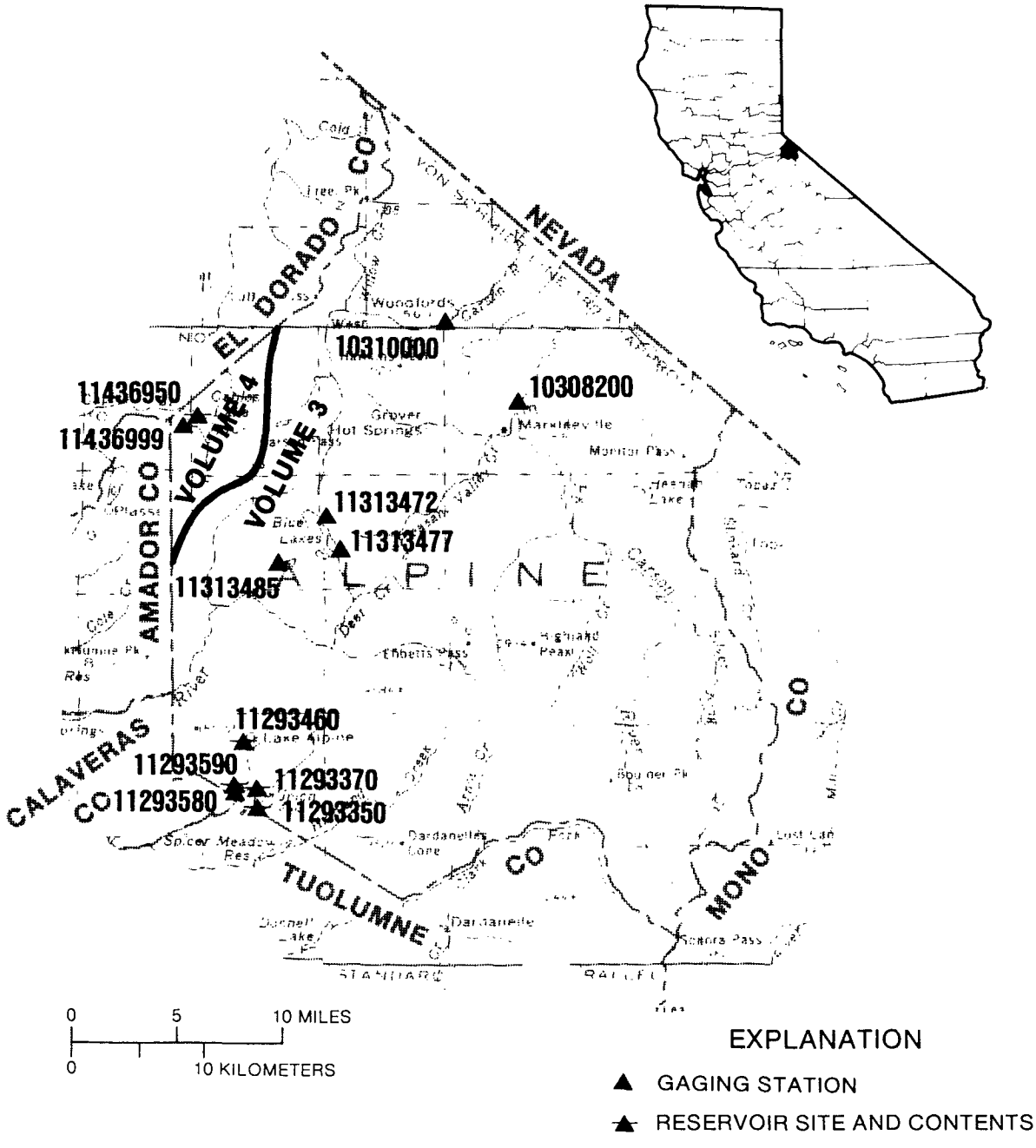

Figure 6. Location of discharge stations in Alpine County. (NOTE: Records for stations 10308200 through 10310000 and 11293350 through 11313485 published in volume 3.)

C—042015

C-042015

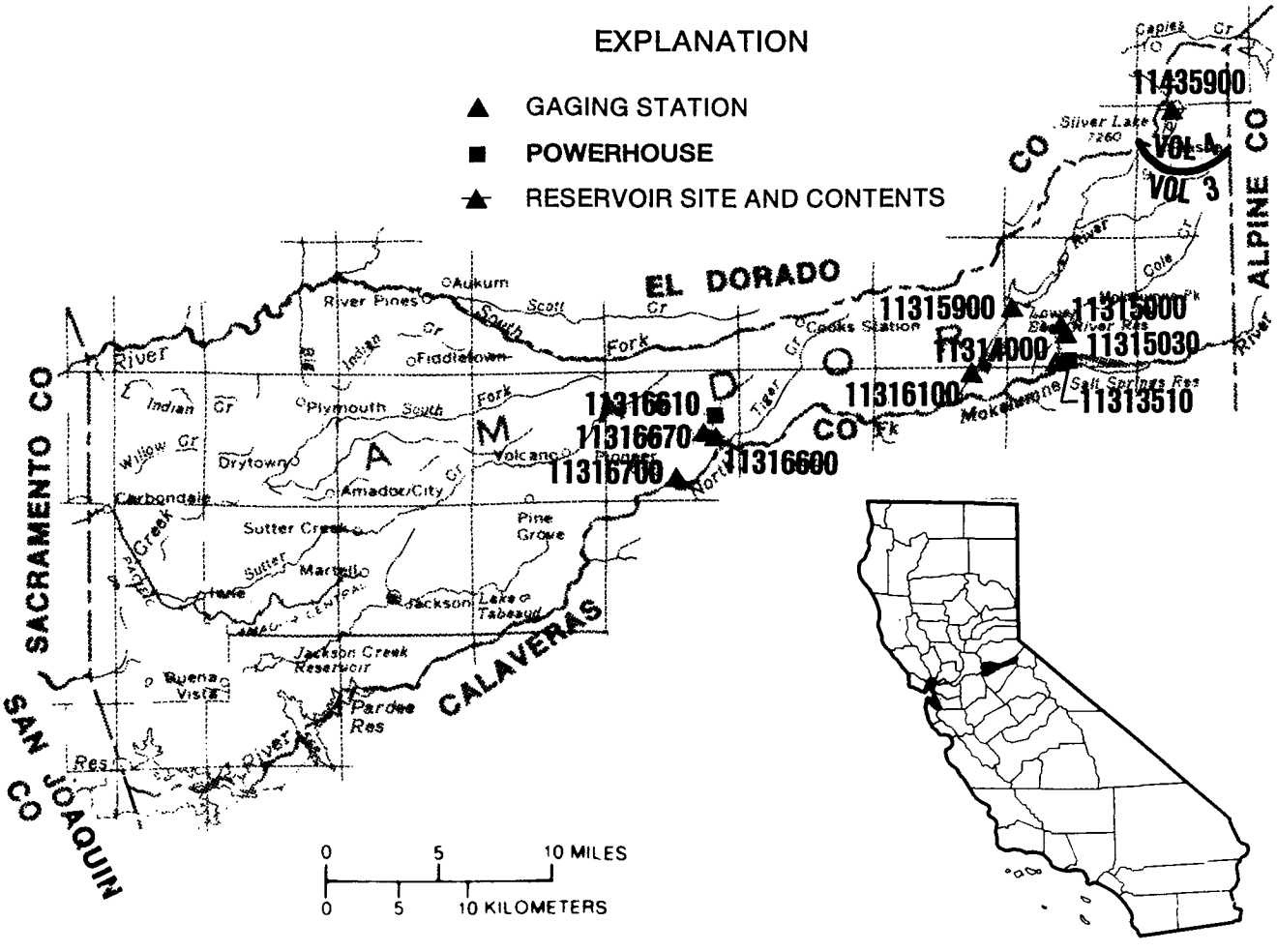

Figure 7. Location of discharge stations in Amador County. (NOTE: Records for stations 11313510 through 11316700 published in volume 3.)

C-042016

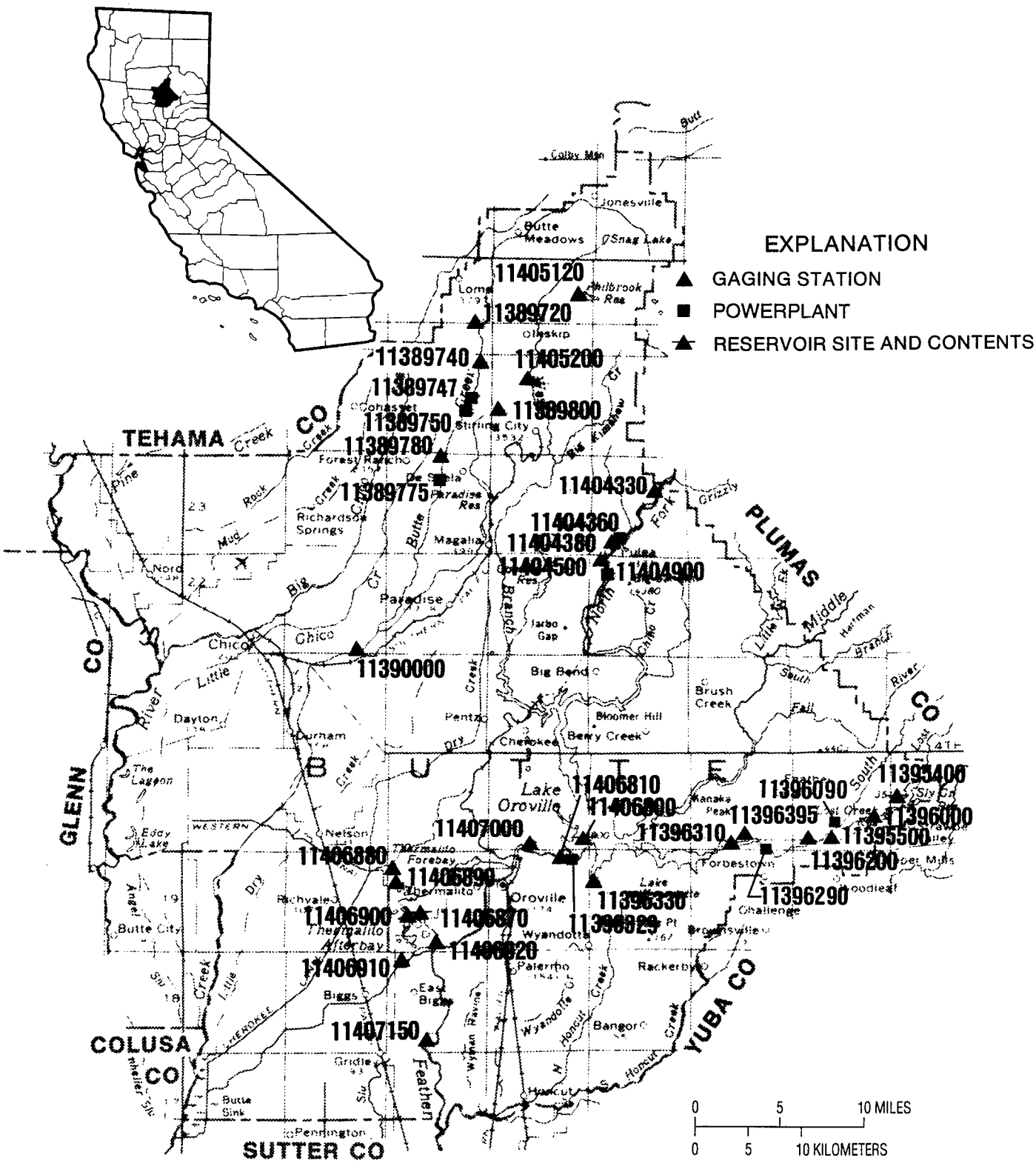

Figure 8. Location of discharge and water-quality stations in Butte County.

C-042017

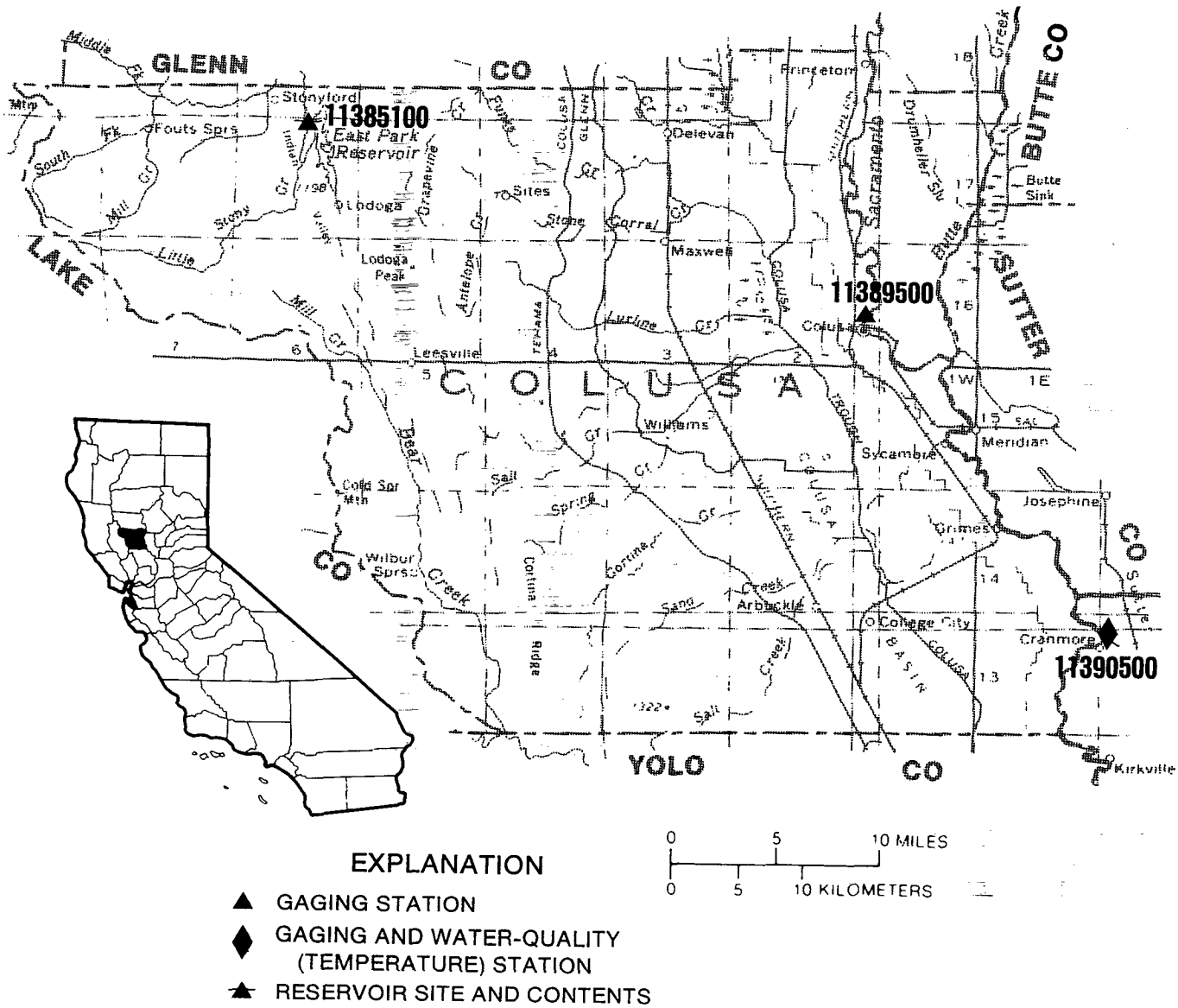

Figure 9. Location of discharge and water-quality stations in Colusa County.

C-042018

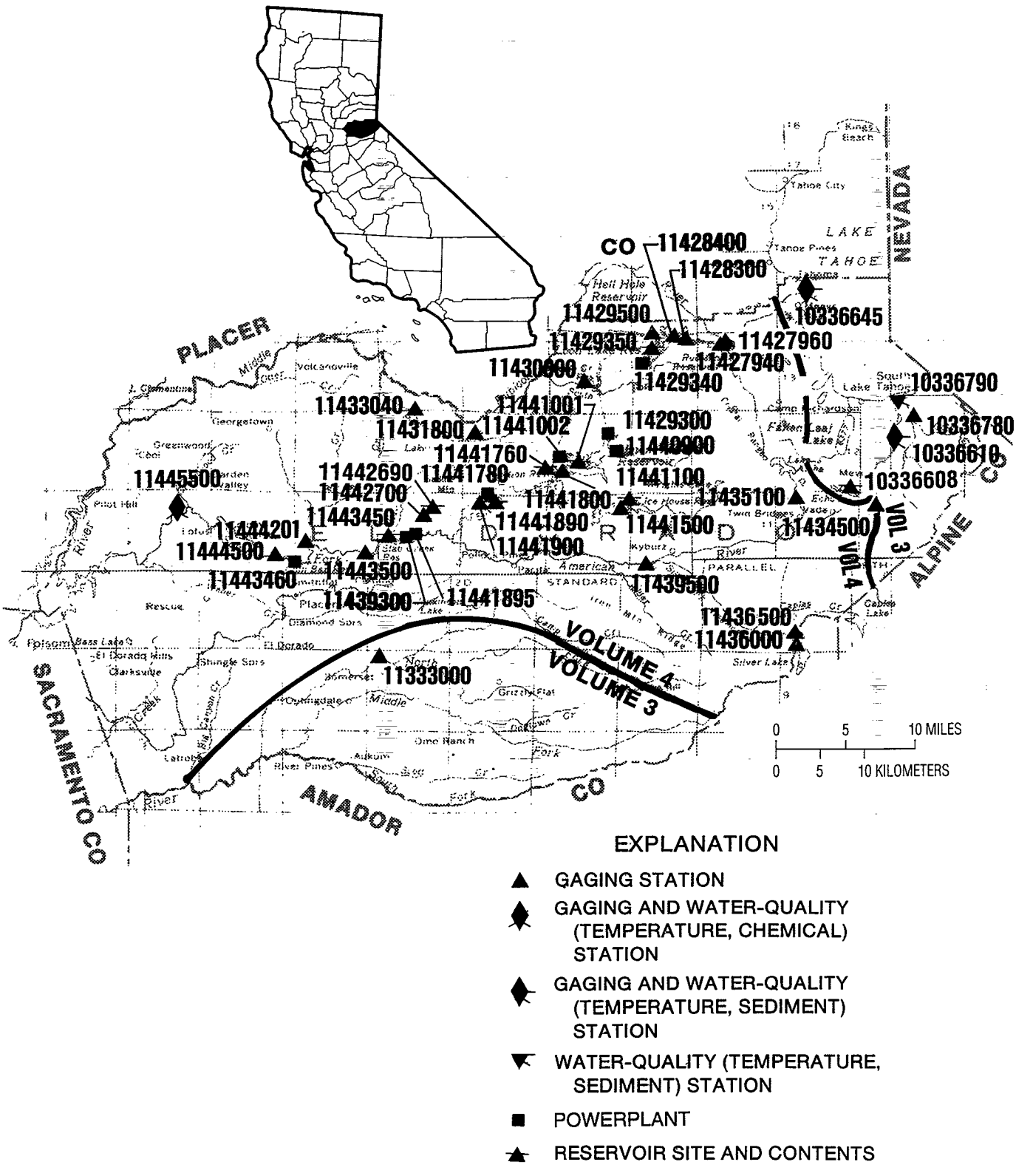

Figure 10. Location of discharge and water-quality stations in El Dorado County.
(NOTE: Records for stations 10336608 thru 10336790 and 11333000 published in volume 3.)

C-042019

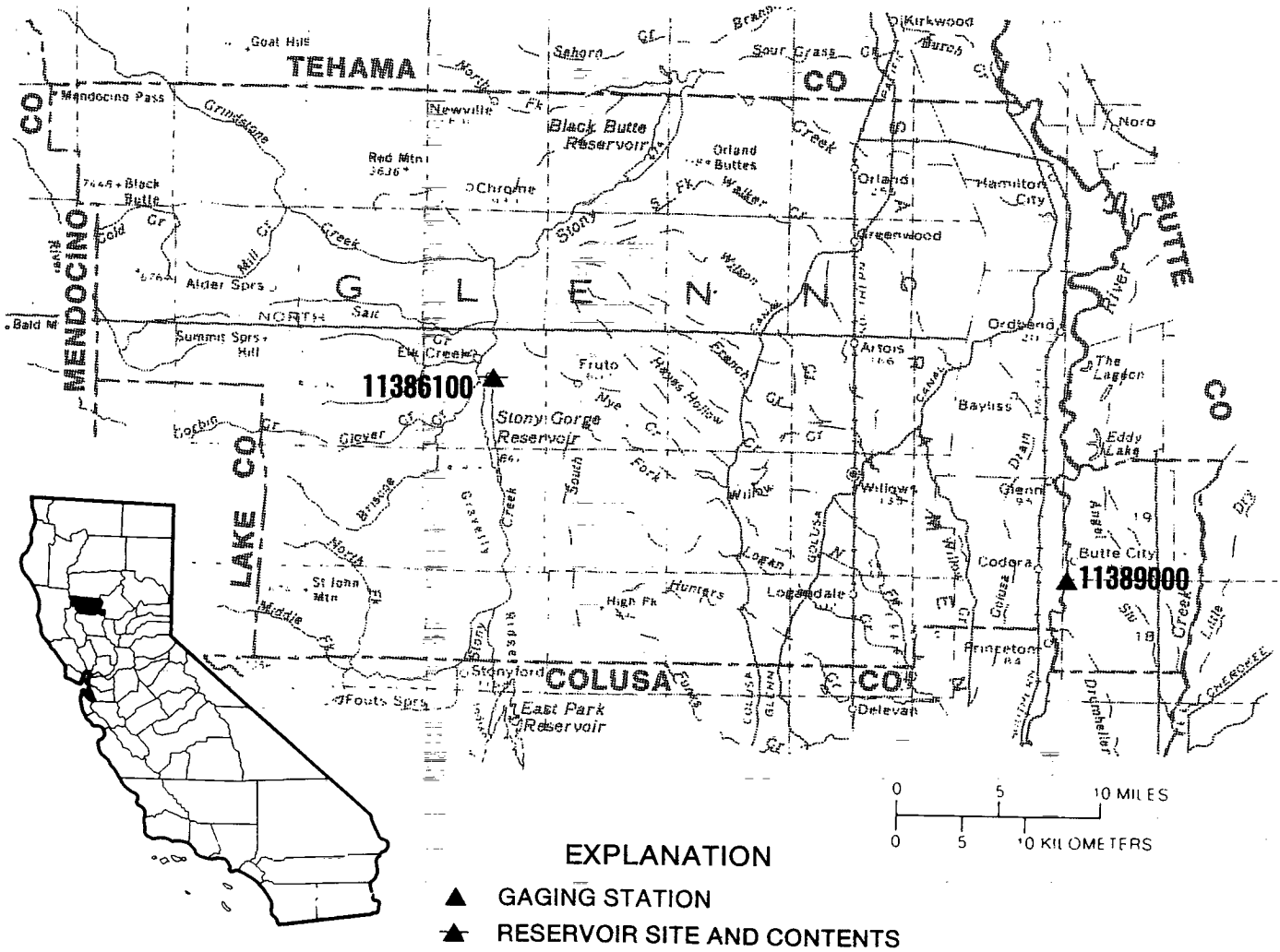

Figure 11. Location of discharge stations in Glenn County.

C-042020

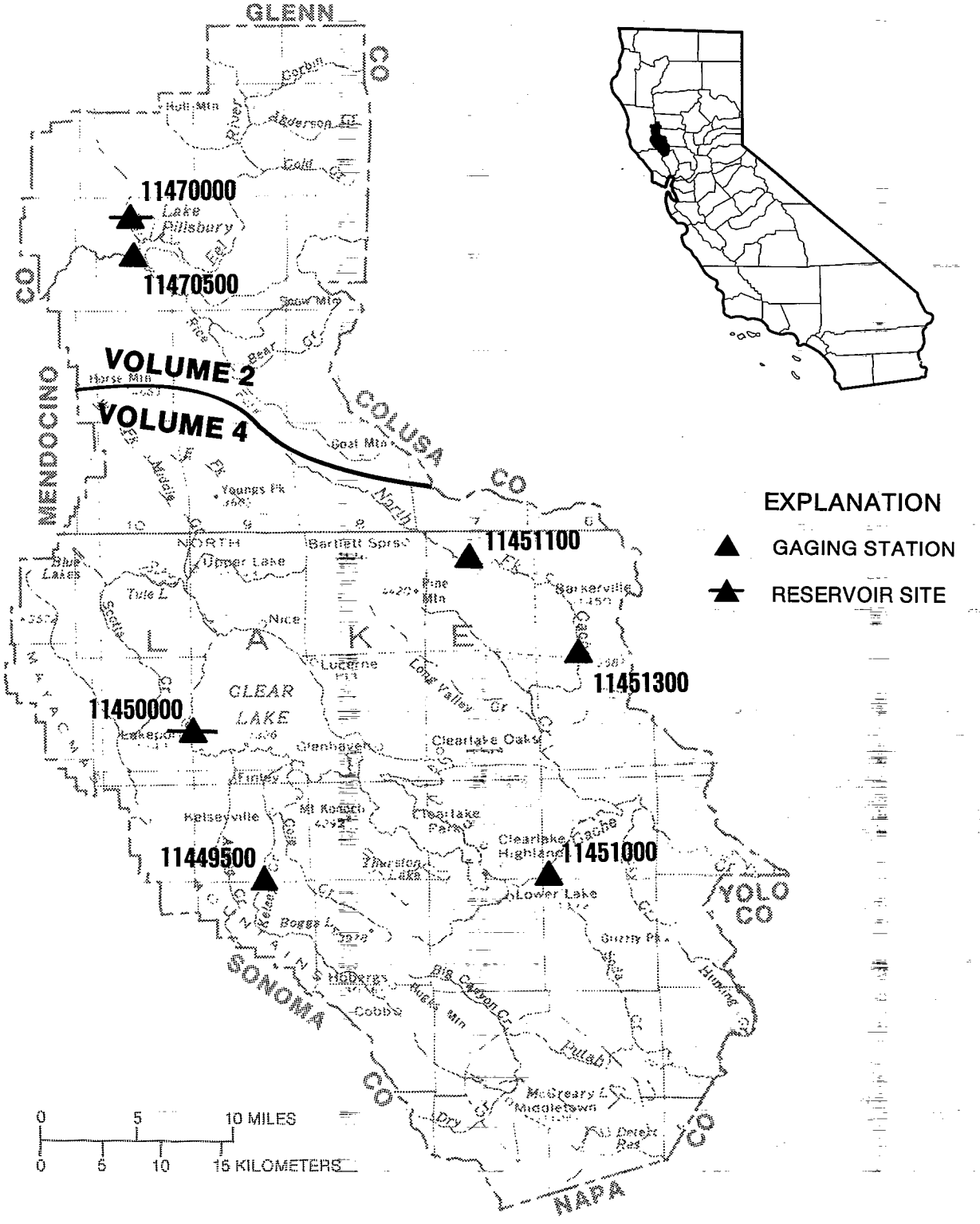

Figure 12. Location of discharge stations in Lake County. (NOTE: Records for stations 11470000 and 11470500 published in volume 2.)

C-042021

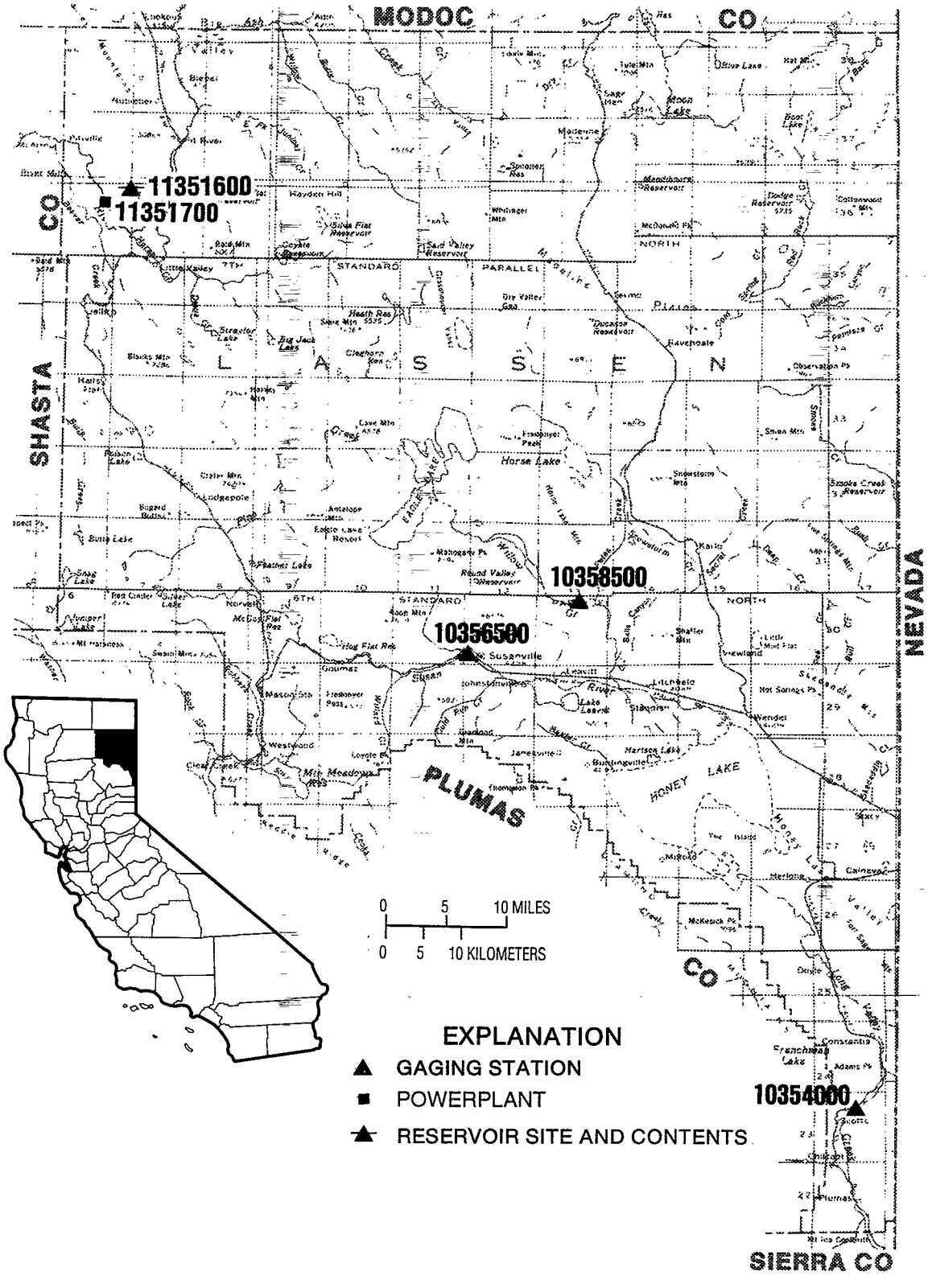

Figure 13. Location of discharge and water-quality stations in Lassen County.

C-042022

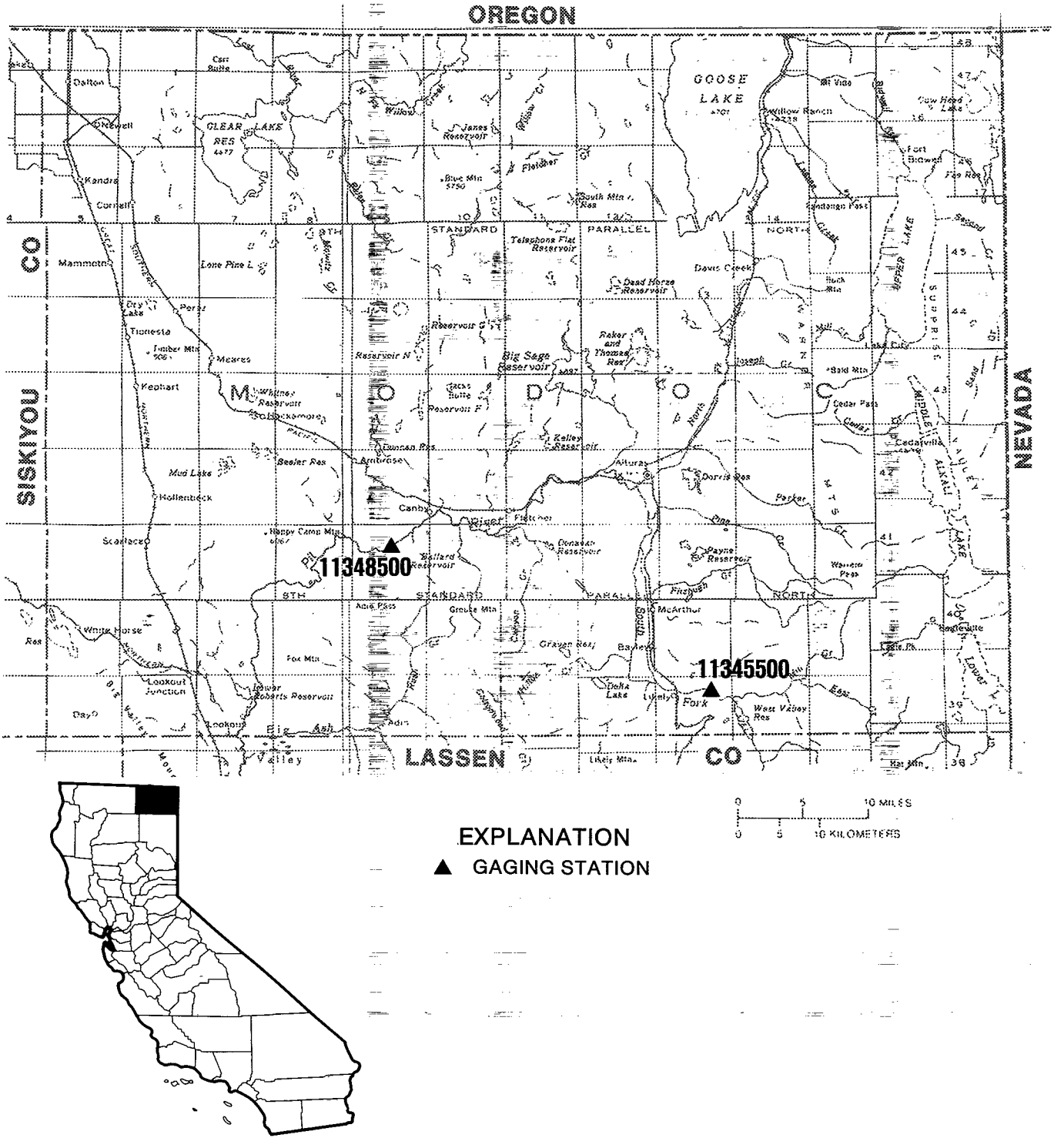

Figure 14. Location of discharge stations in Modoc County.

C-042023

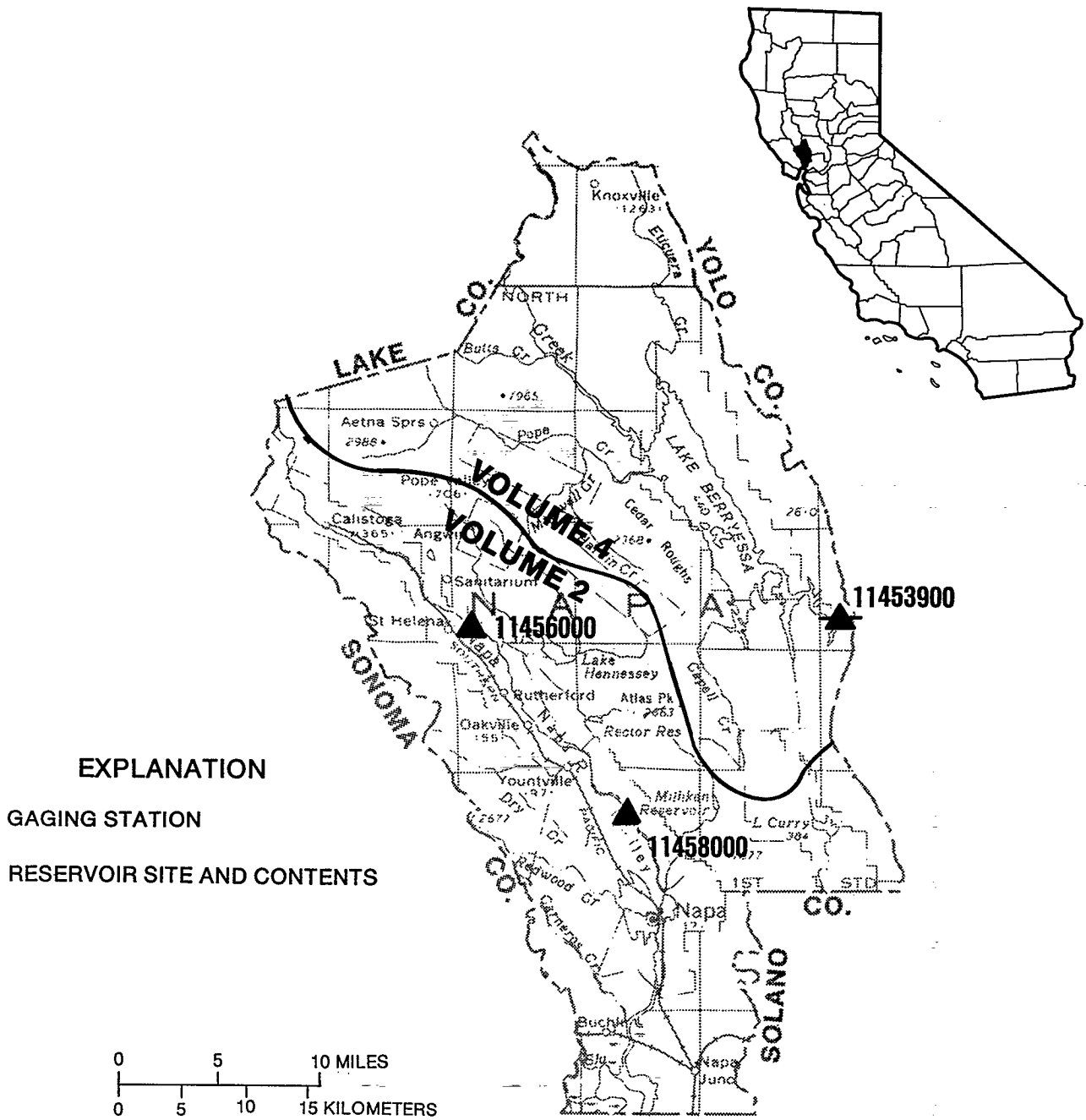

Figure 15. Location of discharge and water-quality stations in Napa County.
(NOTE: Records for stations 11456000 and 11458000 published in volume 2.)

C-042024

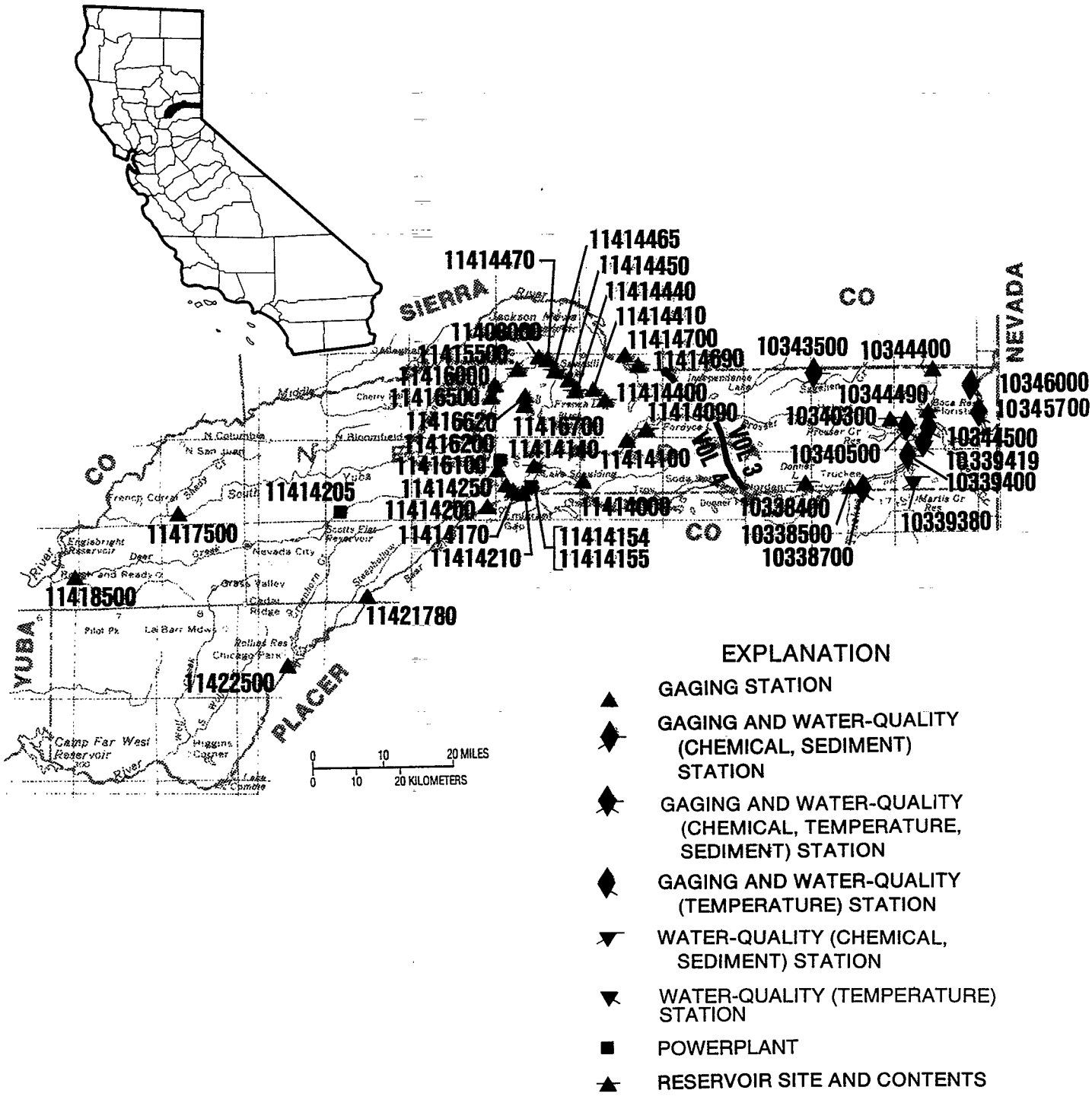

Figure 16. Location of discharge and water-quality stations in Nevada County.
(NOTE: Records for stations 10338400 through 10346000 published in volume 3.)

C-042025

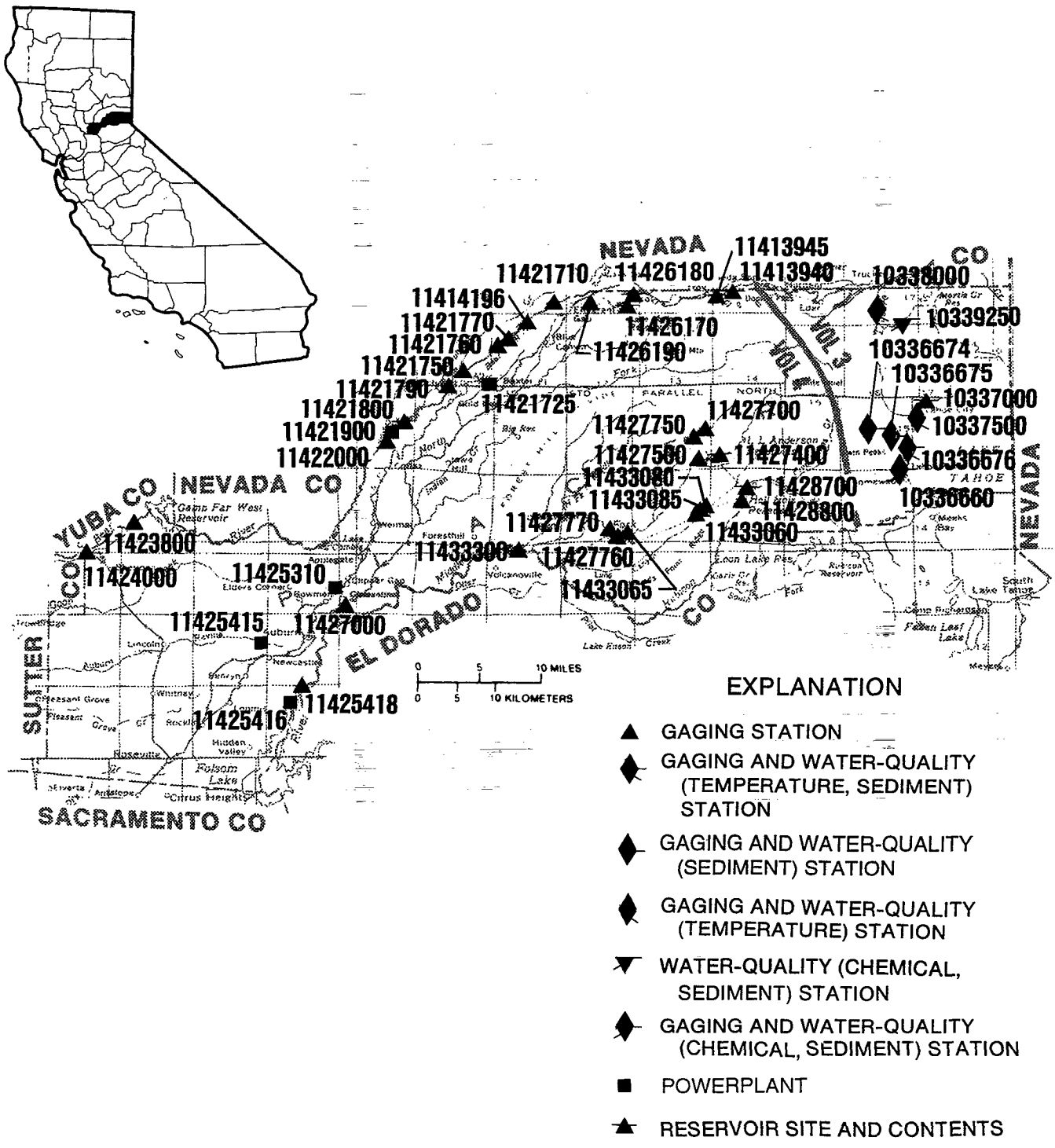

Figure 17. Location of discharge and water-quality stations in Placer County.
(NOTE: Records for stations 10336660 through 10339250 published in volume 3.)

C-042026

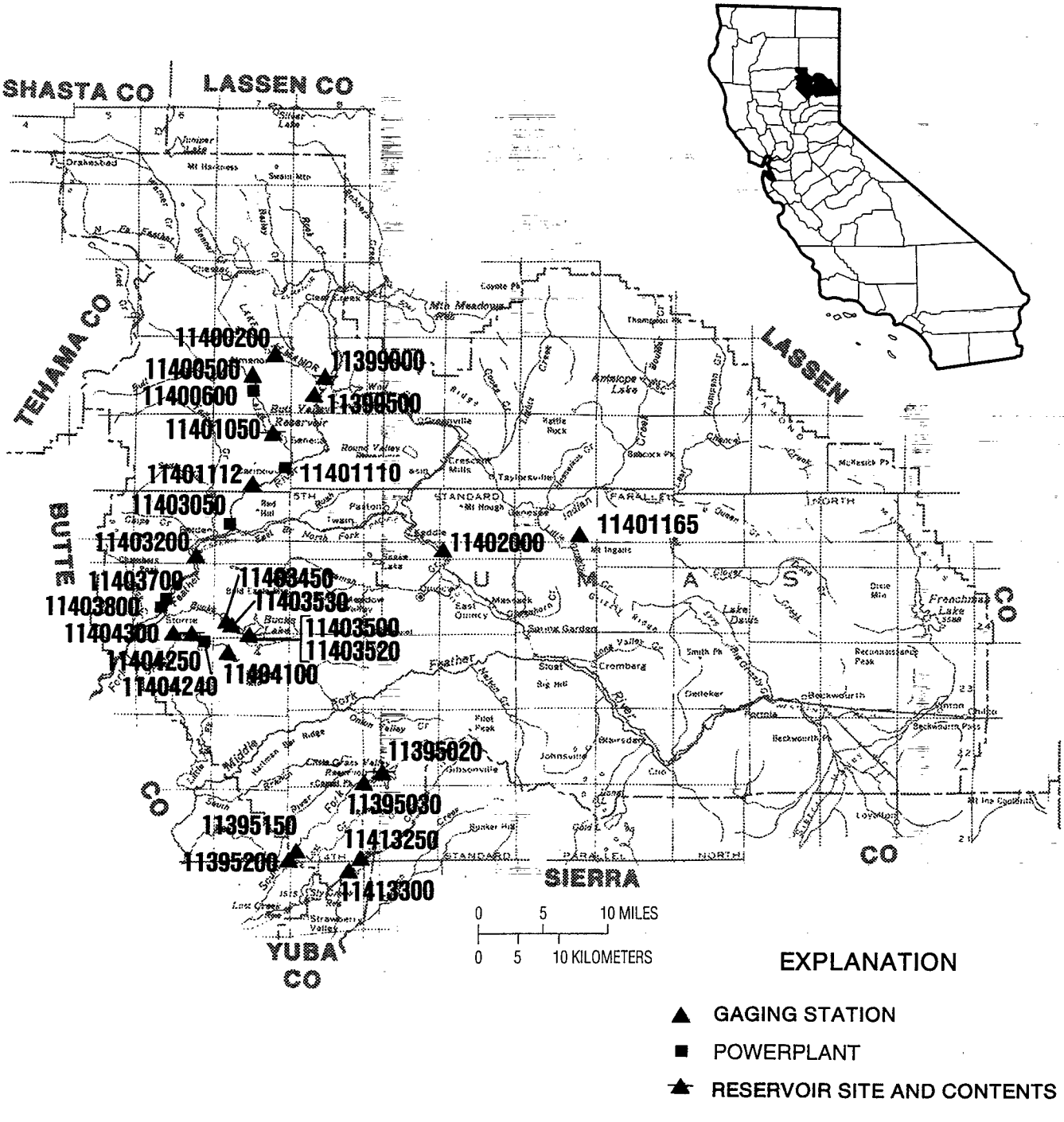

Figure 18. Location of discharge stations in Plumas County.

C-042027

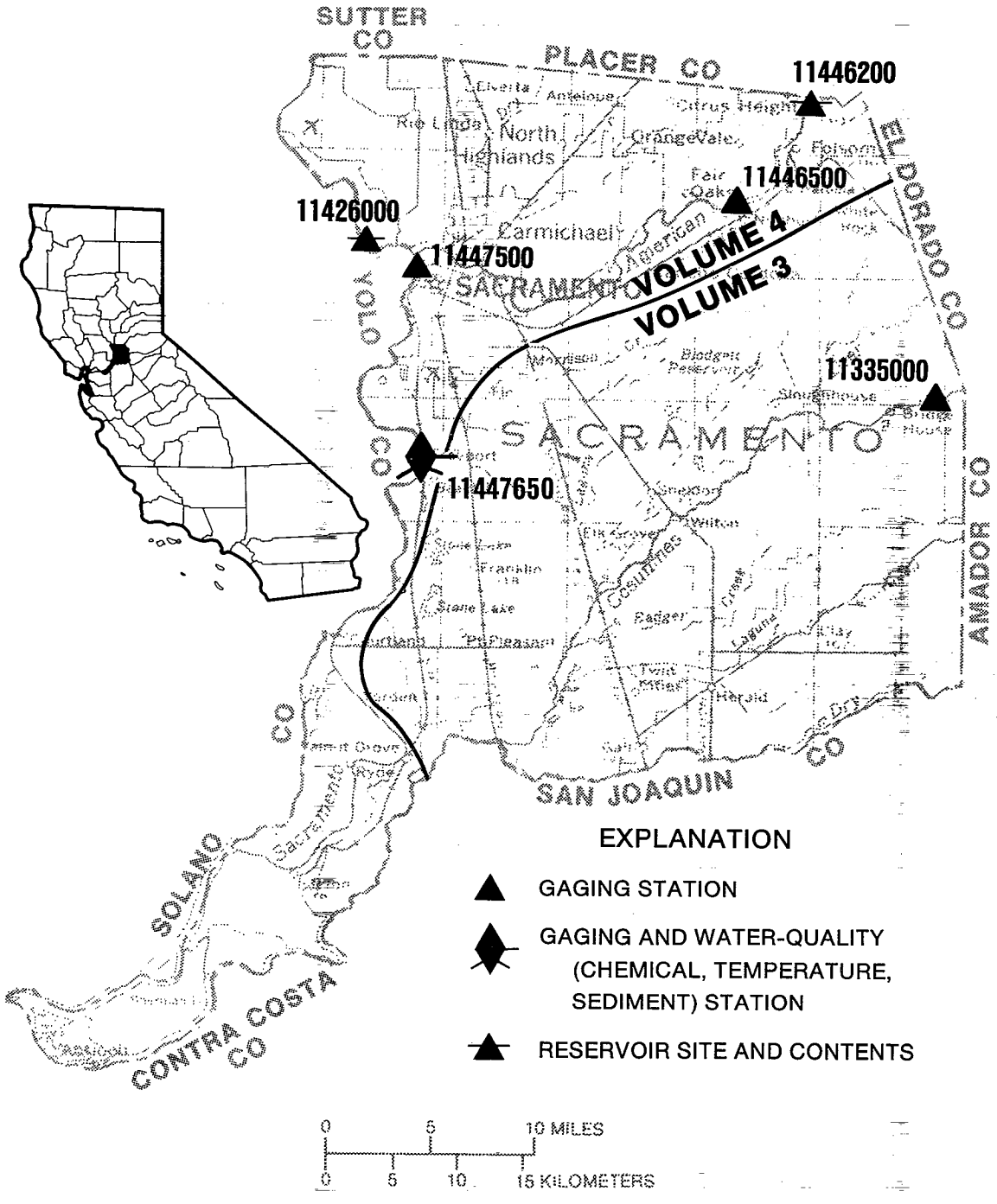

Figure 19. Location of discharge and water-quality stations in Sacramento County. (NOTE: Record for station 11335000 published in volume 3.)

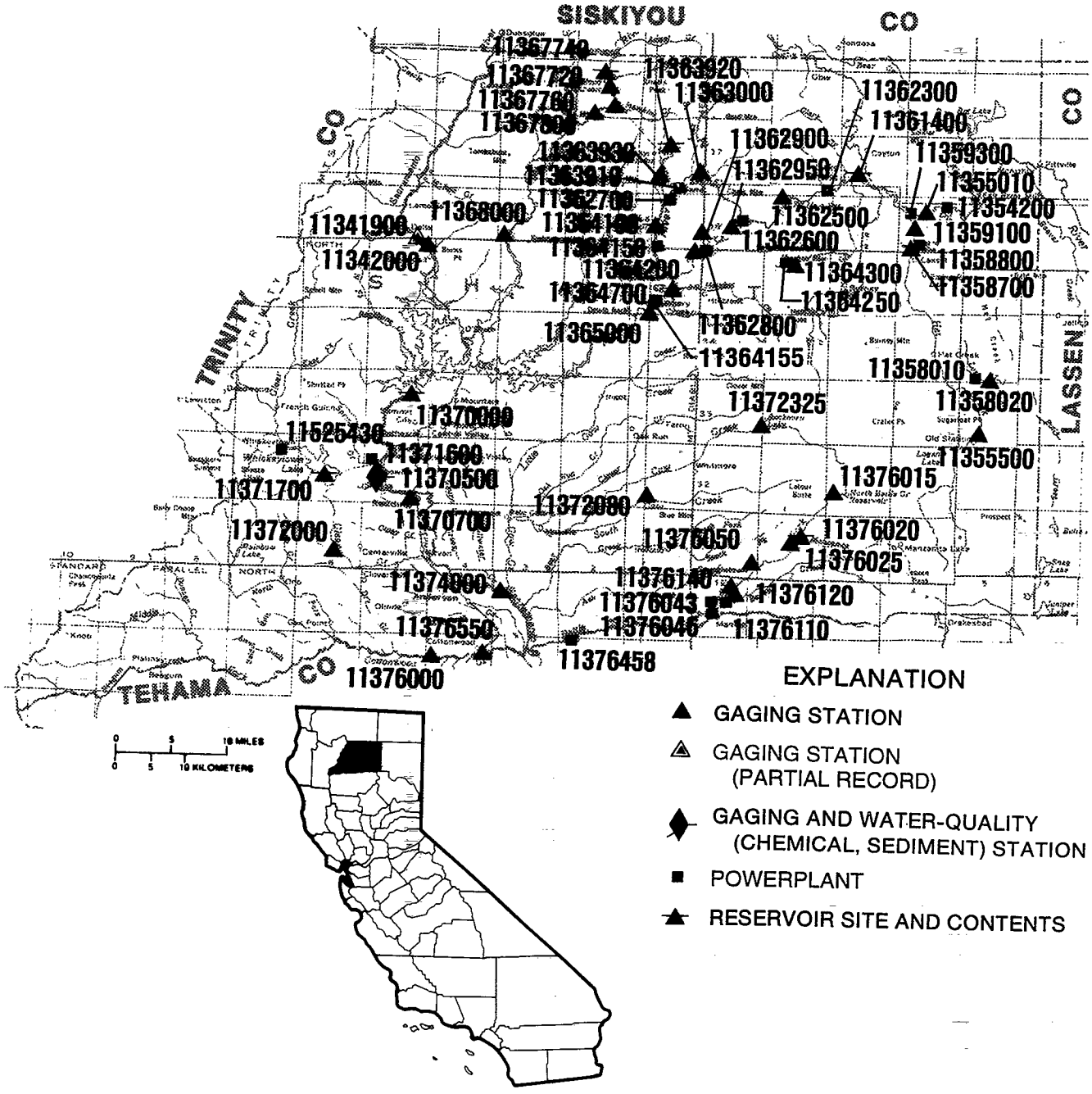

Figure 20. Location of discharge and water-quality stations in Shasta County.

C-042029

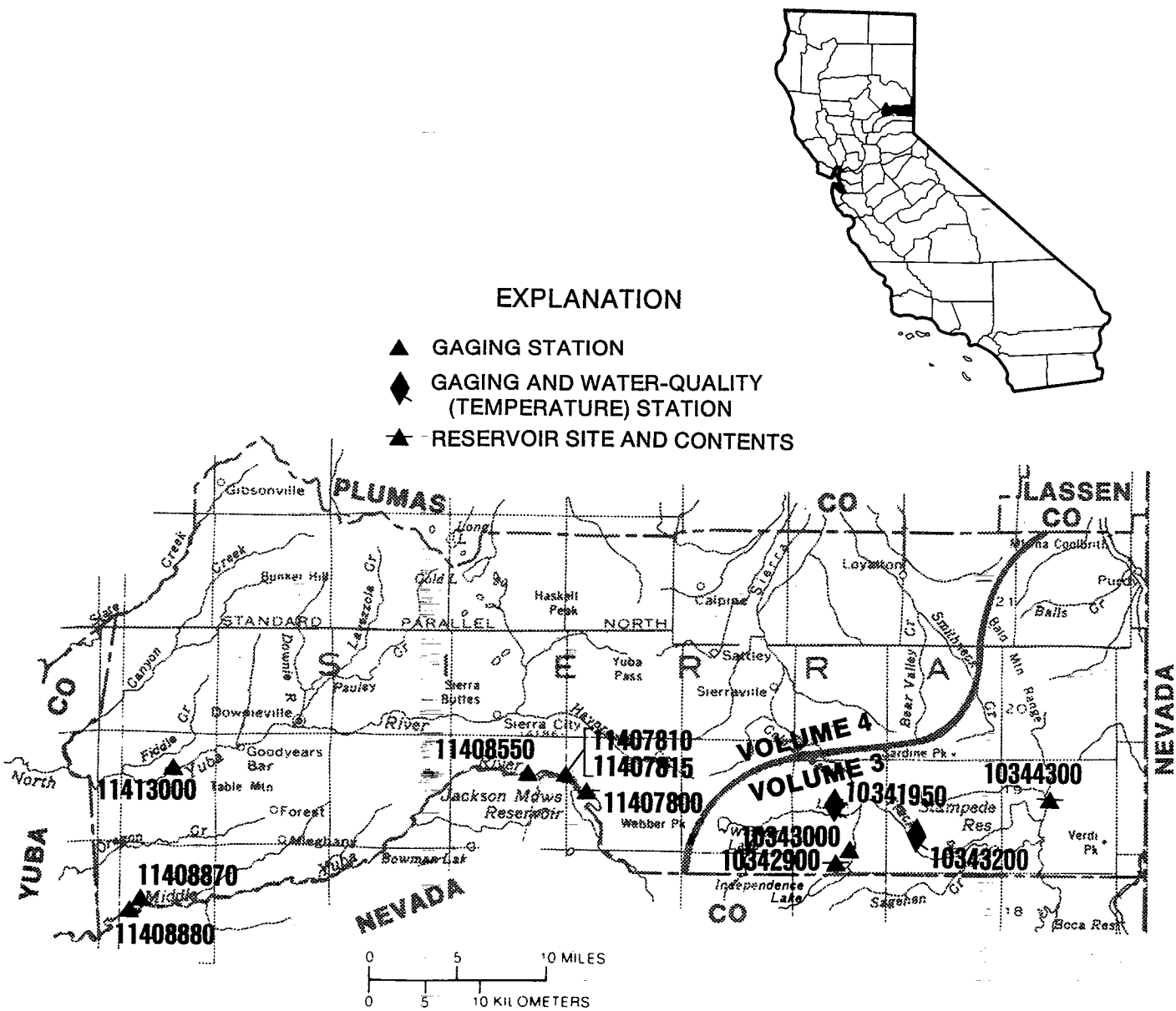

Figure 21. Location of discharge and water-quality stations in Sierra County.
(NOTE: Records for stations 10341950 through 10344300 published in volume 3.)

C-042030

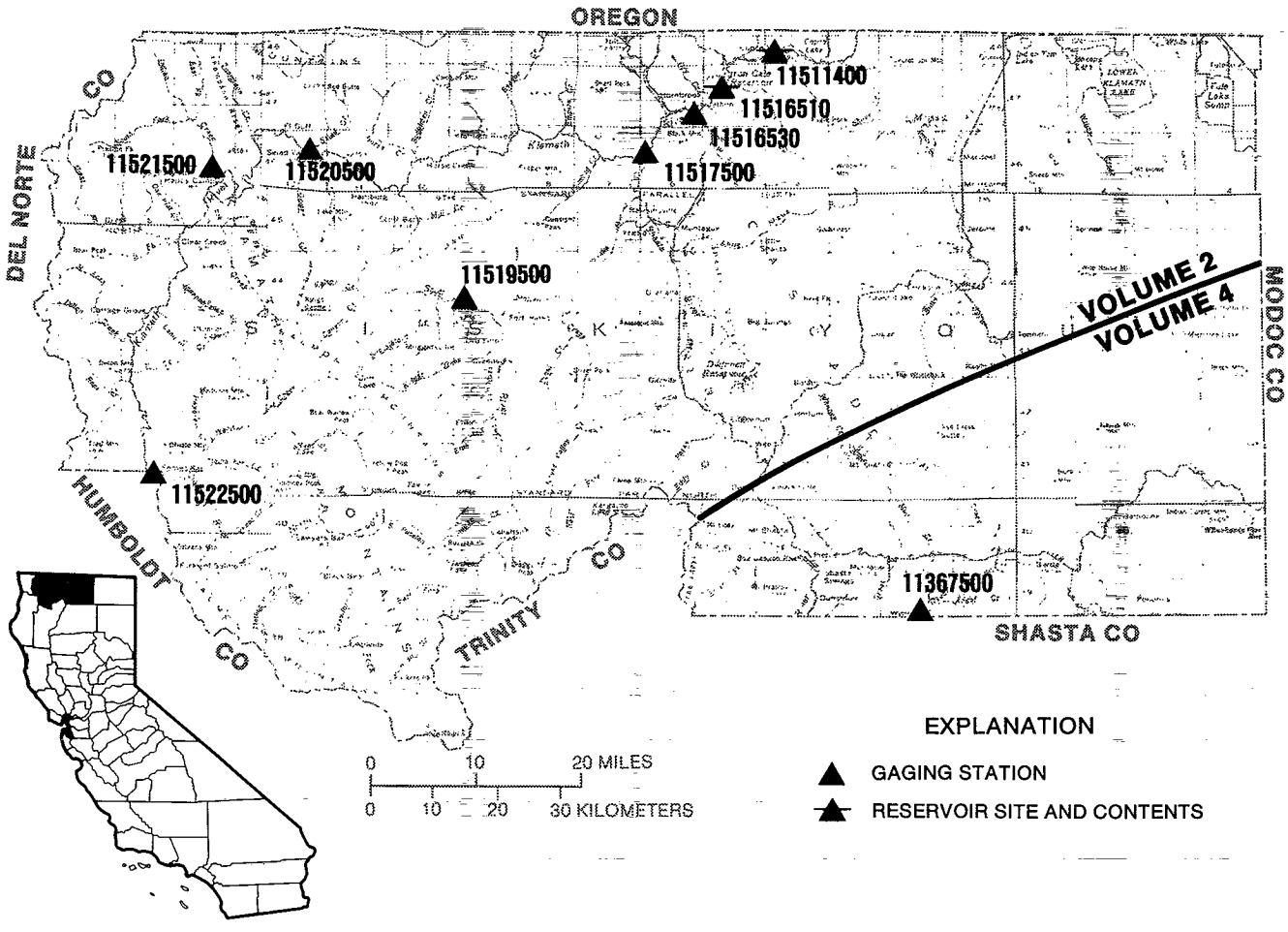

Figure 22. Location of discharge stations in Siskiyou County. (NOTE: Records for stations 11511400 through 11522500 published in volume 2.)

C-042031

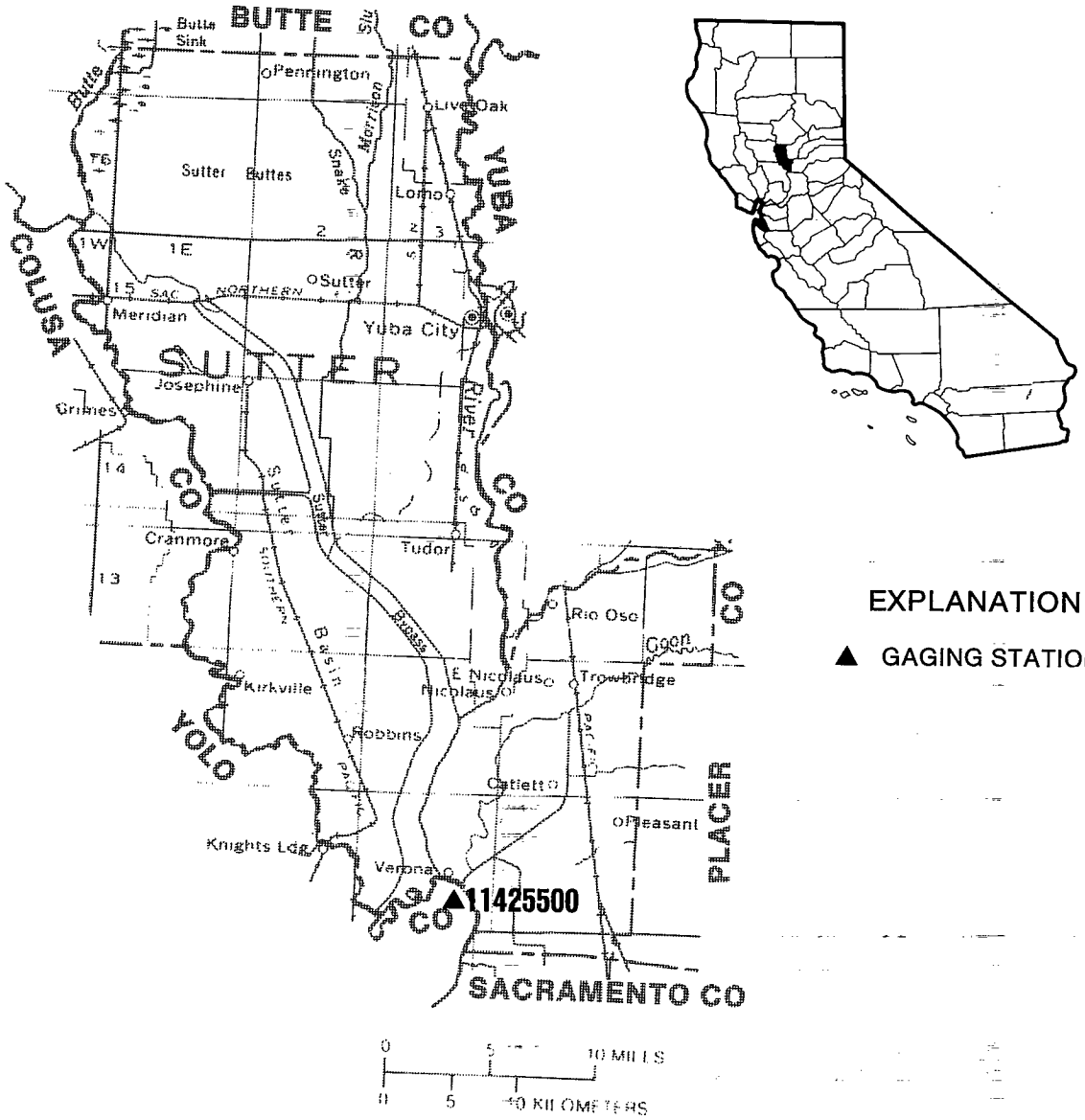

Figure 23. Location of discharge station in Sutter County.

C-042032

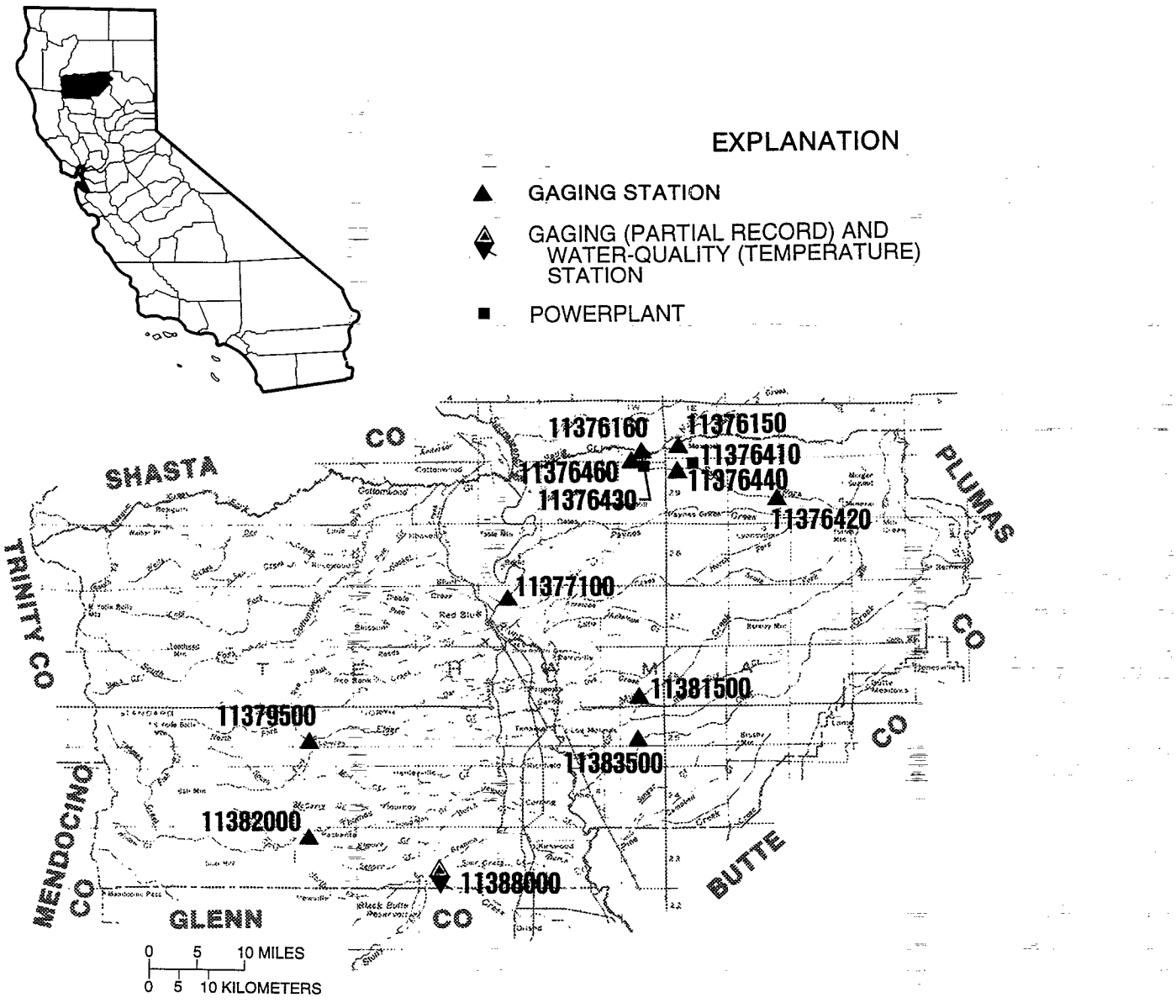

Figure 24. Location of discharge and water-quality stations in Tehama County.

C-042033

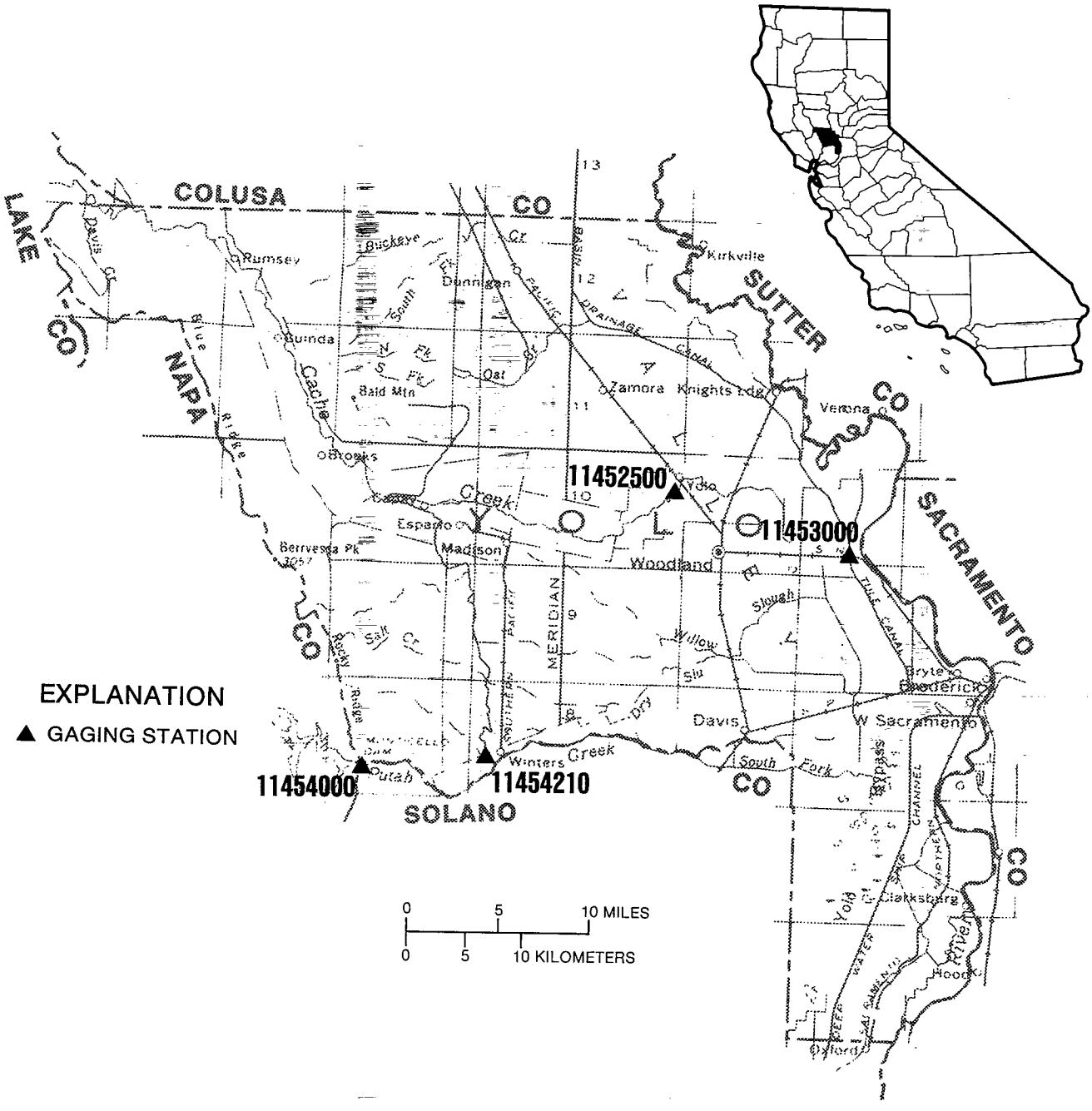

Figure 25. Location of discharge stations in Yolo County.

C—042034

C-042034

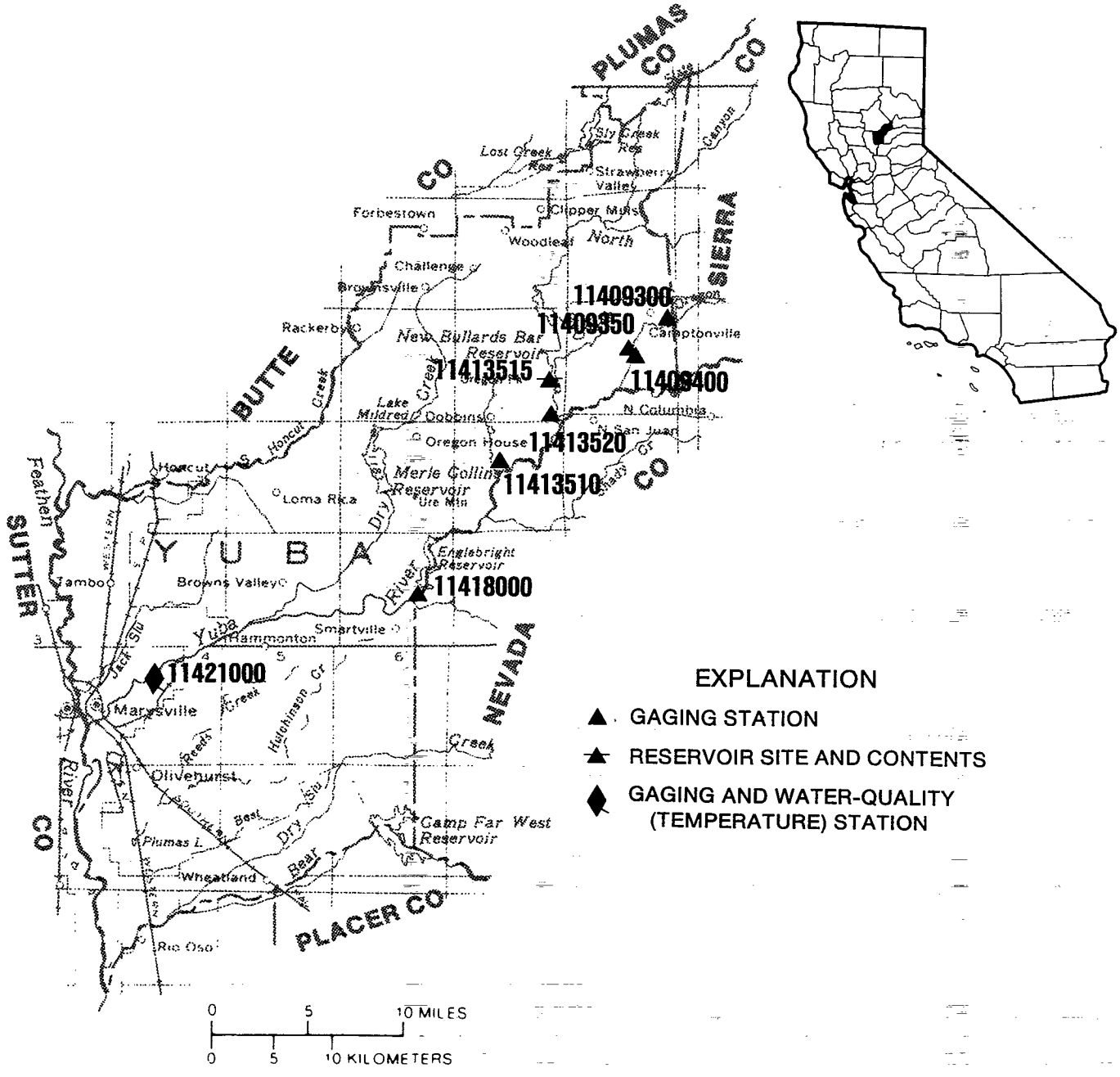

Figure 26. Location of discharge and water-quality stations in Yuba County.

C-042035

GAGING STATION AND WATER-QUALITY RECORDS

Remark Codes

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

PRINTED OUTPUT	REMARK
e	Estimated value
>	Actual value is greater than value shown
<	Actual value is less than value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant
*	Instantaneous streamflow at the time of cross-sectional measurement
1	Laboratory value
A	Samples collected by another agency

Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994. Full implementaion of the protocols is intended during the 1995 water year.

C—0 4 2 0 3 6

C-042036

HONEY LAKE BASIN

10354000 LONG VALLEY CREEK NEAR SCOTTS, CA

LOCATION.--Lat 39°51'20", long 120°04'00", in SW 1/4 SW 1/4 sec.10, T.23 N., R.17 E., Lassen County, Hydrologic Unit 18080003, 1.4 mi northeast of Scotts and 6 mi northwest of Hallelujah Junction.

DRAINAGE AREA.--125 mi^2.

PERIOD OF RECORD.--March to September 1917, January to June 1919 (fragmentary), December 1988 to September 1994 (discontinued). Monthly discharge measurements only, February to June 1918 and October 1987 to September 1988.

REVISED RECORDS.--WDR CA-92-4: 1989 (M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 4,620 ft above sea level, from topographic map. Prior to December 1988, nonrecording gage at different site and datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft^3/s, Mar. 17, 1993, gage height, 10.92 ft, from rating curve extended above 220 ft^3/s on basis of step-backwater computation; minimum daily, 0.06 ft^3/s, Oct. 28, 1993.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
(a)	--	*33	*7.17				

Minimum daily, 0.06 ft^3/s, Oct. 28.

(a) Sometime during the period Feb. 14 to Mar. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	.36	e1.9	3.4	2.1	e4.6	2.2	1.4	.85	.57	.36	e.39
2	1.5	.31	e1.8	3.2	2.2	e4.6	2.1	1.4	.77	.57	.36	e.39
3	1.6	.25	e1.8	3.1	2.4	e4.7	2.1	1.3	.82	.54	.33	e.43
4	2.4	.19	e1.8	3.2	2.7	4.7	2.1	1.3	.69	.53	.33	e.39
5	2.3	.24	e1.8	3.5	2.9	6.6	2.0	1.4	.69	.53	.35	e.39
6	2.3	.71	e1.8	3.2	3.1	9.4	1.9	1.6	.70	.51	.35	e.39
7	1.9	1.2	e1.8	2.4	4.1	7.4	1.9	3.0	.78	.51	.34	e.39
8	1.5	1.3	e2.3	2.4	4.2	5.5	1.9	2.7	.80	.50	.38	e.45
9	1.2	1.2	e4.8	2.6	4.1	4.5	2.0	2.7	.92	.47	.42	e.42
10	.92	1.3	e4.3	2.5	4.3	4.1	2.0	2.3	1.0	.49	.42	e.39
11	.69	1.4	e4.1	2.5	5.3	6.0	2.1	2.0	1.1	.48	.44	e.39
12	.56	1.5	e3.8	2.3	3.8	6.5	2.1	1.7	.94	.49	.47	e.39
13	.40	1.3	e3.6	2.5	3.4	5.2	2.0	1.4	.81	.47	.54	e.39
14	.33	1.2	e3.4	2.5	3.5	4.4	2.0	1.3	.82	.48	.76	e.39
15	.26	1.0	e3.3	2.7	3.5	3.8	2.0	1.0	.58	.54	.76	e.39
16	.22	1.0	e3.1	2.6	3.3	3.5	1.9	.83	.52	.63	.68	e.39
17	.19	.93	e2.9	2.6	e3.8	3.6	2.0	.89	.52	.59	.53	e.38
18	.19	.73	e2.8	2.5	e4.5	3.5	2.0	1.1	.52	.61	e.39	e.39
19	.16	.71	e2.7	2.5	e4.3	3.2	1.9	1.4	.55	.62	e.39	e.39
20	.13	.71	e2.6	2.5	e4.2	3.1	1.8	1.4	.57	.60	e.38	e.39
21	.09	.96	e2.5	2.5	4.1	3.0	1.8	1.3	.57	.57	e.39	e.39
22	.14	1.4	2.3	2.7	3.9	2.9	1.5	1.2	.57	.56	e.39	e.39
23	.11	e1.5	2.3	2.9	4.7	2.9	1.3	1.2	.55	.49	e.39	e.39
24	.08	e1.5	2.0	3.0	4.2	2.9	1.2	1.2	.56	.42	e.39	e.39
25	.08	e1.5	2.2	3.0	e4.3	2.8	1.3	1.1	.61	.44	e.39	e.39
26	.07	e1.5	2.8	2.7	e4.4	2.7	1.5	.95	.65	.46	e.39	e.39
27	.07	e1.5	3.8	2.7	e4.5	2.5	1.5	.98	.65	.44	e.39	e.39
28	.06	e1.7	4.4	2.6	e4.5	2.4	1.7	.91	.58	.40	e.39	e.42
29	.16	e1.9	4.1	2.5	---	2.5	1.5	.91	.58	.40	e.39	e.45
30	.39	e2.2	4.0	2.5	---	2.6	1.5	e.88	.59	.41	e.39	e.42
31	.42	---	3.6	2.3	---	2.3	---	.85	---	.35	e.39	---
TOTAL	22.32	33.20	90.4	84.1	106.3	128.4	54.8	43.60	20.86	15.67	13.28	11.95
MEAN	.72	1.11	2.92	2.71	3.80	4.14	1.83	1.41	.70	.51	.43	.40
MAX	2.4	2.2	4.8	3.5	5.3	9.4	2.2	3.0	1.1	.63	.76	.45
MIN	.06	.19	1.8	2.3	2.1	2.3	1.2	.83	.52	.35	.33	.39
AC-FT	44	66	179	167	211	255	109	86	41	31	26	24

e Estimated.

C-042037

HONEY LAKE BASIN

10354000 LONG VALLEY CREEK NEAR SCOTTS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.83	1.48	2.47	5.65	8.04	37.2	15.3	6.42	2.67	.42	.37	.39
MAX	2.44	3.86	3.50	18.1	20.8	149	63.9	27.7	10.8	.55	.43	.81
(WY)	1990	1990	1990	1993	1993	1993	1993	1993	1993	1991	1994	1989
MIN	.31	.32	1.56	1.70	2.29	2.29	1.39	.66	.30	.30	.28	.24
(WY)	1993	1993	1992	1992	1992	1992	1992	1992	1992	1992	1992	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1989 - 1994	
ANNUAL TOTAL	9032.80		624.88			
ANNUAL MEAN	24.7		1.71		6.52	
HIGHEST ANNUAL MEAN					24.6	1993
LOWEST ANNUAL MEAN					1.00	1992
HIGHEST DAILY MEAN	483	Mar 17	9.4	Mar 6	483	Mar 17 1993
LOWEST DAILY MEAN	.06	Oct 28	.06	Oct 28	.06	Oct 28 1993
ANNUAL SEVEN-DAY MINIMUM	.09	Oct 22	.09	Oct 22	.09	Oct 22 1993
INSTANTANEOUS PEAK FLOW			33	Unknown	1040	Mar 17 1993
INSTANTANEOUS PEAK STAGE			7.17	Unknown	10.92	Mar 17 1993
ANNUAL RUNOFF (AC-FT)	17920		1240		4720	
10 PERCENT EXCEEDS	88		3.8		12	
50 PERCENT EXCEEDS	2.9		1.3		1.6	
90 PERCENT EXCEEDS	.30		.39		.30	

C-042038

10356500 SUSAN RIVER AT SUSANVILLE, CA

LOCATION.--Lat 40°25'03", long 120°40'15", in SW 1/4 NE 1/4 sec.31, T.30 N., R.12 E., Lassen County, Hydrologic Unit 18080003, on left bank 0.5 mi west of Susanville, 1.1 mi upstream from Piute Creek, and 19.8 mi downstream from McCoy Flat Reservoir.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--June 1900 to December 1905 (gage heights only, August 1901 to January 1903), March to May 1913 (gage heights only), February 1917 to June 1921, October 1950 to September 1994 (discontinued). Published as "near Susanville" 1900-05. Discharge records for August to December 1901 and January 1903, published in WSP 300, have been found to be unreliable and should not be used.
CHEMICAL DATA: Water years 1952-93.
BIOLOGICAL DATA: Water years 1978-81.
SEDIMENT DATA: Water years 1978-93.
REVISED RECORDS.--WSP 1444: 1951, 1953-54(P). WSP 1564: 1900-1901, 1903-4, 1920.

GAGE.--Water-stage recorder. Datum of gage is 4,222.32 ft above sea level. Prior to Oct. 1, 1950, nonrecording gages at several sites in vicinity of old powerplant 0.9 mi upstream at various datums. Oct. 1, 1950, to Sept. 13, 1990, at datum 3.40 ft higher.

REMARKS.--Records fair except for estimated daily discharges for the ice-affected periods, Nov. 15-26, Dec. 14 to Feb. 6 and Feb. 8, 9, 12-16, which are poor. Flow regulated by McCoy Flat Reservoir and Hog Flat Reservoir, combined usable capacity, 25,300 acre-ft. Diversions for irrigation of 1,400 acres upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,850 ft^3/s, Jan. 24, 1970, gage height, 8.89 ft, in gage well, 10.4 ft, from floodmarks, from rating curve extended above 1,000 ft^3/s on basis of slope-area measurement at gage height 6.62 ft and contracted-opening measurement of peak flow; no flow Aug. 15, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 178 ft^3/s, Mar. 5, gage height, 5.81 ft; minimum daily, 0.29 ft^3/s, Aug. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	8.1	16	e12	e9.0	43	48	23	101	1.5	.43	.81
2	3.5	7.8	12	e12	e9.0	46	47	58	99	1.4	.50	1.5
3	3.3	7.9	12	e13	e9.2	47	49	82	97	1.3	.51	.65
4	3.5	7.9	12	e15	e9.6	50	48	86	94	1.2	.44	.59
5	6.8	7.9	11	e21	e10	147	44	52	92	1.1	.48	.58
6	11	7.7	11	e17	e11	88	44	51	93	.91	.55	.90
7	7.1	8.0	10	e16	13	65	46	73	61	.81	.51	.49
8	6.0	8.0	19	e14	e12	55	43	53	20	1.0	.53	1.7
9	5.0	8.4	34	e13	e12	53	46	53	13	.74	.53	.86
10	5.5	8.4	23	e12	12	59	42	44	42	.88	.61	.45
11	7.5	8.4	22	e12	11	67	39	39	68	1.1	.64	.72
12	9.4	12	19	e12	e8.4	57	38	36	67	.87	.73	.83
13	8.9	10	16	e12	e9.0	53	41	33	64	.77	.49	.88
14	9.9	8.7	e14	e12	e10	56	43	29	60	.84	.29	1.1
15	16	e7.0	e11	e11	e12	64	43	29	46	.78	.42	.54
16	21	e6.8	e9.0	e11	e14	67	43	28	19	.42	.52	.55
17	20	e6.8	e7.8	e10	26	61	47	108	8.7	.49	.66	1.7
18	13	e6.6	e6.8	e9.8	21	58	50	126	6.3	.48	.65	1.5
19	11	e6.4	e6.3	e9.5	15	55	58	129	3.0	.56	.58	1.1
20	9.5	e6.3	e6.2	e9.4	14	49	66	130	4.0	.58	.57	1.5
21	9.6	e6.2	e6.5	e9.8	14	49	63	140	4.2	.54	.56	.59
22	8.7	e6.1	e6.6	e11	13	49	61	138	3.2	.47	.67	.93
23	8.4	e6.0	e7.1	e11	13	43	56	134	1.9	.49	.76	.47
24	8.3	e6.7	e8.0	e12	16	40	52	130	2.0	.49	1.5	.54
25	8.2	e7.1	e8.5	e11	28	39	52	127	2.3	.51	.79	.75
26	7.9	e9.0	e9.0	e10	39	39	52	122	2.5	.58	.77	.75
27	7.8	8.4	e9.4	e10	55	40	48	114	1.6	.50	.79	1.5
28	8.0	9.9	e10	e9.8	50	43	35	109	1.8	.55	.77	.78
29	8.1	13	e11	e9.7	---	46	24	107	1.8	.44	.79	2.0
30	7.9	21	e11	e9.5	---	48	23	104	1.6	.52	.82	1.2
31	8.1	---	e11	e9.2	---	50	---	103	---	.47	.81	---
TOTAL	272.4	252.6	376.2	366.7	475.2	1726	1391	2590	1080.9	23.30	19.67	28.46
MEAN	8.79	8.42	12.1	11.8	17.0	55.7	46.4	83.5	36.0	.75	.63	.95
MAX	21	21	34	21	55	147	66	140	101	1.5	1.5	2.0
MIN	3.3	6.0	6.2	9.2	8.4	39	23	23	1.6	.42	.29	.45
AC-FT	540	501	746	727	943	3420	2760	5140	2140	46	39	56

e Estimated.

C-042039

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.2	33.5	55.2	80.4	105	151	205	223	97.2	53.3	31.5	8.54
MAX	214	377	405	683	645	466	780	858	386	139	102	38.8
(WY)	1963	1982	1965	1970	1986	1993	1952	1952	1983	1957	1983	1983
MIN	3.20	7.27	4.26	7.83	11.5	12.5	11.2	5.25	2.21	.75	.63	.74
(WY)	1993	1991	1991	1977	1991	1977	1977	1992	1992	1994	1990	1990

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1950 - 1994	
ANNUAL TOTAL	46164.1		8602.43			
ANNUAL MEAN	126		23.6		88.1	
HIGHEST ANNUAL MEAN					221	1982
LOWEST ANNUAL MEAN					7.45	1977
HIGHEST DAILY MEAN	1020	Mar 17	147	Mar 5	3690	Feb 17 1986
LOWEST DAILY MEAN	1.3	Aug 26	.29	Aug 14	.00	Aug 15 1961
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 25	.47	Jul 29	.15	Sep 5 1990
INSTANTANEOUS PEAK FLOW			178	Mar 5	5850	Jan 24 1970
INSTANTANEOUS PEAK STAGE			5.81	Mar 5	8.89	Jan 24 1970
ANNUAL RUNOFF (AC-FT)	91570		17060		63840	
10 PERCENT EXCEEDS	366		61		209	
50 PERCENT EXCEEDS	24		9.9		26	
90 PERCENT EXCEEDS	3.7		.58		3.9	

10358500 WILLOW CREEK NEAR SUSANVILLE, CA

LOCATION.--Lat 40°29'21", long 120°32'10", in SW 1/4 NE 1/4 sec.5, T.30 N., R.13 E., Lassen County, Hydrologic Unit 18080003, on left bank 4 mi upstream from Peters Valley Creek and 8 mi northeast of Susanville.

DRAINAGE AREA.--90.4 mi^2, excludes that of Eagle Lake basin.

PERIOD OF RECORD.--October 1950 to September 1994 (discontinued).

REVISED RECORDS.--WSP 1445: 1952(M). WSP 1714: 1951. WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,836.27 ft above sea level.

REMARKS.--Records fair. Diversions for irrigation upstream from station. Some flow at times enters Willow Creek from Eagle Lake through a pipe in a concrete plug in an abandoned tunnel.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,210 ft^3/s, Feb. 18, 1986, gage height, 6.25 ft, from rating curve extended above 600 ft^3/s; minimum daily, 1.4 ft^3/s, Aug. 11, Sept. 16, 17, 1992.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 5	1900	*51	*2.82				

Minimum daily, 1.7 ft^3/s, Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	6.6	11	15	17	41	14	19	11	e5.3	e3.1	e1.8
2	6.6	6.6	11	15	18	37	14	18	10	e5.2	e3.0	e1.8
3	6.8	6.7	11	16	18	34	15	16	9.9	e5.1	e2.9	e1.8
4	7.2	7.3	11	18	18	33	16	15	9.5	e5.1	e2.9	e1.8
5	8.3	7.3	11	20	18	45	16	14	9.1	e5.1	e2.8	e1.8
6	8.6	7.1	11	18	19	42	17	19	9.0	e5.0	e2.8	e1.8
7	8.4	7.1	11	16	20	37	19	34	8.9	e5.0	e2.7	e1.8
8	8.0	7.2	12	17	19	34	20	42	8.9	e4.9	e2.7	1.8
9	7.9	7.2	15	17	18	34	20	45	8.7	e4.8	e2.7	1.8
10	8.1	7.3	14	17	19	32	19	38	8.4	e4.7	e2.6	1.9
11	8.0	7.7	13	18	19	34	19	31	8.2	e4.5	e2.6	2.0
12	7.5	8.1	13	17	20	32	18	25	8.1	e4.5	e2.5	2.2
13	6.9	8.5	13	17	20	30	18	21	8.1	e4.4	e2.5	2.3
14	7.1	8.5	13	17	20	29	16	19	8.1	e4.4	e2.5	2.2
15	7.4	8.2	13	18	21	28	14	16	8.1	e4.3	e2.4	2.2
16	7.7	8.3	13	17	21	28	12	15	7.8	e4.3	e2.4	2.2
17	7.9	8.5	12	17	26	27	12	15	7.6	e4.3	e2.3	2.2
18	7.6	8.6	13	17	28	25	14	16	7.4	e4.2	e2.3	2.1
19	7.2	8.4	13	17	25	25	14	18	7.3	e4.2	e2.3	2.0
20	7.0	8.4	13	17	25	25	14	20	7.3	e4.1	e2.3	1.8
21	6.8	8.4	13	17	26	24	14	20	e7.0	e4.0	e2.2	1.8
22	6.8	9.0	13	17	26	25	15	18	e6.8	e3.8	e2.2	1.8
23	6.8	9.9	13	18	26	24	17	16	e6.6	e3.8	e2.2	1.7
24	6.7	9.4	13	19	28	21	17	15	e6.5	e3.7	e2.2	1.8
25	6.7	8.8	13	19	34	20	16	14	e6.3	e3.6	e2.1	1.8
26	6.6	8.7	14	19	43	18	15	12	e6.1	e3.5	e2.1	2.2
27	6.6	9.0	14	19	47	14	15	11	e5.9	e3.4	e2.1	2.2
28	6.7	9.4	14	18	44	16	15	11	e5.7	e3.3	e2.0	2.2
29	6.8	10	14	18	---	17	18	11	e5.6	e3.3	e2.0	2.5
30	6.7	12	14	18	---	14	20	11	e5.4	e3.2	e1.9	2.7
31	6.6	---	14	17	---	14	---	11	---	e3.2	e1.9	---
TOTAL	224.4	248.2	396	540	683	859	483	606	233.3	132.2	75.2	60.0
MEAN	7.24	8.27	12.8	17.4	24.4	27.7	16.1	19.5	7.78	4.26	2.43	2.00
MAX	8.6	12	15	20	47	45	20	45	11	5.3	3.1	2.7
MIN	6.4	6.6	11	15	17	14	12	11	5.4	3.2	1.9	1.7
AC-FT	445	492	785	1070	1350	1700	958	1200	463	262	149	119

e Estimated.

C-042041

10358500 WILLOW CREEK NEAR SUSANVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.9	31.3	38.6	52.8	70.0	67.7	40.9	19.6	13.7	12.2	11.1	12.9
MAX	113	119	128	177	289	272	311	57.7	60.7	32.6	25.2	27.3
(WY)	1963	1982	1956	1970	1986	1993	1952	1983	1971	1971	1971	1983
MIN	5.48	8.27	11.9	12.4	21.1	15.7	11.3	5.28	3.77	2.70	1.87	2.00
(WY)	1993	1994	1992	1993	1955	1953	1992	1992	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1951 - 1994	
ANNUAL TOTAL	12714.6		4540.3			
ANNUAL MEAN	34.8		12.4		32.6	
HIGHEST ANNUAL MEAN					67.0	1983
LOWEST ANNUAL MEAN					9.32	1992
HIGHEST DAILY MEAN	816	Mar 18	47	Feb 27	1090	Feb 18 1986
LOWEST DAILY MEAN	3.4	Sep 15	1.7	Sep 23	1.4	Aug 11 1992
ANNUAL SEVEN-DAY MINIMUM	3.7	Sep 11	1.8	Sep 1	1.5	Sep 13 1992
INSTANTANEOUS PEAK FLOW			51	Mar 5	1210	Feb 18 1986
INSTANTANEOUS PEAK STAGE			2.82	Mar 5	6.25	Feb 18 1986
ANNUAL RUNOFF (AC-FT)	25220		9010		23620	
10 PERCENT EXCEEDS	46		25		58	
50 PERCENT EXCEEDS	9.7		11		20	
90 PERCENT EXCEEDS	4.7		2.2		9.5	

C-042042

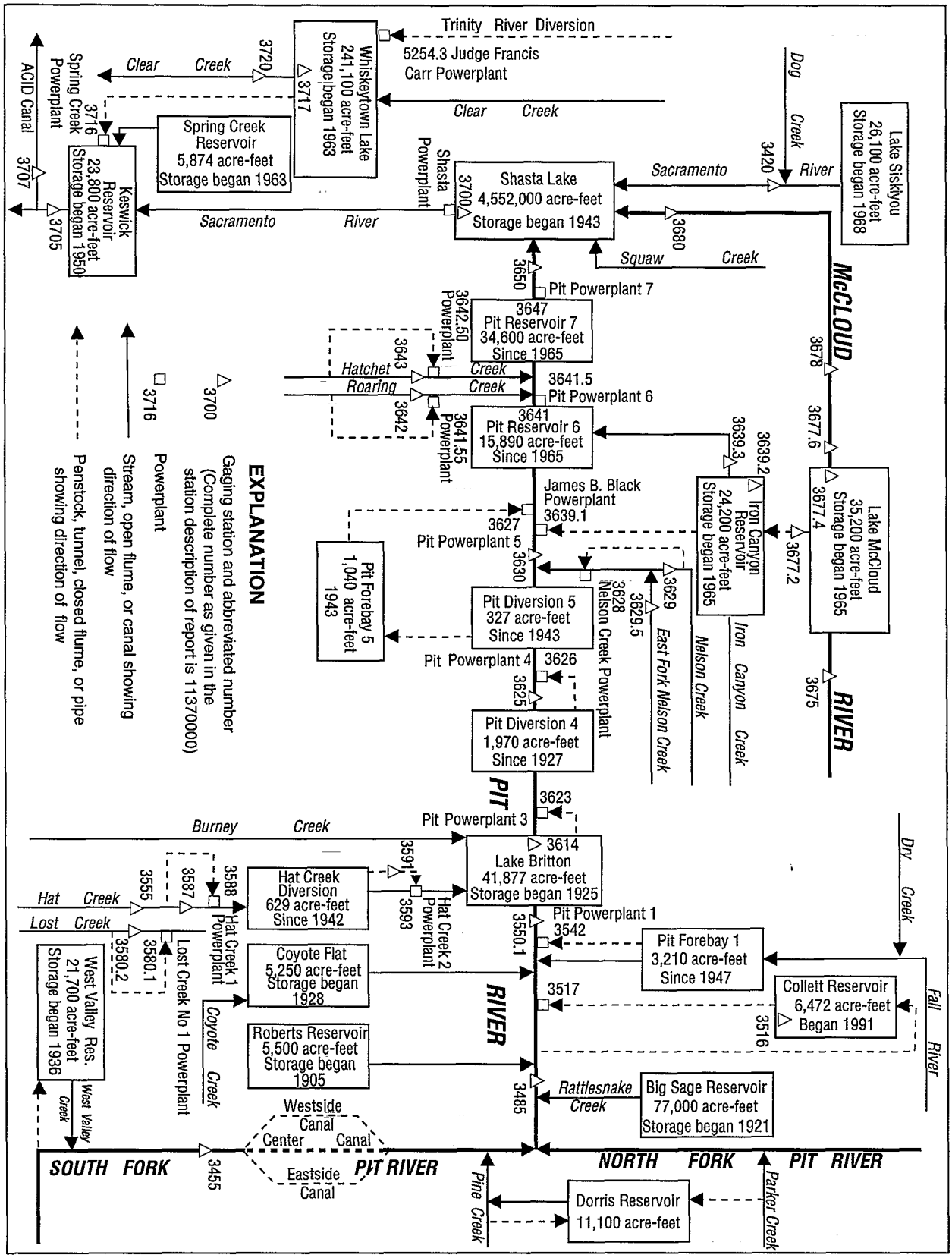

Figure 27. Diversions and storage in Pit and McCloud River basins.

C—042043

C-042043

SACRAMENTO RIVER BASIN

11342000 SACRAMENTO RIVER AT DELTA, CA

LOCATION.--Lat 40°56'23", long 122°24'58", in SW 1/4 NW 1/4 sec.35, T.36 N., R.5 W, Shasta County, Hydrologic Unit 18020005, U.S. Bureau of Reclamation property, on left bank 0.2 mi downstream from Dog Creek, 0.6 mi southeast of Delta, 2.8 mi south of Lamoine, and 29 mi downstream from Lake Siskiyou.

DRAINAGE AREA.--425 mi^2.

PERIOD OF RECORD.--October 1944 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1951-81.
WATER TEMPERATURE: Water years 1951, 1954-57, 1963-79.

REVISED RECORDS.--WSP 1395: 1951(M). WDR-CA-94-4: 1993(P)
GAGE.--Water-stage recorder. Datum of gage is 1,075.00 ft above sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Records good. Some regulation by Lake Siskiyou, capacity, 26,100 acre-ft, since December 1968. Some minor diversions for irrigation upstream from station. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,800 ft^3/s, Jan. 16, 1974, gage height, 27.20 ft in gage well, 28.7 ft from floodmarks, from rating curve extended above 19,000 ft^3/s on basis of slope-area measurements at gage height 19.50 ft, and of peak flow; minimum daily, 117 ft^3/s, Aug. 5, 6, 12-15, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 24	1015	*6,280	*9.34				

Minimum daily, 171 ft^3/s, Aug. 13, 25, 31.

REVISIONS.--The date for a water year 1993 peak has been revised to Feb. 19, discharge 12,200 ft^3/s, gage-height, 11.36 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e210	231	245	351	673	1290	774	671	375	216	177	174
2	e207	230	237	359	623	1290	772	672	364	215	176	176
3	e203	227	231	342	606	1280	861	683	347	213	177	177
4	e200	227	234	396	577	1250	806	733	339	210	177	177
5	218	224	228	487	549	1290	766	872	332	207	175	175
6	234	221	235	420	648	1340	746	917	331	206	174	174
7	224	215	520	390	877	1180	719	1050	326	205	173	172
8	213	215	1960	401	945	1120	733	1020	311	197	174	172
9	212	218	888	397	801	1110	738	977	305	194	176	174
10	241	230	2420	377	835	1150	662	961	277	193	174	177
11	288	234	2180	364	785	1120	640	924	299	192	174	179
12	269	226	1290	343	695	1020	658	859	268	189	174	180
13	238	221	797	345	667	980	698	749	261	188	171	182
14	236	210	753	332	624	1040	720	656	259	187	174	181
15	251	206	657	328	601	1130	775	651	278	185	174	179
16	284	205	549	321	596	1220	857	647	257	186	173	177
17	245	212	481	321	2060	1140	953	603	252	185	173	175
18	234	212	438	319	1720	1040	971	546	249	183	173	175
19	227	209	396	338	1390	957	1040	554	246	183	172	174
20	224	209	372	302	1200	868	1050	642	244	183	173	173
21	224	209	352	321	1210	826	1010	551	241	179	174	172
22	222	214	338	498	1140	780	869	607	238	182	174	172
23	221	212	327	2410	1000	742	820	525	235	185	174	173
24	219	211	318	5160	939	753	790	490	232	183	173	176
25	217	210	311	3070	977	647	933	472	230	181	171	181
26	214	209	309	1970	1120	644	782	467	226	180	172	179
27	212	209	307	1320	1240	656	747	452	226	181	172	178
28	213	217	301	1060	1240	687	704	426	223	180	172	181
29	212	365	305	905	---	735	693	410	218	179	173	199
30	223	321	308	819	---	785	698	391	215	177	173	193
31	230	---	324	752	---	747	---	374	---	177	171	---
TOTAL	7065	6759	18611	25518	26338	30817	23985	20552	8204	5901	5383	5327
MEAN	228	225	600	823	941	994	799	663	273	190	174	178
MAX	288	365	2420	5160	2060	1340	1050	1050	375	216	177	199
MIN	200	205	228	302	549	644	640	374	215	177	171	172
AC-FT	14010	13410	36910	50610	52240	61130	47570	40760	16270	11700	10680	10570

e Estimated.

SACRAMENTO RIVER BASIN

11342000 SACRAMENTO RIVER AT DELTA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	365	803	1307	1687	2180	2142	1979	1649	768	325	229	229
MAX	1837	6075	4310	6310	9557	7957	4264	4216	3090	1142	462	514
(WY)	1951	1974	1956	1970	1958	1983	1963	1983	1983	1983	1983	1957
MIN	150	187	197	214	226	243	264	410	229	145	122	154
(WY)	1945	1992	1977	1991	1977	1977	1977	1977	1977	1977	1977	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1945 - 1994	
ANNUAL TOTAL	532318		184460			
ANNUAL MEAN	1458		505		1133	
HIGHEST ANNUAL MEAN					2715	1983
LOWEST ANNUAL MEAN					228	1977
HIGHEST DAILY MEAN	14700	Mar 17	5160	Jan 24	53900	Jan 16 1974
LOWEST DAILY MEAN	200	Oct 4	171	Aug 13	117	Aug 5 1977
ANNUAL SEVEN-DAY MINIMUM	209	Nov 15	172	Aug 25	117	Aug 11 1977
INSTANTANEOUS PEAK FLOW			6280	Jan 24	69800	Jan 16 1974
INSTANTANEOUS PEAK STAGE			9.34	Jan 24	27.20	Jan 16 1974
INSTANTANEOUS LOW FLOW					117	Aug 5 1977
ANNUAL RUNOFF (AC-FT)	1056000		365900		820800	
10 PERCENT EXCEEDS	3280		1040		2560	
50 PERCENT EXCEEDS	586		307		519	
90 PERCENT EXCEEDS	217		175		197	

C-042045

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA

LOCATION.--Lat 41°13'51", long 120°26'10", in NE 1/4 SE 1/4 sec.11, T.39 N., R.13 E., Modoc County, Hydrologic Unit 18020002, on left bank 250 ft downstream from highway bridge, 1.4 mi downstream from West Valley Creek, and 3.5 mi east of Likely.

DRAINAGE AREA.--247 mi^2.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1951-79.
WATER TEMPERATURE: Water years 1965-79.
SEDIMENT DATA: Water years 1957-61, 1967-70.

REVISED RECORDS.--WSP 1931: Drainage area. WDR CA-88-4: 1983(M).

GAGE.--Water-stage recorder. Datum of gage is 4,507.74 ft above sea level. Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges for the ice-affected periods, Nov. 18-28, Dec. 14 to Jan. 2 and Jan. 28 to Feb. 15, which are poor. Considerable regulation by West Valley Reservoir on West Valley Creek beginning in May 1937, usable capacity, 21,700 acre-ft. Diversions for irrigation of about 3,800 acres upstream from station. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,620 ft^3/s, June 2, 1971, gage height, 6.05 ft; minimum, 0.2 ft^3/s, Feb. 3, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 193 ft^3/s, June 14, gage height, 3.20 ft; minimum daily, 6.8 ft^3/s, Feb. 12-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	31	21	e17	e8.7	29	15	78	148	151	153	92
2	27	30	20	e20	e8.1	24	17	76	132	155	162	91
3	26	31	20	23	e8.5	21	23	74	112	155	159	86
4	26	31	22	26	e8.7	20	23	83	97	155	171	82
5	30	30	20	27	e9.0	50	20	85	79	154	183	78
6	36	29	19	22	e9.0	35	21	112	74	153	183	77
7	e32	28	18	23	e8.4	13	20	145	70	152	180	75
8	e31	28	22	18	e8.0	9.5	18	153	59	135	160	61
9	e31	27	30	13	e7.3	7.5	23	155	53	118	147	41
10	e30	18	26	14	e7.0	9.7	24	142	82	102	146	40
11	30	13	24	11	e6.9	20	17	132	132	89	143	40
12	32	15	22	12	e6.8	13	18	126	171	88	141	41
13	33	16	21	13	e6.8	9.3	21	116	188	86	139	38
14	32	22	e20	11	e6.8	14	23	107	190	93	138	35
15	37	29	e19	11	e6.9	15	29	101	161	106	136	34
16	45	27	e18	13	7.4	14	44	113	145	106	137	34
17	49	19	e16	14	15	13	65	138	149	107	135	33
18	45	e16	e16	13	12	12	87	132	147	109	140	32
19	40	e15	e15	13	9.7	12	96	154	146	111	148	32
20	38	e14	e15	12	8.0	8.9	107	166	128	110	146	31
21	36	e14	e14	11	7.9	9.0	113	152	110	109	145	31
22	35	e13	e13	12	7.8	9.6	102	138	104	111	143	27
23	35	e13	e13	13	7.6	9.1	97	127	97	114	142	18
24	34	e16	e12	12	9.2	12	97	113	96	139	141	17
25	33	e18	e11	12	26	13	96	103	126	152	139	16
26	33	e17	e12	12	35	7.7	89	99	143	151	137	16
27	32	e17	e12	11	48	7.1	84	99	142	150	136	16
28	32	e18	e13	e11	41	8.2	81	95	141	150	134	19
29	31	23	e14	e11	---	12	80	92	140	147	133	16
30	31	25	e15	e10	---	15	81	89	139	146	110	15
31	31	---	e16	e9.2	---	19	---	101	---	143	93	---
TOTAL	1040	643	549	450.2	351.5	471.6	1631	3596	3701	3947	4500	1264
MEAN	33.5	21.4	17.7	14.5	12.6	15.2	54.4	116	123	127	145	42.1
MAX	49	31	30	27	48	50	113	166	190	155	183	92
MIN	26	13	11	9.2	6.8	7.1	15	74	53	86	93	15
AC-FT	2060	1280	1090	893	697	935	3240	7130	7340	7830	8930	2510

e Estimated.

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.2	28.3	28.6	29.7	34.9	48.7	107	224	169	85.7	112	54.7
MAX	63.2	57.8	107	93.0	101	219	385	570	610	199	194	159
(WY)	1963	1985	1965	1965	1965	1972	1952	1984	1971	1983	1975	1975
MIN	15.7	5.17	3.28	5.99	4.07	4.63	16.8	25.7	12.1	7.70	9.97	10.5
(WY)	1932	1980	1980	1941	1978	1977	1991	1931	1931	1931	1934	1931

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1929 - 1994	
ANNUAL TOTAL	35186.3		22144.3			
ANNUAL MEAN	96.4		60.7		79.7	
HIGHEST ANNUAL MEAN					183	1984
LOWEST ANNUAL MEAN					27.3	1931
HIGHEST DAILY MEAN	537	Jun 9	190	Jun 14	1220	Jun 2 1971
LOWEST DAILY MEAN	7.0	Jan 1	6.8	Feb 12	.80	Mar 19 1940
ANNUAL SEVEN-DAY MINIMUM	10	Jan 13	6.9	Feb 9	1.1	Feb 3 1941
INSTANTANEOUS PEAK FLOW			193	Jun 14	1620	Jun 2 1971
INSTANTANEOUS PEAK STAGE			3.20	Jun 14	6.05	Jun 2 1971
ANNUAL RUNOFF (AC-FT)	69790		43920		57720	
10 PERCENT EXCEEDS	257		146		182	
50 PERCENT EXCEEDS	47		31		42	
90 PERCENT EXCEEDS	14		11		12	

11348500 PIT RIVER NEAR CANBY, CA

LOCATION.--Lat 41°24'22", long 120°55'36", in NW 1/4 SW 1/4 sec.10, T.41 N., R.9 E., Modoc County, Hydrologic Unit 18020002, on right bank at lower end of Warm Spring Valley, 3.9 mi southwest of Canby.
DRAINAGE AREA.--1,431 mi^2, excluding Goose Lake basin.
PERIOD OF RECORD.--January 1904 to December 1905, May 1929 to current year (1929-31 incomplete).
CHEMICAL DATA: Water years 1951-79.
WATER TEMPERATURE: Water years 1965-79.
SEDIMENT DATA: Water years 1957-61, 1967-70.
REVISED RECORDS.--WSP 1445: 1904, 1935(M), 1936, 1937(M). WSP 1931: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 4,266.0 ft above sea level. January 1904 to December 1905, nonrecording gage and May 6, 1929, to Sept. 30, 1931, water-stage recorder, at site 100 ft upstream at different datum.
REMARKS.--No estimated daily discharges. Records fair. Low flow regulated by many small reservoirs, total capacity about 144,000 acre-ft. Diversions for irrigation of about 39,000 acres upstream from station. See schematic diagram of Pit and McCloud River basins.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,000 ft^3/s, Mar. 8, 1904, gage height, 15.0 ft, site and datum then in use; minimum daily, 0.1 ft^3/s, several days in April 1934 and August 1935.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 7	1545	*657	*4.14				

Minimum daily, 0.45 ft^3/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	116	155	94	55	338	124	105	98	10	3.3	50
2	60	112	136	100	53	257	103	68	101	8.7	5.4	143
3	56	103	129	104	56	206	93	33	96	8.2	11	135
4	54	112	129	116	58	171	94	40	93	8.6	8.0	56
5	56	100	127	139	68	206	95	102	90	8.4	10	33
6	76	97	120	172	71	336	99	184	79	7.3	9.6	14
7	53	95	114	157	66	341	100	486	77	6.6	7.7	12
8	37	101	124	111	72	236	102	543	70	5.1	5.9	13
9	37	110	131	105	68	173	103	526	49	1.7	5.0	13
10	39	103	133	113	70	141	114	427	25	.45	5.5	12
11	39	99	141	96	73	158	133	409	14	13	5.4	8.7
12	41	110	130	106	68	170	154	342	14	26	5.8	27
13	50	120	120	101	67	172	125	307	26	8.7	6.7	39
14	45	113	119	96	66	154	108	254	44	3.2	7.0	193
15	56	120	120	92	68	132	99	228	46	2.1	7.2	61
16	75	121	124	102	72	116	89	190	58	2.2	6.4	14
17	167	130	107	94	99	105	71	203	54	1.6	7.7	10
18	241	114	86	81	95	99	34	219	43	1.3	7.7	7.7
19	213	98	104	78	103	108	50	283	28	1.1	68	8.3
20	209	90	92	79	101	111	55	331	30	.89	105	7.6
21	181	85	90	80	94	106	32	414	27	.79	51	7.4
22	157	88	83	86	88	113	20	442	21	.72	36	7.8
23	134	84	76	91	86	136	20	395	15	8.1	50	7.6
24	134	72	71	100	119	149	24	349	14	32	26	10
25	131	104	67	100	140	195	33	195	14	31	12	63
26	132	112	67	90	178	246	68	101	19	12	23	61
27	130	104	71	82	293	244	130	86	17	5.4	42	82
28	113	105	70	70	395	186	118	28	15	2.6	25	88
29	103	104	79	68	---	151	106	47	14	1.4	21	100
30	95	151	83	71	---	134	107	78	13	1.3	33	84
31	122	---	89	63	---	132	---	57	---	1.5	53	---
TOTAL	3113	3173	3287	3037	2842	5522	2603	7472	1304	221.95	670.3	1368.1
MEAN	100	106	106	98.0	101	178	86.8	241	43.5	7.16	21.6	45.6
MAX	241	151	155	172	395	341	154	543	101	32	105	193
MIN	37	72	67	63	53	99	20	28	13	.45	3.3	7.4
AC-FT	6170	6290	6520	6020	5640	10950	5160	14820	2590	440	1330	2710

C-042048

11348500 PIT RIVER NEAR CANBY, CA --Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	77.8	104	190	286	408	537	465	426	259	63.8	42.4	62.7
MAX	1068	418	1225	1684	2249	1749	2774	2082	1746	312	125	150
(WY)	1963	1982	1938	1970	1986	1972	1952	1904	1971	1971	1983	1984
MIN	.26	12.7	31.0	14.7	19.2	5.83	1.29	2.32	3.53	4.62	.22	.28
(WY)	1935	1935	1937	1937	1937	1934	1934	1992	1992	1931	1934	1934

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1904 - 1994	
ANNUAL TOTAL	133089.1		34613.35			
ANNUAL MEAN	365		94.8		241	
HIGHEST ANNUAL MEAN					676	1971
LOWEST ANNUAL MEAN					22.4	1934
HIGHEST DAILY MEAN	3220	Mar 18	543	May 8	8580	Feb 19 1986
LOWEST DAILY MEAN	5.2	Aug 16	.45	Jul 10	.10	Apr 18 1934
ANNUAL SEVEN-DAY MINIMUM	6.7	Aug 10	1.2	Jul 16	.13	Apr 17 1934
INSTANTANEOUS PEAK FLOW			657	May 7	13000	Mar 8 1904
INSTANTANEOUS PEAK STAGE			4.14	May 7	15.00	Mar 8 1904
ANNUAL RUNOFF (AC-FT)	264000		68660		174800	
10 PERCENT EXCEEDS	833		185		618	
50 PERCENT EXCEEDS	129		86		92	
90 PERCENT EXCEEDS	39		7.7		15	

C-042049

11351600 COLLETT RESERVOIR NEAR LITTLE VALLEY, CA

LOCATION.--Lat 40°58'00", long 121°13'00", unsurveyed, Lassen County, Hydrologic Unit 18020003, on right bank, 1.8 mi east of Muck Valley powerplant, 5.5 mi northwest of Little Valley, and 9.1 mi southwest of Nubieber.

PERIOD OF RECORD.--October 1991 to September 1992. October 1993 to September 1994.

GAGE.-- Water-stage recorder. Datum of gage is sea level.

REMARKS.--Lake is formed by earth and rockfill dam. Storage began December 31, 1990. Water is diverted from the Pit River through a tunnel to the reservoir. Operating pool from elevation 4,030 ft, capacity 155 acre-ft, to 4,065 ft, capacity 7,693 acre-ft. Crest of spillway is at elevation 4,065 ft. Reservoir is used for power generation. Figures given represent total contents. Data not published below the minimum operating level at elevation 4,030 ft, capacity 155 ac-ft. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were provided by Malacha Hydro Limited Partnership, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Malacha Hydro Limited Partnership, dated November 1991)

4,030	155
4,032	395
4,035	931
4,040	1,899
4,050	4,052
4,065	7,693

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1781	370	322	298	305	492	435	3406	6888	1093	---	---
2	1800	372	328	308	311	492	745	3101	6617	1089	---	---
3	1796	379	332	316	315	492	1023	2799	6352	1082	---	---
4	1699	383	341	325	319	495	1247	2516	6346	1078	---	---
5	1540	388	344	330	324	552	1433	2153	6339	832	---	---
6	1367	390	347	336	328	553	1597	1756	6093	595	---	---
7	1251	396	350	340	339	552	1789	1971	5847	455	---	---
8	1251	401	361	347	343	553	2000	2473	5591	338	---	---
9	1287	406	364	352	347	554	2222	2507	5336	334	---	---
10	1290	411	370	357	359	565	2458	2755	5089	330	---	---
11	1171	419	380	362	364	421	2649	3080	5096	---	---	---
12	1127	428	384	366	368	425	2838	3232	5104	---	---	---
13	1042	437	390	411	373	427	3153	2906	4860	---	---	---
14	974	439	406	421	376	433	3383	3759	4611	---	---	---
15	950	445	412	426	380	439	3412	4372	4359	---	---	---
16	1028	450	420	432	396	446	3415	4613	4117	---	---	---
17	1136	455	424	436	410	450	3412	4779	3871	---	---	---
18	1140	461	447	442	421	458	3415	4819	3872	---	---	---
19	1334	466	402	447	427	464	3408	5260	3875	---	---	---
20	1506	464	392	450	437	466	3406	5671	3616	---	---	---
21	1614	365	395	456	446	474	3406	6326	3358	---	---	---
22	1483	304	395	463	452	481	3406	6985	3087	---	---	---
23	1803	284	384	468	458	487	3408	7178	2803	---	---	---
24	2071	311	366	475	463	490	3408	7277	2520	---	---	---
25	1795	345	354	478	466	494	3415	7281	2514	---	---	---
26	1479	381	351	487	477	496	3412	7137	2508	---	---	---
27	1149	377	337	490	491	499	3412	7158	2226	---	---	---
28	917	301	318	454	492	503	3408	7314	1944	---	---	---
29	425	311	299	291	---	508	3408	7385	1659	---	---	---
30	360	317	282	293	---	513	3408	7403	1376	---	---	---
31	364	---	273	300	---	435	---	7149	---	---	---	---
MAX	2071	466	447	490	492	565	3415	7403	6888	---	---	---
MIN	360	284	273	291	305	421	435	1756	1376	---	---	---
a	5550	3620	5080	5610	6360	19090	292	9860	5860	1050	0	0

a Discharge, in acre-feet, for Muck Valley Powerplant (station 11351700), provided by Malacha Hydro Limited Partnership.

C-042050

11354200 PIT NO. 1 POWERPLANT NEAR FALL RIVER MILLS, CA

LOCATION.--Lat 40°59'28", long 121°29'49", in SE 1/4 NE 1/4 sec.10, T.37 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on right bank of Pit River 2.3 mi downstream from Pit River Falls and 3.2 mi southwest of Fall River Mills.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1973-86 available in files of the U.S. Geological Survey. Fragmentary record for water years 1922-72 available in files of the Pacific Gas & Electric Co.

GAGE.--Discharge computed from powerplant output.

REMARKS.--No estimated daily discharges. Water is diverted from Fall River at Pit No. 1 Forebay at NW 1/4 SW 1/4 sec.25, T.37 N., R.4 E., through a tunnel to powerplant and then into Pit River. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,280 ft^3/s, Mar. 18, 1993; no flow, Aug. 21, 1992, Feb. 9-13, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	852	1080	1010	1050	535	1070	1060	948	967	908	791	789
2	971	897	920	967	795	1190	1010	971	1000	821	867	849
3	970	1160	993	918	1040	1090	962	899	905	863	860	892
4	991	808	1000	1070	1020	594	937	1090	949	914	895	832
5	1120	1060	958	966	966	1000	1080	989	981	815	931	920
6	952	961	1050	1010	995	1140	1010	1050	995	929	859	893
7	1050	1040	1060	991	723	1040	1050	1090	900	902	805	787
8	1050	1040	862	1010	209	1020	984	1040	948	856	821	916
9	1040	959	1100	1060	.00	1070	1110	1090	924	857	860	937
10	968	946	1100	1030	.00	1050	1040	1020	976	897	847	903
11	1020	953	1110	1010	.00	1140	1040	960	814	840	930	876
12	1050	1180	1120	1050	.00	1010	969	950	903	954	925	791
13	968	989	1030	1010	.00	1070	960	1040	896	806	799	979
14	1040	960	1210	997	270	1380	1030	919	982	852	818	995
15	1070	988	982	1010	660	1560	1030	961	855	990	852	940
16	1170	1060	1050	1000	791	1250	1020	1020	915	908	838	795
17	1060	1030	1070	1020	1060	1270	976	1030	864	850	891	887
18	1040	1040	1050	1050	1060	945	1020	976	878	900	841	948
19	1010	931	955	912	1160	1140	1070	1030	859	851	866	937
20	980	1040	954	1020	1000	1000	935	1060	923	886	843	860
21	985	975	1050	1040	1070	1010	1050	916	925	919	780	897
22	1110	942	1040	1010	1070	1070	1040	1110	887	859	1030	930
23	962	1060	1010	974	896	1140	966	1070	898	908	823	949
24	1060	866	905	1120	1150	1030	958	950	908	1050	865	820
25	949	1050	1090	971	1130	1090	1050	974	901	410	783	918
26	1020	1070	957	1050	1100	1030	1010	953	923	1100	902	988
27	1080	1000	1010	1090	1150	986	1050	923	903	855	845	924
28	1050	1070	1030	955	1110	1060	975	926	874	986	856	948
29	1010	1050	908	956	---	1040	988	1010	914	789	817	988
30	1020	1140	1020	1060	---	954	1020	955	843	829	853	918
31	1050	---	1030	839	---	1100	---	906	---	862	766	---
TOTAL	31668	30345	31634	31216	20960.00	33539	30400	30826	27410	27166	26459	27007
MEAN	1022	1011	1020	1007	749	1082	1013	994	914	876	854	900
MAX	1170	1180	1210	1120	1160	1560	1110	1110	1000	1100	1030	995
MIN	852	808	862	839	.00	594	935	899	814	410	766	787
AC-FT	62810	60190	62750	61920	41570	66520	60300	61140	54370	53880	52480	53570

C-042051

11354200 PIT NO. 1 POWERPLANT NEAR FALL RIVER MILLS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1111	1123	1116	1110	1087	1307	1274	1167	1071	999	976	1021
MAX	1318	1283	1274	1282	1321	1704	1787	1468	1232	1151	1144	1177
(WY)	1987	1987	1987	1987	1987	1993	1993	1993	1993	1987	1987	1987
MIN	983	990	1002	996	749	1053	1013	947	914	844	835	900
(WY)	1993	1993	1993	1992	1994	1992	1994	1992	1994	1992	1992	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1987 - 1994	
ANNUAL TOTAL	440963		348630.00			
ANNUAL MEAN	1208		955		1114	
HIGHEST ANNUAL MEAN					1264	1987
LOWEST ANNUAL MEAN					955	1994
HIGHEST DAILY MEAN	2280	Mar 18	1560	Mar 15	2280	Mar 18 1993
LOWEST DAILY MEAN	508	Feb 1	.00	Feb 9	.00	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	943	Jan 30	68	Feb 8	68	Feb 8 1994
ANNUAL RUNOFF (AC-FT)	874600		691500		806700	
10 PERCENT EXCEEDS	1690		1090		1310	
50 PERCENT EXCEEDS	1070		975		1090	
90 PERCENT EXCEEDS	955		831		919	

C-042052

11355010 PIT RIVER BELOW PIT NO. 1 POWERPLANT, NEAR FALL RIVER MILLS, CA

LOCATION.--Lat 40°59'00", long 121°30'39", in NE 1/4 NW 1/4 sec.15, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on left bank 0.9 mi downstream from Pit No. 1 Powerplant and 4 mi southwest of Fall River Mills.

DRAINAGE AREA.--3,761 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--August 1975 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,798.21 ft above sea level (levels by Pacific Gas and Electric Co.).

REMARKS.--No estimated daily discharges. Records excellent. Low flow regulated by many small reservoirs (total usable reservoir capacity, 210,000 acre-ft) and Pit No. 1 Powerplant. Many diversions upstream from station for irrigation. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s, Feb. 20, 1986, gage height, 17.03 ft; minimum daily, 580 ft^3/s, Feb. 1, 1992.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1974 reached a stage of 14.8 ft, from floodmarks on right bank, discharge 22,600 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 2	1700	*2,940	*7.34				

Minimum daily, 535 ft^3/s, Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1110	1320	1330	1270	711	2120	1500	1120	1290	1160	696	847
2	1200	1130	1100	1270	1020	2300	1300	1100	1290	964	894	961
3	1200	1380	1390	1210	1260	2170	1250	1200	1170	1020	924	800
4	1550	1040	1350	1390	1270	1580	1190	1320	1230	1010	727	912
5	1490	1410	1240	1310	1220	1900	1280	1290	1130	923	937	878
6	1300	1200	1310	1360	1250	2200	1200	1460	1160	946	687	904
7	1330	1310	1330	1370	1040	2130	1290	1580	1200	1020	913	663
8	1270	1310	1110	1330	744	1960	1240	1490	1190	1010	931	740
9	1230	1220	1430	1340	563	1900	1340	1610	1110	1000	936	669
10	1170	1210	1480	1300	588	1670	1280	1740	1230	968	752	633
11	1250	1200	1440	1310	604	1760	1250	1650	1010	860	943	535
12	1240	1400	1480	1330	588	1670	1180	1630	1040	988	746	595
13	1220	1170	1400	1270	577	1590	1210	1680	1010	814	821	809
14	1320	1250	1540	1270	1260	1760	1280	1360	1200	864	818	1050
15	1330	1230	1370	1290	1050	2100	1250	1130	1060	1060	877	807
16	1470	1280	1400	1270	1230	1710	1210	1320	1180	1010	915	577
17	1280	1290	1350	1290	1560	1710	1160	1290	1100	911	745	654
18	1250	1280	1250	1360	1680	1380	1230	1440	1120	871	859	952
19	1270	1190	1240	1190	1800	1590	1220	2010	987	887	843	928
20	1290	1310	1240	1310	1590	1410	1080	1660	1040	982	935	809
21	1310	1250	1290	1330	1650	1410	1210	1240	1120	982	818	955
22	1430	1240	1280	1310	1620	1520	1190	1410	1140	908	1090	664
23	1390	1320	1260	1250	1470	1570	1110	1370	1130	969	774	607
24	1270	1190	1130	1430	1710	1460	1100	1480	1130	1150	715	581
25	1200	1240	1290	1340	1640	1510	1250	1590	1080	576	656	734
26	1410	1230	1240	1390	1650	1440	1160	1570	1200	1210	806	868
27	1480	1220	1250	1420	2010	1430	1240	1380	1710	894	905	881
28	1450	1260	1250	1260	2150	1570	1130	1210	1040	989	567	876
29	1360	1330	1160	1270	---	1490	1150	1220	1160	853	857	862
30	1500	1340	1260	1360	---	1320	1180	1160	1100	885	706	775
31	1320	---	1260	1160	---	1550	---	1040	---	890	887	---
TOTAL	40890	37750	40450	40560	35505	52880	36660	43750	34557	29574	25680	23526
MEAN	1319	1258	1305	1308	1268	1706	1222	1411	1152	954	828	784
MAX	1550	1410	1540	1430	2150	2300	1500	2010	1710	1210	1090	1050
MIN	1110	1040	1100	1160	563	1320	1080	1040	987	576	567	535
AC-FT	81110	74880	80230	80450	70420	104900	72720	86780	68540	58660	50940	46660

C—042053

C-042053

11355010 PIT RIVER BELOW PIT NO. 1 POWERPLANT, NEAR FALL RIVER MILLS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1390	1611	1782	1981	2598	3051	2391	1939	1516	1265	1243	1288
MAX	1722	3181	3834	5351	8539	6539	5614	3861	2789	1666	1563	1623
(WY)	1976	1982	1984	1980	1986	1993	1982	1983	1983	1983	1983	1983
MIN	1081	1133	1214	1222	1268	1294	1173	1050	1012	954	828	784
(WY)	1993	1993	1993	1991	1994	1992	1992	1992	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1975 - 1994	
ANNUAL TOTAL	810100		441782			
ANNUAL MEAN	2219		1210		1831	
HIGHEST ANNUAL MEAN					2890	1983
LOWEST ANNUAL MEAN					1149	1992
HIGHEST DAILY MEAN	13400	Mar 19	2300	Mar 2	28800	Feb 20 1986
LOWEST DAILY MEAN	1040	Nov 4	535	Sep 11	535	Sep 11 1994
ANNUAL SEVEN-DAY MINIMUM	1130	Aug 8	663	Sep 7	663	Sep 7 1994
INSTANTANEOUS PEAK FLOW			2940	Mar 2	30000	Feb 20 1986
INSTANTANEOUS PEAK STAGE			7.34	Mar 2	17.03	Feb 20 1986
INSTANTANEOUS LOW FLOW					580	Feb 1 1992
ANNUAL RUNOFF (AC-FT)	1607000		876300		1327000	
10 PERCENT EXCEEDS	3970		1580		2920	
50 PERCENT EXCEEDS	1410		1240		1450	
90 PERCENT EXCEEDS	1160		809		1140	

C-042054

11355500 HAT CREEK NEAR HAT CREEK, CA

LOCATION.--Lat 40°41'12", long 121°25'25", in NW 1/4 SE 1/4 sec.28, T.33 N., R.5 E., Shasta County, Hydrologic Unit 18020003, on right bank 0.15 mi downstream from Cave Campground, 0.9 mi northeast of Old Station, and 8.9 mi southeast of Hat Creek Ranger Station.

DRAINAGE AREA.--162 mi^2, hydrologic drainage boundary uncertain because of ground-water exchange.

PERIOD OF RECORD.--July 1926 to September 1929, April 1930 to September 1994 (discontinued).

REVISED RECORDS.--WSP 1395: 1938. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,300 ft above sea level, from topographic map. July 1926 to April 1928, at site 0.5 mi upstream at different datum. May 1928 to July 1965, at site 80 ft upstream at datum 2.76 ft higher.

REMARKS.--No estimated daily discharges. Records excellent. Minor diversion for irrigation upstream from station. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,320 ft^3/s, Dec. 11, 1937, gage height, 7.75 ft, in gage well, affected by drawdown, site and datum then in use, from rating curve extended above 610 ft^3/s on basis of slope-area measurement of peak flow; minimum, 67 ft^3/s, Sept. 7, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 12	0100	*181	*2.90				

Minimum daily, 86 ft^3/s, Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	110	114	110	106	108	110	111	132	97	100	89
2	110	110	114	110	108	109	110	112	129	95	99	89
3	110	110	114	111	109	109	111	112	126	94	99	89
4	111	111	114	113	107	109	111	119	123	94	99	88
5	113	111	113	112	108	112	110	134	122	96	99	88
6	112	111	113	110	111	110	104	139	124	95	99	88
7	111	111	113	109	111	109	100	151	121	95	99	88
8	106	111	116	113	110	109	100	147	119	95	99	92
9	103	113	117	110	108	109	100	152	117	94	94	96
10	108	113	117	109	110	111	99	152	111	98	91	95
11	109	113	118	113	107	110	98	162	108	101	92	96
12	107	115	111	111	104	109	99	165	108	100	91	96
13	105	112	114	111	109	109	101	158	107	100	91	95
14	109	110	109	111	107	110	101	150	107	100	91	95
15	116	110	110	111	109	111	102	149	106	100	91	95
16	120	112	109	110	110	111	107	141	105	99	90	94
17	112	112	105	110	109	110	113	135	104	98	90	94
18	114	112	104	110	106	110	117	132	102	99	90	89
19	114	109	104	110	108	110	121	130	100	100	95	87
20	114	110	104	110	108	109	124	129	105	95	97	87
21	113	112	104	110	108	109	122	123	108	93	97	87
22	112	113	104	110	106	109	119	120	107	93	97	87
23	112	105	104	112	108	107	117	121	106	93	97	86
24	111	104	104	110	109	108	114	122	106	93	97	87
25	111	103	105	108	109	107	111	127	106	93	96	87
26	110	105	107	111	109	107	108	130	106	93	96	87
27	111	108	108	110	111	107	107	128	105	93	96	87
28	111	114	108	107	109	108	106	126	105	93	96	92
29	111	118	109	106	---	109	106	125	105	92	91	94
30	110	117	110	108	---	109	107	125	99	95	89	94
31	111	---	110	106	---	109	---	130	---	98	89	---
TOTAL	3437	3325	3406	3412	3034	3383	3255	4157	3329	2974	2937	2718
MEAN	111	111	110	110	108	109	108	134	111	95.9	94.7	90.6
MAX	120	118	118	113	111	112	124	165	132	101	100	96
MIN	103	103	104	106	104	107	98	111	99	92	89	86
AC-FT	6820	6600	6760	6770	6020	6710	6460	8250	6600	5900	5830	5390

C-042055

11355500 HAT CREEK NEAR HAT CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	127	133	134	132	131	132	141	177	182	140	125	122
MAX	201	228	228	228	206	216	198	274	332	265	196	175
(WY)	1963	1974	1965	1970	1963	1986	1986	1958	1983	1983	1983	1974
MIN	73.8	75.4	73.4	72.7	71.9	72.7	75.7	91.6	83.4	73.6	71.7	71.1
(WY)	1935	1934	1935	1935	1935	1933	1933	1933	1934	1934	1934	1934

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1927 - 1994	
ANNUAL TOTAL	45345		39367			
ANNUAL MEAN	124		108		140	
HIGHEST ANNUAL MEAN					196	1974
LOWEST ANNUAL MEAN					81.4	1934
HIGHEST DAILY MEAN	428	May 31	165	May 12	1710	Dec 11 1937
LOWEST DAILY MEAN	86	Feb 26	86	Sep 23	68	Feb 25 1934
ANNUAL SEVEN-DAY MINIMUM	87	Feb 24	87	Sep 19	68	Aug 12 1934
INSTANTANEOUS PEAK FLOW			181	May 12	3320	Dec 11 1937
INSTANTANEOUS PEAK STAGE			2.90	May 12	7.75	Dec 11 1937
ANNUAL RUNOFF (AC-FT)	89940		78080		101400	
10 PERCENT EXCEEDS	190		120		185	
50 PERCENT EXCEEDS	112		109		133	
90 PERCENT EXCEEDS	88		93		92	

C-042056

11358020 LOST CREEK BELOW DIVERSION TO LOST CREEK POWERPLANT NO. 1, NEAR OLD STATION, CA

LOCATION.--Lat 40°45'35", long 121°24'46", in NW 1/4 SW 1/4 sec.34, T.34 N., R.5 E., Shasta County, Hydrologic Unit 18020003, on right bank 0.4 mi downstream from Lost Creek Diversion Dam, 2.5 mi downstream from Porcupine Reservoir, 6.0 mi north of Old Station, and 13.2 mi southeast of Cassel.

DRAINAGE AREA.--7.53 mi^2.

PERIOD OF RECORD.--October 1989 to current year (operated as low-flow station only).

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 3,900 ft above sea level, from topographic map.

REMARKS.--During times of powerplant operation, the minimum release requirement is 15 ft^3/s; flow is computed to 60 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Highland Hydro Constructors, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	16	16	15	15	16	15	15	15	15	15
2	15	15	15	16	15	15	16	19	15	15	15	15
3	15	15	15	16	15	15	16	15	16	15	15	15
4	15	15	15	16	15	15	16	15	16	15	15	15
5	15	15	15	16	15	16	16	16	15	15	15	15
6	15	15	15	16	15	16	16	15	15	15	15	15
7	15	15	15	16	15	16	16	15	15	15	15	15
8	15	15	15	16	15	16	16	15	15	15	15	15
9	15	15	15	16	15	16	15	27	15	15	15	15
10	15	15	15	16	17	e20	15	16	15	15	15	15
11	15	15	15	15	16	e16	22	15	15	15	15	15
12	15	15	15	17	16	16	39	19	15	15	15	16
13	15	15	15	16	16	16	18	15	15	15	15	15
14	15	15	15	16	16	15	15	15	15	15	15	15
15	15	15	15	16	16	15	15	16	15	16	15	15
16	15	15	15	15	15	15	15	16	15	15	15	16
17	15	15	16	15	15	15	15	16	15	15	15	15
18	15	15	16	15	16	15	15	16	15	15	15	15
19	15	15	16	15	15	15	15	16	15	15	15	15
20	15	15	16	15	15	15	15	16	15	15	15	15
21	15	15	16	15	15	15	17	16	15	15	15	15
22	15	16	16	15	15	15	15	16	16	15	15	15
23	15	16	16	15	20	15	15	15	15	15	15	15
24	15	16	15	15	15	15	15	15	15	15	15	17
25	15	16	16	15	16	16	15	15	15	15	15	21
26	15	16	16	15	16	15	15	16	15	15	15	23
27	15	16	16	15	16	15	15	16	15	15	15	16
28	15	16	16	15	15	18	15	16	15	15	15	23
29	15	16	16	15	---	16	15	16	15	15	15	18
30	26	16	16	15	---	16	15	16	15	15	15	16
31	15	---	16	15	---	16	---	15	---	15	15	---
TOTAL	476	459	480	480	436	485	494	500	453	466	465	481
MEAN	15.4	15.3	15.5	15.5	15.6	15.6	16.5	16.1	15.1	15.0	15.0	16.0
MAX	26	16	16	17	20	20	39	27	16	16	15	23
MIN	15	15	15	15	15	15	15	15	15	15	15	15
AC-FT	944	910	952	952	865	962	980	992	899	924	922	954
a	2000	1990	2030	2010	1890	2050	1810	1950	1880	1880	1900	1860

WTR YR 1994 TOTAL 5675 MEAN 15.5 MAX 39 MIN 15 AC-FT 11260

a Discharge, in acre-feet, for Lost Creek No. 1 Powerplant (station 11358010), provided by Highland Hydro Constructors.

e Estimated.

C-042057

11358700 HAT CREEK BELOW HAT NO. 1 DIVERSION DAM, NEAR BURNEY, CA

LOCATION.--Lat 40°55'08", long 121°33'02", in NW 1/4 SW 1/4 sec.5, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on right bank at Hat No. 1 diversion dam on Hat Creek, 6.5 mi northeast of Burney.

DRAINAGE AREA.--347 mi^2.

PERIOD OF RECORD.--Oct. 1 to Dec. 8, 1987 (fragmentary), Dec. 9, 1987, to current year (operated as a low-flow station only). Unpublished fragmentary records for water years 1980-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Cipolletti weir. Elevation of gage is 3,180 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 2.0 ft^3/s at all times. Flow is computed to 4.0 ft^3/s. See schematic diagram of Pit and McCloud River basins.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.8	2.8	2.8	3.0	3.0	2.6	2.8	2.8	3.3	2.8	2.6
2	2.7	2.8	2.8	2.8	3.0	3.0	2.6	2.7	2.8	3.2	2.9	2.7
3	2.7	2.8	2.8	2.8	3.0	2.9	2.5	2.7	2.7	2.9	3.0	2.9
4	2.8	2.8	2.8	3.0	3.0	2.9	2.7	2.6	2.6	2.8	2.8	2.9
5	2.7	2.9	2.8	3.0	2.9	3.0	2.8	2.5	2.6	2.8	2.7	2.9
6	2.8	2.9	2.8	2.9	2.8	2.9	2.8	2.5	2.5	2.8	2.5	2.8
7	2.8	2.9	2.8	2.8	2.8	3.0	2.7	2.5	2.6	2.8	2.5	2.9
8	2.9	---	2.8	2.8	2.8	2.9	2.8	2.6	2.7	2.9	2.6	2.9
9	2.9	---	2.9	2.8	2.8	2.9	2.7	2.7	2.7	2.9	2.6	2.9
10	2.8	---	2.8	2.9	2.9	2.9	2.7	2.6	2.9	2.8	2.7	2.9
11	2.8	---	2.9	2.9	2.8	2.9	2.6	2.6	2.8	2.8	2.2	2.9
12	2.8	---	2.9	2.9	2.8	2.9	2.6	2.5	2.9	2.7	2.4	2.9
13	2.8	---	2.9	2.9	2.8	3.0	2.6	2.7	3.0	2.5	3.2	3.0
14	2.8	---	2.8	2.9	2.8	3.1	2.6	2.7	3.0	2.7	3.1	3.0
15	2.8	---	3.0	2.8	2.8	3.0	2.6	2.6	3.0	2.8	3.2	2.9
16	2.8	---	2.7	2.8	2.8	3.1	2.8	2.6	3.0	2.8	2.9	2.9
17	2.8	---	2.7	2.8	2.9	3.1	2.9	2.6	3.0	2.9	2.7	2.9
18	2.8	---	2.7	2.9	2.8	3.1	2.9	2.6	3.0	2.9	2.6	2.9
19	2.9	2.7	2.7	2.9	2.8	3.0	2.9	2.7	3.0	2.9	2.7	2.9
20	2.9	2.6	2.6	2.9	2.8	3.0	2.9	2.8	3.0	3.0	2.6	2.9
21	2.8	2.6	2.7	2.9	2.8	2.8	2.8	2.8	3.0	3.1	2.6	2.9
22	2.8	2.6	2.7	2.9	2.8	2.7	2.8	2.7	3.1	3.1	2.7	2.9
23	2.7	2.6	2.7	3.0	3.0	2.7	2.8	2.6	3.1	2.8	2.7	2.9
24	2.8	2.7	2.7	3.0	3.0	2.7	2.8	2.7	3.2	2.5	2.6	2.9
25	2.7	2.7	2.8	3.0	3.0	2.7	2.8	2.7	3.2	2.7	2.6	2.9
26	2.8	2.7	2.8	3.0	3.0	2.7	2.8	2.7	3.2	2.7	2.5	2.9
27	2.7	2.7	2.8	3.0	3.0	2.6	2.8	2.7	3.2	2.6	2.5	2.9
28	2.8	2.7	2.8	3.0	3.0	2.6	2.8	2.7	3.2	2.6	2.6	3.4
29	2.7	2.8	2.8	3.0	---	2.6	2.8	2.7	3.2	2.7	2.6	3.0
30	2.7	2.8	2.8	2.9	---	2.6	2.8	2.8	3.3	2.8	2.6	2.6
31	2.8	---	2.8	2.9	---	2.6	---	2.8	---	2.6	2.6	---
TOTAL	86.4	---	86.4	89.9	80.7	88.9	82.3	82.5	88.3	87.4	83.3	86.9
MEAN	2.79	---	2.79	2.90	2.88	2.87	2.74	2.66	2.94	2.82	2.69	2.90
MAX	2.9	---	3.0	3.0	3.0	3.1	2.9	2.8	3.3	3.3	3.2	3.4
MIN	2.7	---	2.6	2.8	2.8	2.6	2.5	2.5	2.5	2.5	2.2	2.6
AC-FT	171	---	171	178	160	176	163	164	175	173	165	172

NOTE: Discharges were above 4.0 ft^3/s Nov. 8-18.

C-042058

11358800 HAT CREEK NO. 1 POWERPLANT NEAR BURNEY, CA

LOCATION.--Lat 40°55'45", long 121°32'37", in SW 1/4 SW 1/4 sec.32, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on right bank of Hat Creek at the upper end of Baum Lake, 7.4 mi northeast of Burney.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey. Fragmentary records for water years 1921-80 in files of the Pacific Gas & Electric Co.

GAGE.--Discharge computed from powerplant output.

REMARKS.--No estimated daily discharges. Water is diverted from left bank of Hat Creek at NW 1/4 SW 1/4 sec.5, T.36 N., R.8 W., through a canal to powerplant and then into Hat Creek. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 453 ft^3/s, Oct. 20, 1986; no flow several days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	280	280	268	268	268	268	206	206	206	186	195
2	235	280	280	268	268	268	257	195	206	195	191	195
3	223	291	291	280	268	268	241	195	195	195	184	195
4	223	280	280	268	268	268	246	195	195	195	195	184
5	235	291	280	280	257	280	257	195	206	195	195	195
6	235	280	280	280	268	268	246	223	206	195	195	195
7	223	291	280	268	268	268	268	223	206	206	195	184
8	235	63	280	268	268	268	246	223	206	195	184	184
9	268	.00	291	268	268	268	257	223	195	206	184	184
10	257	.00	280	268	268	268	246	223	206	195	187	184
11	268	.00	280	268	268	268	235	223	206	195	195	184
12	268	.00	280	280	268	268	223	223	195	195	195	184
13	268	.00	280	268	268	268	235	206	206	195	195	184
14	268	.00	291	268	268	268	246	206	195	195	195	206
15	280	.00	57	268	268	268	223	195	206	184	191	195
16	302	.00	302	268	268	268	206	206	203	192	184	195
17	291	.00	280	268	280	268	195	206	206	184	184	195
18	280	.00	280	268	280	268	195	206	195	195	184	195
19	268	280	268	268	268	268	195	235	195	195	184	195
20	291	280	268	268	268	268	206	235	195	195	184	195
21	302	280	268	280	268	257	206	246	195	195	184	184
22	280	280	268	268	280	268	206	235	195	195	184	187
23	291	280	280	268	257	257	195	235	206	195	184	195
24	280	280	268	268	280	268	195	223	206	195	184	206
25	291	280	268	280	268	257	195	172	195	184	195	206
26	291	268	268	268	268	257	206	195	195	195	195	195
27	291	280	268	268	268	257	206	184	195	195	195	195
28	291	268	257	268	268	257	223	184	195	195	184	185
29	291	280	268	268	---	257	206	195	195	195	195	206
30	280	280	280	268	---	257	206	195	195	195	184	184
31	280	---	268	268	---	268	---	195	---	184	184	---
TOTAL	8309	5392.00	8369	8380	7530	8232	6735	6501	6001	6031	5855	5766
MEAN	268	180	270	270	269	266	224	210	200	195	189	192
MAX	302	291	302	280	280	280	268	246	206	206	195	206
MIN	223	.00	57	268	257	257	195	172	195	184	184	184
AC-FT	16480	10700	16600	16620	14940	16330	13360	12890	11900	11960	11610	11440
a	22750	22540	15340	21950	20170	22200	19070	19030	17880	17790	17210	16800

a Discharge, in acre-feet, for Hat Creek No. 2 Powerplant (station 11359300), provided by Pacific Gas & Electric Co.

C-042059

11358800 HAT CREEK NO. 1 POWERPLANT NEAR BURNEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	287	282	321	320	315	316	278	243	250	244	234	241
MAX	432	423	410	406	403	379	344	339	314	313	301	307
(WY)	1987	1987	1987	1987	1987	1989	1987	1987	1987	1987	1987	1987
MIN	187	72.5	254	266	254	258	203	150	200	195	170	192
(WY)	1993	1990	1993	1993	1992	1992	1992	1991	1994	1994	1992	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1987 - 1994	
ANNUAL TOTAL	93623.00		83101.00			
ANNUAL MEAN	257		228		277	
HIGHEST ANNUAL MEAN					362	1987
LOWEST ANNUAL MEAN					225	1992
HIGHEST DAILY MEAN	338	Mar 18	302	Oct 16	453	Oct 20 1986
LOWEST DAILY MEAN	.00	Nov 9	.00	Nov 9	.00	Mar 17 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 9	.00	Nov 9	.00	Nov 7 1989
ANNUAL RUNOFF (AC-FT)	185700		164800		201000	
10 PERCENT EXCEEDS	303		280		381	
50 PERCENT EXCEEDS	268		235		280	
90 PERCENT EXCEEDS	221		184		198	

C-042060

11359100 HAT NO. 2 POWER CANAL DIVERSION TO HAT CREEK NEAR BURNEY, CA

LOCATION.--Lat 40°57'01", long 121°32'39", in SE 1/4 NW 1/4 sec.29, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on right bank of Hat No. 2 Power Canal 75 ft downstream from Hat No. 2 Diversion Dam on Hat Creek, 7.9 mi northeast of Burney.

PERIOD OF RECORD.--Oct. 1 to Dec. 9, 1987 (fragmentary), Dec. 10, 1987, to current year (operated as a low-flow station only). Unpublished fragmentary records for water years 1979-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 2,980 ft sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 8.0 ft^3/s at all times. See schematic diagram of Pit and McCloud River basins.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	9.3	9.0	9.9	10	10	9.5	9.1	9.6	12	9.3	10
2	9.3	9.2	9.4	9.9	10	9.3	9.5	9.6	9.2	12	9.4	10
3	9.3	9.2	9.3	10	10	9.7	9.3	9.2	9.3	12	9.4	10
4	9.4	9.1	9.3	10	10	9.9	9.4	9.6	9.2	11	9.4	10
5	9.4	9.1	9.3	9.4	10	10	9.3	9.6	9.2	11	9.4	10
6	9.3	9.1	---	9.6	10	10	9.4	9.7	9.3	10	9.4	10
7	9.4	9.1	---	9.3	10	9.9	9.4	9.9	9.3	10	9.5	10
8	9.6	9.0	---	10	10	10	9.4	9.9	9.3	10	9.6	11
9	9.8	9.0	---	9.8	9.9	10	9.4	9.6	9.4	10	9.5	11
10	9.7	9.1	8.3	9.7	9.9	10	9.0	9.0	9.5	10	9.5	11
11	9.7	9.1	9.0	9.7	10	10	9.2	9.3	9.6	10	9.5	11
12	9.8	9.2	9.0	9.9	9.6	10	9.4	9.1	9.7	10	9.6	11
13	9.7	9.2	8.1	9.8	9.5	10	9.6	9.3	9.7	10	9.5	11
14	9.6	9.1	9.2	9.8	9.3	10	9.3	9.1	9.6	10	9.5	10
15	9.6	9.1	9.6	9.9	9.0	10	8.9	9.3	9.7	10	9.6	9.9
16	9.8	9.1	9.6	9.9	9.0	10	8.9	9.4	9.7	10	9.6	10
17	9.5	9.1	9.0	9.9	9.5	10	8.8	9.6	10	10	9.7	9.8
18	9.3	9.1	9.7	9.9	9.2	10	9.3	9.5	10	10	9.7	9.8
19	9.3	9.3	10	10	9.0	10	9.3	10	10	10	9.5	9.8
20	9.5	9.1	10	9.9	9.1	10	9.2	9.9	11	10	9.6	9.8
21	9.4	9.1	10	10	9.1	9.8	9.1	9.7	10	10	9.6	9.9
22	9.4	9.1	9.8	10	9.1	9.7	9.1	9.4	11	10	9.9	9.8
23	9.5	9.1	9.8	10	9.5	9.6	9.1	9.0	11	10	9.9	9.9
24	9.5	9.1	9.8	10	9.4	9.7	9.4	9.3	11	10	9.9	9.8
25	9.3	9.1	9.7	10	9.4	9.8	9.3	9.0	11	9.9	10	9.7
26	9.3	9.1	9.8	10	9.5	9.7	9.3	9.1	11	9.9	10	9.5
27	9.2	9.2	9.8	10	9.7	9.7	9.4	8.9	11	9.9	10	9.7
28	9.0	9.3	9.6	10	9.7	9.7	9.3	9.0	11	9.7	10	9.5
29	8.9	---	9.6	10	---	9.6	9.5	9.2	12	9.4	10	9.8
30	9.1	9.0	9.8	10	---	9.6	9.4	9.2	12	9.4	10	9.4
31	9.3	---	9.8	10	---	9.7	---	9.5	---	9.3	10	---
TOTAL	292.2	---	---	306.3	268.4	305.4	278.4	291.0	303.3	315.5	299.5	302.1
MEAN	9.43	---	---	9.88	9.59	9.85	9.28	9.39	10.1	10.2	9.66	10.1
MAX	9.8	---	---	10	10	10	9.6	10	12	12	10	11
MIN	8.9	---	---	9.3	9.0	9.3	8.8	8.9	9.2	9.3	9.3	9.4
AC-FT	580	---	---	608	532	606	552	577	602	626	594	599

NOTE: Canal was out of service Nov. 29, Dec. 6-9 and all flow remained in the natural channel.

C-042061

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA

11361400 LAKE BRITTON NEAR BURNEY.--Lat 41°01'20", long 121°40'32", in SW 1/4 SW 1/4 sec.19, T.37 N., R.3 E., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, at control house on right bank 200 ft upstream from dam on Pit River, 1.1 mi downstream from Clark Creek, 1.3 mi northwest of Burney Falls, and 9 mi north of Burney. DRAINAGE AREA, 4,607 mi^2, excluding Goose Lake Basin. PERIOD OF RECORD, October 1965 to current year (monthend contents only). Fragmentary records for water years 1925-65 in files of the Pacific Gas & Electric Co. GAGE, remote telemark read once daily. Datum of gage is 19.53 ft above sea level (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated Dec. 1, 1976, provided by Pacific Gas & Electric Co.

REMARKS.--Reservoir is formed by gravity-type concrete dam. Storage began July 15, 1925. Usable capacity, 41,877 acre-ft between elevations 2,665.0 ft, invert of sluice gate, and 2,758.0 ft, top of flash boards. Dead storage, 30 acre-ft. Normal operating pool is from elevation 2,744.0 ft, capacity, 26,183 acre-ft, to 2,757.0 ft, capacity, 40,626 acre-ft. Figures given represent total contents. Lake is used for power generation and recreation. See schematic diagram of Pit and McCloud River basins. Records prior to water year 1977 reported usable contents only.

COOPERATION.--Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum total contents, 47,922 acre-ft, Feb. 20, 1986, elevation, 2,762.50 ft; minimum total contents, 26,755 acre-ft, Oct. 9, 1976, elevation, 2,744.60 ft.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 40,626 acre-ft, Feb. 6, elevation, 2,757.00 ft; minimum, 28,439 acre-ft, Oct. 3, elevation, 2,746.31 ft.

11363920 IRON CANYON RESERVOIR NEAR BIG BEND.--Lat 41°02'41", long 121°58'52", in SW 1/4 SE 1/4 sec.21, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, in control house on left bank 500 ft upstream from Iron Canyon Dam on Iron Canyon Creek, 3.7 mi northwest of Big Bend. DRAINAGE AREA, 11.1 mi^2. PERIOD OF RECORD, December 1965 to current year (monthend contents only). GAGE, water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated May 17, 1965, provided by Pacific Gas & Electric Co.

REMARKS.--Reservoir is formed by a rockfill dam completed in 1965. Usable capacity is 24,197 acre-ft between elevations 2,525.00 ft, invert of sluice pipe, and 2,665.00 ft, crest of spillway. Dead storage, 44 acre-ft. Normal operating pool is from elevation 2,565.0 ft, capacity, 980 acre-ft, to 2,664.0 ft, capacity, 23,738 acre-ft. Water is diverted from Lake McCloud (station 11367740) through a tunnel to Iron Canyon Reservoir and then into the Pit River via James B. Black Powerplant (station 11363910). Figures given represent total contents. Water is used for power generation and recreation. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 23,539 acre-ft, May 16, 22, 1977, elevation, 2,663.60 ft; normal minimum since reservoir first filled, 2,860 acre-ft, May 23, 24, 29, June 2, 7, 9, 14, 23, 24, 1966, elevation, 2,590.00 ft. Contents reduced to 195 acre-ft, elevation, 2,540.00 ft, Feb. 10, 1971, when reservoir was drained for inspection.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 21,891 acre-ft, June 7, elevation, 2,660.20 ft; minimum, 7,945 acre-ft, Dec. 14, elevation, 2,620.00 ft.

11367740 LAKE McCLOUD NEAR McCLOUD.--Lat 41°08'06", long 122°04'26", in SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on McCloud Dam near spillway on McCloud River, 200 ft downstream from Panther Creek, and 8.8 mi southeast of McCloud. DRAINAGE AREA, 403 mi^2. PERIOD OF RECORD, October 1965 to current year (monthend contents only). GAGE, water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated June 29, 1965, provided by Pacific Gas & Electric Co.

REMARKS.--Reservoir is formed by a rockfill dam completed in 1965. Usable capacity, 35,231 acre-ft between elevations 2,471.30 ft, invert of sluice pipe, and 2,680.00 ft, maximum operational water surface. Dead storage, 3 acre-ft. Normal operating pool is from elevation 2,635.00 ft, capacity, 16,425 acre-ft, to 2,680.00 ft, capacity, 35,234 acre-ft. Water is diverted from Lake McCloud (station 11367740) through a diversion tunnel to Iron Canyon Reservoir (station 11363920) and then into the Pit River via James B. Black Powerplant (station 11363910). Figures given represent total contents. Water is used for power generation and recreation. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 35,967 acre-ft, Jan. 15, 1974, elevation, 2,681.40 ft; minimum since reservoir first filled, 13,017 acre-ft, Oct. 14-22, 1981, elevation, 2,632.50 ft.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 31,041 acre-ft, May 31, June 1-9, elevation, 2,671.60 ft; minimum, 18,328 acre-ft, Jan. 20, elevation, 2,640.70 ft.

C—042062

C-042062

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA--Continued

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	11361400	LAKE BRITTON		11363920	IRON CANYON RESERVOIR		11367740	LAKE McCLOUD	
Sept. 30.....	2,747.64	29,800	--	2,643.00	14,752	--	2,657.50	24,733	--
Oct. 31.....	2,755.40	38,625	+8,825	2,635.00	12,083	-2,669	2,648.10	21,001	-3,732
Nov. 30.....	2,754.10	37,044	-1,581	2,629.90	10,558	-1,525	2,642.50	18,957	-2,044
Dec. 31.....	2,752.35	34,981	-2,063	2,628.90	10,275	-283	2,642.50	18,957	0
CAL YR 1993..	--	--	-719	--	--	-1,073	--	--	+905
Jan. 31.....	2,755.40	38,625	+3,644	2,624.00	8,949	-1,326	2,645.30	19,962	+1,005
Feb. 28.....	2,754.80	37,891	-734	2,624.80	9,158	+209	2,642.60	18,992	-970
Mar. 31.....	2,751.65	34,176	-3,715	2,635.50	12,239	+3,081	2,653.10	22,938	+3,946
Apr. 30.....	2 753.10	35,856	+1,680	2,650.00	17,419	+5,180	2,666.00	28,435	+5,497
May 31.....	2,753.35	36,151	+295	2,657.60	20,684	+3,265	2,671.60	31,041	+2,606
June 30.....	2,754.60	37,648	+1,497	2,658.40	21,051	+367	2,669.30	29,954	-1,087
July 31.....	2,756.80	40,373	+2,725	2,659.70	21,656	+605	2,668.00	29,350	-604
Aug. 31.....	2,753.60	36,447	-3,926	2,653.50	18,874	-2,782	2,661.80	26,567	-2,783
Sept. 30.....	2,751.45	33,948	-2,499	2,646.30	15,969	-2,905	2,654.80	23,621	-2,946
WTR YR 1994..	--	--	+4,148	--	--	+1,217	--	--	-1,112

C-042063

11362500 PIT RIVER BELOW PIT NO. 4 DAM, CA

LOCATION.--Lat 40°58'25", long 121°46'42", unsurveyed, T.36 N., R.2 E., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, on right bank 0.6 mi downstream from Ruling Creek, 1.3 mi downstream from Pit No. 4 Dam, and 2.7 mi downstream from Pit No. 3 Powerplant.

DRAINAGE AREA.--4,648 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--May 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Pecks Bridge" April to October 1922, and as "at Lindsay Flat" November 1922 to June 1927.

REVISED RECORDS.--WSP 843: 1935(M). WSP 1315-A: 1928(M). WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,358 ft above sea level, from river-profile map. Prior to November 1922, water-stage recorder at site at Pecks Bridge 7.4 mi upstream at different datum. November 1922 to June 20, 1927, at site at Lindsay Flat 1.8 mi upstream at different datum. June 20, 1927, to Sept. 5, 1990, at site 200 ft downstream at datum 0.15 ft lower.

REMARKS.--No estimated daily discharges. Low flow completely regulated by small reservoirs and powerplants, total usable reservoir capacity, 253,000 acre-ft. Many diversions upstream from station; diversion to Pit No. 4 Powerplant began June 9, 1955. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,700 ft^3/s, Feb. 20, 1986, gage height, 18.70 ft; minimum daily, prior to diversion to Pit No. 4 Powerplant in 1955, 234 ft^3/s, Sept. 13, 1953. Minimum daily, since diversion to Pit No. 4 Powerplant, 22 ft^3/s, Dec. 2-4, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 303 ft^3/s, June 1, gage height, 4.00 ft; minimum daily, 155 ft^3/s, Jan. 5, 12, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	160	162	161	157	161	158	159	171	162	163	162
2	160	164	161	163	159	159	160	159	186	167	161	162
3	160	163	161	163	160	158	162	160	162	162	161	161
4	160	162	163	158	160	157	158	160	160	158	162	160
5	160	160	162	155	160	161	158	160	161	159	161	162
6	160	160	161	159	160	163	158	160	161	159	163	163
7	160	162	159	159	160	164	158	159	160	160	167	163
8	159	160	160	159	161	156	159	160	160	164	164	163
9	161	159	157	158	162	159	161	157	158	161	163	164
10	160	160	159	158	162	162	160	157	160	163	160	164
11	165	163	162	157	156	163	159	159	157	164	160	160
12	161	162	162	155	160	157	159	158	160	165	160	162
13	161	160	162	159	162	159	158	159	160	164	160	164
14	162	160	162	162	162	163	159	160	160	163	161	162
15	165	163	161	160	162	162	157	160	162	163	158	159
16	162	162	161	161	162	163	158	159	163	163	159	159
17	159	161	159	159	162	160	160	158	164	162	161	161
18	159	160	159	159	158	160	160	157	161	165	160	161
19	160	160	161	156	161	158	160	159	162	168	161	163
20	161	162	163	155	159	158	158	156	160	161	160	163
21	162	162	163	157	161	159	157	159	162	164	160	161
22	160	160	161	157	160	159	163	158	162	164	161	161
23	159	160	158	159	158	158	162	157	160	167	160	163
24	159	158	157	159	158	161	163	158	162	165	160	161
25	159	158	157	162	161	158	158	158	159	168	161	160
26	158	163	159	161	159	158	163	163	159	160	159	158
27	160	162	157	157	160	157	158	163	159	164	159	160
28	159	162	157	159	159	160	160	161	160	166	163	162
29	158	163	158	159	---	161	159	162	162	163	164	164
30	160	161	160	157	---	160	159	162	161	164	164	164
31	160	---	160	156	---	158	---	158	---	163	160	---
TOTAL	4970	4832	4964	4919	4481	4952	4782	4935	4854	5061	4986	4852
MEAN	160	161	160	159	160	160	159	159	162	163	161	162
MAX	165	164	163	163	162	164	163	163	186	168	167	164
MIN	158	158	157	155	156	156	157	156	157	158	158	158
AC-FT	9860	9580	9850	9760	8890	9820	9490	9790	9630	10040	9910	9620
a	91580	88340	92050	87020	85030	117900	79840	99670	76790	65080	68180	68020
b	103600	106600	116300	109700	105500	144400	100200	113800	87660	80730	87330	86100

a Discharge, in acre-feet, for Pit No. 3 Powerplant (station 11362300), provided by Pacific Gas & Electric Co.
b Diversion, in acre-feet, to Pit No. 4 Powerplant (station 11362600), provided by Pacific Gas & Electric Co.

C—042064

C-042064

11362500 PIT RIVER BELOW PIT NO. 4 DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1945	2102	2458	2700	3338	3799	3766	2877	2307	1925	1833	1865
MAX	2385	2544	5968	5523	6872	8510	11400	5507	4096	2652	2146	2318
(WY)	1954	1954	1938	1953	1942	1938	1952	1938	1953	1952	1954	1953
MIN	1571	1666	1745	1698	1742	1895	1730	1635	1612	1569	1509	1541
(WY)	1935	1934	1935	1937	1933	1934	1934	1934	1934	1934	1934	1934

SUMMARY STATISTICS	WATER YEARS 1927 - 1954	
ANNUAL MEAN	2572	
HIGHEST ANNUAL MEAN	4066	1952
LOWEST ANNUAL MEAN	1703	1934
HIGHEST DAILY MEAN	26200	Dec 12 1937
LOWEST DAILY MEAN	234	Sep 13 1953
ANNUAL SEVEN-DAY MINIMUM	1450	Aug 2 1936
INSTANTANEOUS PEAK FLOW	a30200	Dec 12 1937
INSTANTANEOUS PEAK STAGE	17.90	Dec 12 1937
ANNUAL RUNOFF (AC-FT)	1863000	
10 PERCENT EXCEEDS	3810	
50 PERCENT EXCEEDS	2170	
90 PERCENT EXCEEDS	1630	

a From rating curve extended above 12,000 ft3/s on basis of velocity-area studies.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	240	227	431	890	978	1063	765	397	222	163	163	159
MAX	2189	2436	3791	7250	7657	4805	3416	2539	1479	490	458	268
(WY)	1955	1955	1965	1970	1986	1993	1982	1955	1955	1955	1992	1973
MIN	96.8	66.4	49.8	50.0	49.0	49.7	88.3	128	128	137	120	79.8
(WY)	1962	1957	1979	1981	1981	1981	1961	1961	1961	1964	1955	1955

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1955 - 1994	
ANNUAL TOTAL	243907		58598			
ANNUAL MEAN	668		161		472	
HIGHEST ANNUAL MEAN					1868	1955
LOWEST ANNUAL MEAN					98.4	1961
HIGHEST DAILY MEAN	14600	Mar 18	186	Jun 2	31100	Feb 20 1986
LOWEST DAILY MEAN	156	Jan 3	155	Jan 5	22	Dec 2 1969
ANNUAL SEVEN-DAY MINIMUM	157	Jan 7	157	Jan 17	27	Dec 1 1969
INSTANTANEOUS PEAK FLOW			303	Jun 1	33700	Feb 20 1986
INSTANTANEOUS PEAK STAGE			4.00	Jun 1	18.70	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	483800		116200		342300	
10 PERCENT EXCEEDS	1700		163		1040	
50 PERCENT EXCEEDS	161		160		153	
90 PERCENT EXCEEDS	158		158		58	

C-042065

11362900 NELSON CREEK BELOW DIVERSION TO NELSON CREEK POWERPLANT, NEAR BIG BEND, CA

LOCATION.--Lat 41°02'32", long 121°52'34", in NE 1/4 NE 1/4 sec.29, T.37 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on right bank 400 ft upstream from Snowslide Creek, 0.3 mi downstream from Bull Creek, and 2.3 mi northeast of Big Bend.

DRAINAGE AREA.--13.2 mi^2.

PERIOD OF RECORD.--October 1993 to September 1994.

GAGE.--Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 2,320 ft above sea level, from topographic map.

REMARKS.--Records fair. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11362880) and flow over a sharp-crested weir (station 11362890). Water is diverted upstream of weirs through a tunnel to Nelson Creek Powerplant (station 11362800), returning to Nelson Creek at its confluence with the Pit River. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 185 ft^3/s, Dec. 8, 1993; minimum daily, 7.4 ft^3/s, Sept. 8, 21, 22, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 185 ft^3/s, Dec. 8; minimum daily, 7.4 ft^3/s, Sept. 8, 21, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	e11	e12	15	15	17	16	16	18	11	8.6	7.9
2	13	e11	e12	15	14	16	16	16	17	11	8.6	8.0
3	13	e12	e12	15	14	15	16	16	19	11	8.5	8.0
4	13	e12	12	16	14	15	16	17	19	11	8.4	8.0
5	13	e12	12	16	14	15	16	17	19	11	8.4	7.9
6	13	e12	12	18	16	15	16	17	19	11	8.4	7.9
7	13	e11	20	16	19	15	17	17	17	11	8.4	7.8
8	13	e11	63	16	16	15	16	17	17	10	8.3	7.4
9	13	e11	16	16	16	16	16	17	16	9.9	8.3	7.7
10	14	e11	16	16	16	e15	16	17	15	9.9	8.3	7.8
11	15	e12	19	15	16	e15	16	17	15	9.8	8.3	8.0
12	15	e17	15	15	18	e15	16	17	15	9.7	8.2	e7.9
13	15	e12	18	15	19	e16	17	17	15	9.5	8.2	7.8
14	16	e12	18	15	18	e16	16	17	14	9.5	8.2	7.7
15	17	e12	17	15	17	15	17	17	14	9.4	8.1	7.7
16	16	e12	19	14	17	16	16	17	14	9.4	8.1	7.6
17	16	e12	16	14	19	16	17	17	14	9.3	8.0	7.6
18	15	e11	16	14	16	16	17	17	13	9.2	8.1	7.6
19	14	e11	15	14	15	16	17	19	13	9.2	8.1	7.5
20	14	e11	15	14	15	16	17	17	13	9.1	8.1	7.5
21	14	e11	15	14	16	16	17	17	13	9.1	8.1	7.4
22	14	e12	14	14	16	16	18	17	13	9.1	8.1	7.4
23	13	e11	14	17	16	16	20	17	13	9.1	8.0	7.5
24	13	e11	14	17	16	16	18	17	12	9.0	8.0	7.8
25	12	e11	14	16	16	16	17	17	12	8.9	8.0	7.7
26	12	e11	13	16	16	16	17	17	12	8.8	8.0	7.6
27	12	e11	13	18	20	16	17	17	12	8.8	8.0	7.5
28	e12	e11	13	18	16	16	17	17	12	8.8	8.0	e15
29	e12	e17	13	16	---	16	17	17	12	8.7	7.9	e9.7
30	e12	e14	14	16	---	16	17	17	11	8.6	7.9	e8.7
31	e12	---	14	15	---	15	---	18	---	8.6	7.9	---
TOTAL	422	356	506	481	456	486	502	527	438	298.4	253.5	241.6
MEAN	13.6	11.9	16.3	15.5	16.3	15.7	16.7	17.0	14.6	9.63	8.18	8.05
MAX	17	17	63	18	20	17	20	19	19	11	8.6	15
MIN	12	11	12	14	14	15	16	16	11	8.6	7.9	7.4
AC-FT	837	706	1000	954	904	964	996	1050	869	592	503	479
a	19	8.7	160	44	243	1070	219	413	5.4	0	0	.4

e Estimated.
a Discharge, in acre-feet, for Nelson Creek Powerplant (station 11362800), provided by Sierra Pacific Industries.

C-042066

11362900 NELSON CREEK BELOW DIVERSION TO NELSON CREEK POWERPLANT NEAR BIG BEND, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.6	11.9	16.3	15.5	16.3	15.7	16.7	17.0	14.6	9.63	8.18	8.05
MAX	13.6	11.9	16.3	15.5	16.3	15.7	16.7	17.0	14.6	9.63	8.18	8.05
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994
MIN	13.6	11.9	16.3	15.5	16.3	15.7	16.7	17.0	14.6	9.63	8.18	8.05
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS FOR 1994 WATER YEAR

ANNUAL TOTAL	4967.5	
ANNUAL MEAN	13.6	
HIGHEST DAILY MEAN	63	Dec 8
LOWEST DAILY MEAN	7.4	Sep 8
ANNUAL SEVEN-DAY MINIMUM	7.5	Sep 17
INSTANTANEOUS PEAK FLOW	185	Dec 8
ANNUAL RUNOFF (AC-FT)	9850	
10 PERCENT EXCEEDS	17	
50 PERCENT EXCEEDS	14	
90 PERCENT EXCEEDS	8.0	

C-042067

11362950 EAST FORK NELSON CREEK BELOW DIVERSION TO NELSON CREEK NEAR BIG BEND, CA

LOCATION.--Lat 41°02'25", long 121°52'28", in NE 1/4 NE 1/4 sec.29, T.37 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on right bank 700 ft upstream from Nelson Creek, and 2.3 mi northeast of Big Bend.

DRAINAGE AREA.--8.18 mi^2.

PERIOD OF RECORD.--October 1993 to September 1994.

GAGE.--Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 2,360 ft above sea level, from topographic map.

REMARKS.--Records good. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11362940) and flow over a sharp-crested weir (station 11362945). Water is diverted upstream of weirs through a pipe to Nelson Creek (station 11362900). See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11 ft^3/s, Mar. 14, 1994; minimum daily, 0.07 ft^3/s, Aug. 12 to Sept. 23, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11 ft^3/s, Mar. 14; minimum daily, 0.07 ft^3/s, Aug. 12 to Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.8	2.9	3.1	2.8	5.5	4.2	3.4	3.4	1.1	.16	.07
2	2.4	2.8	2.7	2.8	2.8	5.5	4.2	3.4	3.3	1.1	.16	.07
3	2.4	2.8	2.7	2.8	2.8	5.6	4.1	3.4	3.1	1.0	.16	.07
4	2.4	2.8	2.8	3.1	2.7	5.7	3.9	3.5	2.9	.97	.13	.07
5	2.4	2.8	2.7	3.3	2.7	6.1	3.8	3.5	3.0	.96	.13	.07
6	2.4	2.8	2.9	3.0	3.1	6.4	4.1	3.6	3.1	.92	.13	.07
7	2.4	2.8	4.0	2.9	3.8	6.4	3.9	3.8	2.9	.90	.13	.07
8	2.4	2.8	7.1	2.9	3.6	6.2	4.2	3.9	2.9	.90	.13	.07
9	2.4	2.8	5.8	2.8	3.1	6.1	4.6	3.8	2.9	.90	.13	.07
10	2.9	2.9	4.9	2.7	3.6	6.3	4.1	3.6	2.9	.88	.09	.07
11	3.0	2.9	5.3	2.7	3.1	6.7	3.9	3.4	2.8	.84	.08	.07
12	2.9	2.9	4.4	2.6	3.0	6.5	3.8	3.5	2.7	.84	.07	.07
13	2.8	2.8	3.9	2.6	2.9	6.3	3.7	3.4	2.5	.84	.07	.07
14	2.9	2.8	4.0	2.6	2.9	6.3	3.7	3.4	2.1	.82	.07	.07
15	3.7	2.8	3.5	2.6	2.8	6.3	3.4	3.5	2.0	.77	.07	.07
16	4.0	2.8	3.2	2.6	2.8	6.8	3.2	3.8	2.0	.77	.07	.07
17	3.2	2.8	3.1	2.6	4.1	7.1	3.2	3.6	2.0	.77	.07	.07
18	2.8	2.8	3.0	2.6	3.7	6.9	3.2	3.7	2.0	.77	.07	.07
19	2.6	2.7	3.0	2.6	3.5	6.6	3.2	5.5	1.9	.76	.07	.07
20	2.6	2.6	3.1	2.6	3.3	6.2	3.2	5.1	1.9	.59	.07	.07
21	2.6	2.7	3.1	2.6	3.4	5.9	3.2	4.6	1.8	.30	.07	.07
22	2.6	2.9	3.1	2.6	3.0	5.7	3.2	4.3	1.8	.27	.07	.07
23	2.6	2.7	3.1	3.6	3.0	5.4	3.2	4.0	1.8	.26	.07	.07
24	2.6	2.7	3.1	5.0	3.0	5.2	3.1	3.8	1.8	.23	.07	.08
25	2.6	2.7	3.1	4.2	3.1	5.0	3.8	3.7	1.7	.19	.07	.10
26	2.6	2.6	3.2	3.7	3.7	4.7	3.5	3.5	1.6	.17	.07	.10
27	2.7	2.7	3.2	3.4	5.5	4.6	3.5	3.4	1.3	.18	.07	.09
28	2.9	2.7	3.1	3.2	5.6	4.5	3.4	3.4	1.2	.17	.07	.11
29	2.9	4.1	3.1	3.0	---	4.5	3.4	3.4	1.1	.17	.07	.19
30	2.9	3.5	3.2	2.9	---	4.4	3.4	3.4	1.1	.16	.07	.10
31	2.9	---	3.1	2.9	---	4.4	---	3.4	---	.16	.07	---
TOTAL	85.0	85.3	109.4	92.6	93.4	179.8	109.3	115.8	67.5	19.66	2.83	2.38
MEAN	2.74	2.84	3.53	2.99	3.34	5.80	3.64	3.74	2.25	.63	.091	.079
MAX	4.0	4.1	7.1	5.0	5.6	7.1	4.6	5.5	3.4	1.1	.16	.19
MIN	2.4	2.6	2.7	2.6	2.7	4.4	3.1	3.4	1.1	.16	.07	.07
AC-FT	169	169	217	184	185	357	217	230	134	39	5.6	4.7

C-042068

11362950 EAST FORK NELSON CREEK BELOW DIVERSION TO NELSON CREEK NEAR BIG BEND, CA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.74	2.84	3.53	2.99	3.34	5.80	3.64	3.74	2.25	.63	.091	.079
MAX	2.74	2.84	3.53	2.99	3.34	5.80	3.64	3.74	2.25	.63	.091	.079
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994
MIN	2.74	2.84	3.53	2.99	3.34	5.80	3.64	3.74	2.25	.63	.091	.079
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS FOR 1994 WATER YEAR

ANNUAL TOTAL	962.97	
ANNUAL MEAN	2.64	
HIGHEST DAILY MEAN	7.1	Dec 8
LOWEST DAILY MEAN	.07	Aug 12
ANNUAL SEVEN-DAY MINIMUM	.07	Aug 12
INSTANTANEOUS PEAK FLOW	11	Mar 14
ANNUAL RUNOFF (AC-FT)	1910	
10 PERCENT EXCEEDS	4.6	
50 PERCENT EXCEEDS	2.8	
90 PERCENT EXCEEDS	.07	

11363000 PIT RIVER AT BIG BEND, CA

LOCATION.--Lat 41°01'10", long 121°54'36", in NW 1/4 SW 1/4 sec.31, T.37 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on left bank at Big Bend, 0.4 mi downstream from Nelson Creek, 1.5 mi upstream from Kosk Creek, and 3.1 mi downstream from Pit No. 5 Dam.

DRAINAGE AREA.--4,711 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Henderson" 1910-23.

REVISED RECORDS.--WSP 1345: 1911, 1914(M), 1916(M), 1917, 1928, 1935-36(M). WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,674.47 ft above sea level. Prior to Dec. 28, 1912, nonrecording gage; Dec. 28, 1912, to June 21, 1924, water-stage recorder at same site, at datum 7.69 ft higher. June 22, 1924, to Sept. 30, 1988, at site 200 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Low flow completely regulated by many reservoirs and powerplants, total usable reservoir capacity, about 253,000 acre-ft. Many diversions upstream from station; diversion to Pit No. 5 Powerplant (station 11362700) began May 1, 1944. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,000 ft^3/s, Jan. 25, 1970, gage height, 18.17 ft in gage well, 19.0 ft from floodmarks, site then in use, from rating curve extended above 17,000 ft^3/s; maximum gage height, 18.70 ft, Feb. 20, 1986, site then in use; minimum daily, 692 ft^3/s, July 9, 1925; since diversion to Pit No. 5 Powerplant, minimum daily, 34 ft^3/s, Mar. 29, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 8	1400	*477	*6.34				

Minimum daily, 127 ft^3/s, Nov. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	140	136	138	139	194	144	133	140	141	145	152
2	140	136	138	136	137	192	138	132	140	133	140	145
3	138	131	134	135	136	191	139	136	146	133	140	155
4	137	130	133	142	138	181	147	139	144	135	139	153
5	137	136	135	142	135	191	146	152	148	141	138	152
6	137	131	137	136	142	183	149	149	148	145	136	150
7	137	135	162	136	159	175	149	164	141	141	143	148
8	140	132	268	143	154	174	151	160	143	142	145	146
9	136	135	177	137	146	169	147	163	142	142	140	146
10	146	134	162	138	156	171	140	155	142	142	147	154
11	142	137	168	135	148	176	147	149	141	141	140	155
12	134	138	148	133	141	172	146	149	142	139	144	151
13	146	133	149	137	140	157	145	145	142	141	146	155
14	147	132	159	136	139	162	140	142	139	144	150	156
15	144	130	147	137	142	163	141	149	142	146	147	155
16	147	136	139	137	144	167	138	151	149	137	149	140
17	131	141	145	144	173	167	135	144	138	143	155	146
18	133	132	137	139	174	164	144	142	136	142	145	140
19	135	131	131	139	167	162	139	171	137	139	146	139
20	138	130	134	142	160	159	144	167	139	142	156	142
21	146	134	134	136	170	158	140	155	141	137	140	143
22	133	133	135	143	167	155	141	164	143	142	151	147
23	137	132	134	145	151	152	138	147	137	139	157	140
24	134	142	135	169	153	150	135	152	141	141	153	147
25	136	136	136	146	152	146	157	153	135	137	156	139
26	141	127	136	146	164	139	148	154	135	137	154	142
27	139	129	134	143	187	135	150	144	133	146	152	144
28	137	131	131	147	201	144	145	143	136	142	152	152
29	140	154	131	145	---	148	146	142	136	141	157	158
30	130	140	138	143	---	147	136	138	134	144	154	144
31	137	---	136	143	---	147	---	146	---	138	155	---
TOTAL	4291	4038	4519	4368	4315	5101	4305	4630	4210	4353	4572	4436
MEAN	138	135	146	141	154	165	143	149	140	140	147	148
MAX	147	154	268	169	201	194	157	171	149	146	157	158
MIN	130	127	131	133	135	135	135	132	133	133	136	139
AC-FT	8510	8010	8960	8660	8560	10120	8540	9180	8350	8630	9070	8800

C-042070

11363000 PIT RIVER AT BIG BEND, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2206	2373	2676	3000	3927	4449	4446	3229	2520	2214	2100	2107
MAX	3021	3186	6792	7675	7989	9953	11410	6216	3763	3218	2987	2975
(WY)	1912	1912	1938	1914	1942	1938	1917	1938	1911	1911	1911	1911
MIN	1607	1740	1764	1750	1746	2051	1860	1734	1672	1584	1526	1565
(WY)	1935	1934	1935	1937	1933	1931	1934	1934	1934	1934	1934	1934

SUMMARY STATISTICS	WATER YEARS 1911 - 1943	
ANNUAL MEAN	2931	
HIGHEST ANNUAL MEAN	4597	1938
LOWEST ANNUAL MEAN	1787	1934
HIGHEST DAILY MEAN	30300	Dec 12 1937
LOWEST DAILY MEAN	692	Jul 9 1925
ANNUAL SEVEN-DAY MINIMUM	915	Jul 4 1925
INSTANTANEOUS PEAK FLOW	a34200	Dec 12 1937
INSTANTANEOUS PEAK STAGE	16.26	Dec 12 1937
ANNUAL RUNOFF (AC-FT)	2123000	
10 PERCENT EXCEEDS	4520	
50 PERCENT EXCEEDS	2440	
90 PERCENT EXCEEDS	1750	

a From rating extended above 11,000 ft3/s on basis of velocity-area studies.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	210	216	490	946	1139	1295	1095	530	241	131	130	123
MAX	2322	2469	3889	8804	9457	5456	8441	2461	1656	163	448	284
(WY)	1944	1944	1965	1970	1986	1983	1952	1952	1971	1971	1992	1986
MIN	58.8	56.0	45.0	51.4	57.1	52.6	49.9	114	78.5	63.5	60.9	60.1
(WY)	1949	1979	1979	1949	1977	1977	1977	1977	1944	1944	1944	1945

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1944 - 1994	
ANNUAL TOTAL	293126		53138			
ANNUAL MEAN	803		146		542	
HIGHEST ANNUAL MEAN					1548	1944
LOWEST ANNUAL MEAN					86.5	1977
HIGHEST DAILY MEAN	15700	Mar 18	268	Dec 8	36500	Feb 21 1986
LOWEST DAILY MEAN	127	Nov 26	127	Nov 26	34	Mar 29 1955
ANNUAL SEVEN-DAY MINIMUM	133	Nov 3	133	Nov 3	40	Dec 7 1978
INSTANTANEOUS PEAK FLOW			477	Dec 8	49000	Jan 25 1970
INSTANTANEOUS PEAK STAGE			6.34	Dec 8	18.17	Jan 25 1970
ANNUAL RUNOFF (AC-FT)	581400		105400		392900	
10 PERCENT EXCEEDS	2420		162		1440	
50 PERCENT EXCEEDS	159		142		135	
90 PERCENT EXCEEDS	134		134		72	

C-042071

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA

LOCATION.--Lat 40°59'12", long 121°58'35", in SW 1/4 SE 1/4 sec.9, T.36 N., R.1 W., Shasta County, Hydrologic Unit 18020003, at powerplant on right bank of Pit River, 5.8 mi downstream from Big Bend.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Discharge computed from powerplant output.

REMARKS.--No estimated daily discharges. Water is diverted from Lake McCloud (station 11367740) at SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., through McCloud-Iron Canyon Diversion Tunnel (station 11367720) to Iron Canyon Reservoir (station 11363920), then through the penstock for powerplant and into the Pit River. Records are combined flow of diversion from McCloud River at McCloud Dam plus Iron Canyon Creek. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,420 ft^3/s, July 15, 1966; no flow several days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	761	888	635	208	722	361	562	309	411	485	991	354
2	733	513	659	611	759	501	152	952	557	592	1060	317
3	604	750	528	809	264	509	.00	833	576	385	1450	593
4	653	758	568	850	130	769	623	1470	646	432	1210	408
5	910	581	597	784	727	911	1140	939	463	611	798	310
6	835	514	643	643	828	1290	234	576	833	707	377	716
7	769	361	348	798	640	652	412	533	174	527	3.0	620
8	1120	646	717	454	365	320	811	.00	845	570	257	476
9	899	896	695	496	995	533	744	.00	1050	592	731	643
10	806	558	1090	564	663	492	309	135	1020	383	690	397
11	971	486	639	773	695	381	1070	340	154	661	819	186
12	312	860	884	490	738	609	507	.00	.00	930	603	700
13	550	331	1330	819	305	604	235	928	781	677	646	1190
14	831	448	925	545	808	743	623	762	310	570	877	1120
15	616	909	550	534	888	708	555	.00	434	635	665	1040
16	598	1120	623	827	487	686	.00	1280	1000	690	801	837
17	399	907	674	789	810	610	217	753	1200	497	368	861
18	582	463	736	773	639	650	758	470	100	.00	432	.00
19	726	787	656	839	739	703	937	918	204	471	.00	1040
20	709	258	293	130	368	802	363	197	863	651	150	949
21	659	216	381	433	1120	657	321	459	543	404	.00	421
22	640	509	543	744	895	737	366	432	456	806	576	922
23	697	796	489	303	529	843	240	1130	911	736	595	478
24	618	589	590	1120	503	730	281	545	442	.00	831	251
25	785	335	616	609	729	386	394	684	454	811	677	.00
26	790	543	110	679	788	393	435	26	569	440	925	610
27	493	743	828	818	597	414	1550	1170	828	239	.00	316
28	548	602	658	1040	839	465	973	378	813	693	79	579
29	820	703	579	463	---	786	740	344	571	598	540	567
30	543	569	537	840	---	979	482	516	269	323	826	659
31	558	---	733	1120	---	799	---	1080	---	405	380	---
TOTAL	21536	18639	19854	20905	18570	20023	16034.00	18159.00	17477.00	16521.00	18357.00	17560.00
MEAN	695	621	640	674	663	646	534	586	583	533	592	585
MAX	1120	1120	1330	1120	1120	1290	1550	1470	1200	930	1450	1190
MIN	312	216	110	130	130	320	.00	.00	.00	.00	.00	.00
AC-FT	42720	36970	39380	41470	36830	39720	31800	36020	34670	32770	36410	34830
a	118900	117700	129200	122000	120900	166600	114700	127600	99140	89620	95120	97180

a Discharge, in acre-feet, for Pit No. 5 Powerplant (station 11362700), provided by Pacific Gas & Electric Co.

C-042072

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	735	745	878	936	978	1138	1121	980	866	832	794	773
MAX	1122	1401	1538	1651	1533	1550	1670	1797	1735	1260	1101	1225
(WY)	1976	1974	1974	1970	1970	1983	1966	1967	1967	1966	1983	1983
MIN	505	428	433	500	373	581	421	368	523	533	465	515
(WY)	1993	1992	1992	1992	1978	1991	1990	1977	1987	1994	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	325282.80		223635.00			
ANNUAL MEAN	891		613		893	
HIGHEST ANNUAL MEAN					1313	1974
LOWEST ANNUAL MEAN					547	1991
HIGHEST DAILY MEAN	1930	Mar 16	1550	Apr 27	2420	Jul 15 1966
LOWEST DAILY MEAN	.00	Jan 2	.00	Apr 3	.00	Jun 2 1966
ANNUAL SEVEN-DAY MINIMUM	387	Jan 6	226	May 6	.00	Feb 3 1971
ANNUAL RUNOFF (AC-FT)	645200		443600		647100	
10 PERCENT EXCEEDS	1490		938		1480	
50 PERCENT EXCEEDS	809		611		859	
90 PERCENT EXCEEDS	387		247		378	

C-042073

11363930 IRON CANYON CREEK BELOW IRON CANYON DAM, NEAR BIG BEND, CA

LOCATION.--Lat 41°02'27", long 121°59'02", in NW 1/4 NW 1/4 sec.28, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, on left bank 0.2 mi downstream from Iron Canyon Dam and 4.2 mi west of Big Bend.

DRAINAGE AREA.--11.6 mi^2.

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder, 60° sharp-crested V-notch weir, and concrete control with flashboards in 2- x 10-ft opening. Datum of gage is 2,461.52 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--No estimated daily discharges. Flow is completely regulated by Iron Canyon Reservoir (station 11363920). There is an interbasin diversion from Lake McCloud (station 11367740) to Iron Canyon Reservoir and then through a tunnel to James B. Black Powerplant on the Pit River (station 11363910). This station records fishwater release. The minimum release requirement is 3.0 ft^3/s at all times. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 650 ft^3/s, Feb. 5, 1986, gage height unknown (flashboards removed from weir), from equation for a 4 by 4-ft slide gate. Flow was the result of full travel test of slide gate at Iron Canyon Dam; maximum gage height, 3.24 ft, Feb. 25, 1978 (flashboards in weir), was the result of failure of the James B. Black Penstock; no flow, July 15-18, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13 ft^3/s, Dec. 8,; gage height, 1.62 ft; minimum daily, 3.7 ft^3/s, many days during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.7	3.7	3.8	3.7	3.8	3.8	3.9	4.2	4.2	4.2	3.9
2	3.7	3.7	3.7	3.8	3.7	3.8	3.8	3.9	4.2	4.2	4.1	3.9
3	3.7	3.7	3.8	3.8	3.7	3.8	3.8	3.9	4.2	4.2	4.0	3.9
4	3.8	3.7	3.7	3.7	3.8	3.8	3.8	3.8	4.2	4.2	3.8	4.0
5	3.7	3.7	3.8	3.7	3.8	3.8	3.7	3.8	4.2	4.2	3.7	4.0
6	3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8	4.2	4.2	3.7	4.0
7	3.7	3.7	3.9	3.8	3.8	3.8	3.8	3.9	4.2	4.2	3.8	3.9
8	3.7	3.7	5.9	3.8	3.8	3.8	3.8	3.8	4.2	4.2	3.8	3.9
9	3.8	3.7	3.8	3.8	3.8	3.8	3.8	3.9	4.2	4.2	3.8	3.9
10	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.9	4.2	4.2	3.8	3.9
11	3.7	3.7	3.9	3.8	3.8	3.8	3.8	4.0	4.1	4.2	3.8	3.9
12	3.7	3.7	3.8	3.7	3.7	3.8	3.8	4.1	4.2	4.2	3.8	4.0
13	3.7	3.7	3.8	3.7	3.8	3.8	3.8	4.1	4.2	4.1	3.8	3.9
14	3.8	3.8	3.8	3.7	3.7	3.8	3.8	4.1	4.2	4.1	3.8	3.8
15	3.8	3.7	3.8	3.7	3.8	3.8	3.7	4.1	4.2	4.1	3.8	3.8
16	3.8	3.7	3.7	3.7	3.8	3.8	3.7	4.2	4.2	4.0	3.8	3.8
17	3.7	3.7	3.7	3.8	3.9	3.8	3.8	4.1	4.2	4.0	3.8	3.8
18	3.8	3.8	3.7	3.8	3.8	3.8	3.8	4.1	4.2	4.0	3.8	3.8
19	3.7	3.7	3.8	3.7	3.8	3.8	3.8	4.1	4.2	4.1	3.8	3.8
20	3.7	3.8	3.8	3.8	3.8	3.8	3.8	4.0	4.2	4.2	3.8	3.8
21	3.7	3.7	3.7	3.8	3.8	3.8	3.8	4.1	4.2	4.2	3.9	3.8
22	3.7	3.7	3.7	3.8	3.8	3.8	3.8	4.1	4.2	4.2	4.0	3.8
23	3.7	3.7	3.8	3.8	3.8	3.8	3.9	4.1	4.2	4.1	4.0	3.8
24	3.7	3.8	3.7	4.5	3.8	3.7	4.0	4.1	4.2	4.1	3.9	3.8
25	3.7	3.7	3.8	3.8	3.8	3.8	4.1	4.1	4.2	4.2	3.9	3.8
26	3.7	3.7	3.8	3.8	3.8	3.8	4.1	4.1	4.2	4.1	3.9	3.8
27	3.7	3.8	3.7	3.8	3.8	3.8	4.0	4.2	4.2	4.1	3.8	3.8
28	3.7	3.8	3.8	3.7	3.8	3.8	3.9	4.1	4.2	4.2	3.8	3.8
29	3.7	3.8	3.8	3.7	---	3.8	3.9	4.2	4.2	4.1	3.9	3.8
30	3.7	3.7	3.7	3.8	---	3.8	3.9	4.2	4.2	4.1	3.9	3.8
31	3.7	---	3.8	3.7	---	3.8	---	4.2	---	4.2	3.9	---
TOTAL	115.3	111.7	118.9	117.4	106.0	117.7	115.1	125.0	125.9	128.6	119.6	115.7
MEAN	3.72	3.72	3.84	3.79	3.79	3.80	3.84	4.03	4.20	4.15	3.86	3.86
MAX	3.8	3.8	5.9	4.5	3.9	3.8	4.1	4.2	4.2	4.2	4.2	4.0
MIN	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.8	4.1	4.0	3.7	3.8
AC-FT	229	222	236	233	210	233	228	248	250	255	237	229

C-042074

11363930 IRON CANYON CREEK BELOW IRON CANYON DAM, NEAR BIG BEND, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.44	3.44	3.39	4.25	18.5	10.6	3.57	3.58	3.52	3.52	3.41	3.45
MAX	4.33	5.16	4.40	21.6	327	196	5.54	5.54	5.81	5.55	4.98	5.29
(WY)	1968	1967	1990	1971	1978	1978	1990	1990	1989	1989	1989	1967
MIN	3.00	3.00	3.01	2.81	2.54	2.91	2.88	2.90	2.68	2.90	2.89	2.97
(WY)	1982	1980	1983	1988	1967	1976	1976	1976	1972	1976	1976	1976

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	1425.3		1416.9			
ANNUAL MEAN	3.90		3.88		5.31	
HIGHEST ANNUAL MEAN					44.4	1978
LOWEST ANNUAL MEAN					2.99	1976
HIGHEST DAILY MEAN	11	Mar 17	5.9	Dec 8	538	Feb 25 1978
LOWEST DAILY MEAN	3.5	Jun 14	3.7	Oct 1	.00	Jul 15 1967
ANNUAL SEVEN-DAY MINIMUM	3.7	Jun 11	3.7	Oct 19	.37	Dec 28 1987
INSTANTANEOUS PEAK FLOW			13	Dec 8	650	Feb 5 1986
INSTANTANEOUS PEAK STAGE			1.62	Dec 8	3.24	Feb 25 1978
ANNUAL RUNOFF (AC-FT)	2830		2810		3850	
10 PERCENT EXCEEDS	4.1		4.2		4.2	
50 PERCENT EXCEEDS	3.8		3.8		3.3	
90 PERCENT EXCEEDS	3.7		3.7		3.0	

11364200 ROARING CREEK BELOW DIVERSION TO ROARING CREEK POWERPLANT, NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°53'22", long 121°56'59", in NW 1/4 SW 1/4 sec.15, T.35 N., R.1 W., Shasta County, Hydrologic Unit 18020003, on left bank 1,500 ft downstream from Cove Road, 0.5 mi downstream from Little Roaring Creek, and 3.5 miles northwest of Montgomery Creek.

DRAINAGE AREA.--34.8 mi^2.

PERIOD OF RECORD.--October 1987 to September 1988, October 1989 to September 1990 (operated as low-flow station only), October 1990 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 1,580 ft above sea level, from topographic map. Prior to Oct. 1, 1988, at site 750 ft upstream at different datum.

REMARKS.--No estimated daily discharges. During times of powerplant operation the minimum release requirement is 15 ft^3/s except March to May when the minimum release requirement is 40 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Mega Renewables Energy/Independent Hydro Developers, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--(Water years 1991-94) Maximum discharge, 1,570 ft^3/s, Mar. 17, 1993, gage-height, 4.69 ft, from rating curve extended above 50 ft^3/s on basis of theoretical computation of flow over weir; minimum daily, 6.6 ft^3/s, many days in August and September 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 138 ft^3/s, Feb. 27, gage-height, 1.76 ft; minimum daily, 8.0 ft^3/s, several days during September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	17	19	19	16	40	45	37	23	16	9.7	8.4
2	15	17	17	15	16	40	45	36	15	16	9.3	8.4
3	15	17	17	15	16	41	44	36	15	16	9.3	8.4
4	15	17	17	15	18	41	42	41	15	15	9.3	8.4
5	16	17	17	15	21	41	41	48	15	15	9.3	8.4
6	16	16	18	16	20	40	42	51	15	15	9.3	8.4
7	16	16	20	16	16	40	40	52	15	14	8.9	8.0
8	15	16	38	16	15	40	45	40	15	13	8.9	8.0
9	16	16	15	16	15	40	58	40	15	13	8.9	8.4
10	19	16	15	16	17	41	47	40	15	13	8.9	8.4
11	19	16	29	16	15	40	44	40	15	13	9.3	8.4
12	19	16	15	16	16	40	42	43	15	12	9.3	8.9
13	18	16	16	15	15	40	41	42	15	12	9.3	8.9
14	22	16	16	15	16	41	39	40	15	12	8.9	8.4
15	30	16	16	15	15	40	37	41	15	11	8.9	8.4
16	30	16	16	17	15	41	36	42	19	11	8.9	8.4
17	23	16	16	20	19	40	36	40	21	11	8.9	8.0
18	21	16	16	14	15	40	35	44	21	11	8.9	8.4
19	20	15	16	20	21	40	35	45	20	11	8.4	8.4
20	19	15	16	19	17	40	34	40	20	11	8.4	8.0
21	19	15	16	18	28	41	33	40	19	10	8.4	8.0
22	19	16	16	15	16	40	33	40	19	10	8.9	8.0
23	18	16	15	15	16	40	34	40	19	10	8.9	8.0
24	18	15	16	16	16	40	37	38	19	10	8.9	8.4
25	17	15	18	15	15	41	47	36	19	9.7	8.9	8.9
26	17	15	21	15	21	40	44	36	17	9.7	8.9	8.4
27	17	15	21	15	91	40	46	35	17	9.7	8.9	8.4
28	17	16	21	15	45	41	43	34	17	9.7	8.9	9.3
29	17	19	20	15	---	40	40	33	16	9.3	8.9	14
30	17	17	21	15	---	45	39	33	16	9.7	8.9	10
31	17	---	21	15	---	46	---	33	---	9.3	8.4	---
TOTAL	572	482	571	495	582	1260	1224	1236	512	368.1	277.9	258.8
MEAN	18.5	16.1	18.4	16.0	20.8	40.6	40.8	39.9	17.1	11.9	8.96	8.63
MAX	30	19	38	20	91	46	58	52	23	16	9.7	14
MIN	15	15	15	14	15	40	33	33	15	9.3	8.4	8.0
AC-FT	1130	956	1130	982	1150	2500	2430	2450	1020	730	551	513
a	0	30	666	424	1630	2100	30	141	284	0	0	0

a Discharge, in acre-feet, for Roaring Creek Powerplant (station 11364155), provided by Mega Renewables/ Independent Hydro Developers.

C-042076

11364200 ROARING CREEK BELOW DIVERSION TO ROARING CREEK POWERPLANT, NEAR MONTGOMERY CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.7	14.1	18.3	29.7	45.4	102	68.8	40.2	21.4	12.9	10.9	10.2
MAX	18.5	16.1	28.7	69.4	111	272	147	49.6	31.0	16.0	18.9	17.9
(WY)	1994	1994	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	8.66	11.6	12.8	14.7	15.1	40.6	40.8	32.0	16.0	11.8	7.27	6.73
(WY)	1992	1992	1992	1992	1991	1994	1994	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1991 - 1994	
ANNUAL TOTAL	23839		7838.8			
ANNUAL MEAN	65.3		21.5		32.1	
HIGHEST ANNUAL MEAN					65.6	1993
LOWEST ANNUAL MEAN					20.1	1992
HIGHEST DAILY MEAN	1220	Mar 17	91	Feb 27	1220	Mar 17 1993
LOWEST DAILY MEAN	15	Jun 19	8.0	Sep 7	6.6	Aug 22 1992
ANNUAL SEVEN-DAY MINIMUM	15	Nov 19	8.1	Sep 17	6.6	Sep 9 1992
INSTANTANEOUS PEAK FLOW			138	Feb 27	1570	Mar 17 1993
INSTANTANEOUS PEAK STAGE			1.76	Feb 27	4.69	Mar 17 1993
ANNUAL RUNOFF (AC-FT)	47280		15550		23280	
10 PERCENT EXCEEDS	161		41		46	
50 PERCENT EXCEEDS	19		16		16	
90 PERCENT EXCEEDS	16		8.9		8.2	

C-042077

11364300 HATCHET CREEK BELOW DIVERSION TO HATCHET CREEK POWERPLANT, NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°52'39", long 121°51'55", in SW 1/4 NE 1/4 sec.21, T.35 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on left bank 1,100 ft downstream from diversion to powerplant, 1,400 ft downstream from Buffom Creek and 3.8 mi northeast of Montgomery Creek.

DRAINAGE AREA.--29.6 mi^2.

PERIOD OF RECORD.--October 1987 to September 1988, October 1989 to September 1990 (operated as low-flow station only), October 1990 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 3,460 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. During times of powerplant operation the minimum flow requirement is 15 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Mega Renewables/Independent Hydro Developers, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--(Water years 1991-94) Maximum discharge, 1,930 ft^3/s, Oct. 29, 1992, gage height, 7.06 ft, from outside highwater mark, from rating curve extended above 42 ft^3/s on basis of theoretical computation of flow over weir; minimum daily, 3.8 ft^3/s, Aug. 18 to Sept. 8, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 197 ft^3/s, Oct. 15, gage height, 2.25 ft; minimum daily, 9.5 ft^3/s, Sept. 20-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	24	20	20	20	111	21	21	21	24	14	11
2	18	23	24	20	20	89	21	21	21	23	15	11
3	18	24	26	20	20	80	21	21	21	22	15	11
4	19	24	27	20	20	79	21	21	21	22	14	11
5	20	23	26	20	20	111	21	21	21	21	14	11
6	20	23	27	20	20	93	21	21	21	20	14	11
7	19	23	24	20	20	67	21	21	21	20	14	11
8	18	22	93	20	20	74	21	21	21	20	14	11
9	18	22	41	20	20	44	21	21	21	20	14	11
10	24	22	41	20	26	56	21	21	21	19	14	11
11	26	22	32	20	20	45	24	21	21	19	14	12
12	22	24	20	20	19	30	21	21	21	18	13	12
13	21	22	20	20	20	22	21	21	21	18	13	11
14	28	21	20	20	20	20	21	21	21	18	13	11
15	83	21	20	20	20	21	21	21	21	17	13	10
16	107	21	19	21	20	42	21	21	21	17	13	9.9
17	55	21	18	20	20	33	21	21	21	17	13	9.9
18	42	21	21	20	20	21	21	21	21	17	13	9.9
19	37	20	19	20	20	21	21	21	21	17	13	9.9
20	34	21	18	21	20	21	21	21	26	16	13	9.5
21	32	21	19	20	20	21	21	21	29	16	13	9.5
22	31	22	18	20	20	21	21	21	29	17	13	9.5
23	29	21	19	20	22	21	21	21	29	16	13	9.9
24	28	21	20	20	21	21	21	21	28	16	13	10
25	27	21	24	20	21	21	21	21	27	16	13	10
26	27	20	18	20	28	21	21	21	27	15	13	10
27	26	20	22	20	137	21	21	21	26	15	13	9.9
28	26	21	19	20	107	21	21	21	26	14	13	11
29	25	32	20	20	---	21	21	21	24	14	13	13
30	25	20	20	20	---	21	21	21	24	14	13	12
31	24	---	20	20	---	21	---	21	---	15	12	---
TOTAL	947	663	775	622	781	1311	633	651	694	553	415	319.9
MEAN	30.5	22.1	25.0	20.1	27.9	42.3	21.1	21.0	23.1	17.8	13.4	10.7
MAX	107	32	93	21	137	111	24	21	29	24	15	13
MIN	18	20	18	20	19	20	21	21	21	14	12	9.5
AC-FT	1880	1320	1540	1230	1550	2600	1260	1290	1380	1100	823	635
a	0	68	1550	1740	1820	4500	2170	2200	530	0	0	0

a Discharge, in acre-feet, for Hatchet Creek Powerplant (station 11364250), provided by Mega Renewables/ Independent Hydro Developers.

C-042078

11364300 HATCHET CREEK BELOW DIVERSION TO HATCHET CREEK POWERPLANT, NEAR MONTGOMERY CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.6	13.6	17.4	21.6	22.6	78.2	58.6	25.1	25.6	12.9	11.4	10.1
MAX	30.5	22.1	25.6	45.4	28.8	222	175	48.6	53.1	18.4	21.9	20.3
(WY)	1994	1994	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	6.27	9.07	9.40	10.3	14.5	18.4	19.2	13.5	8.15	6.06	4.07	4.21
(WY)	1992	1992	1992	1992	1991	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1991 - 1994	
ANNUAL TOTAL	21686.6		8364.9			
ANNUAL MEAN	59.4		22.9		26.0	
HIGHEST ANNUAL MEAN					57.1	1993
LOWEST ANNUAL MEAN					10.6	1992
HIGHEST DAILY MEAN	787	Mar 17	137	Feb 27	787	Mar 17 1993
LOWEST DAILY MEAN	8.6	Jan 1	9.5	Sep 20	3.8	Aug 18 1992
ANNUAL SEVEN-DAY MINIMUM	16	Jan 7	9.7	Sep 16	3.8	Aug 18 1992
INSTANTANEOUS PEAK FLOW			197	Oct 15	1930	Oct 29 1992
INSTANTANEOUS PEAK STAGE			2.25	Oct 15	7.06	Oct 29 1992
ANNUAL RUNOFF (AC-FT)	43020		16590		18840	
10 PERCENT EXCEEDS	173		28		30	
50 PERCENT EXCEEDS	22		21		17	
90 PERCENT EXCEEDS	18		13		5.7	

C-042079

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°50'38", long 122°00'05", in NE 1/4 SW 1/4 sec.32, T.35 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, on left bank 0.7 mi downstream from Pit No. 7 Dam and Powerplant, 1.4 mi upstream from Potem Creek, and 4.1 mi west of town of Montgomery Creek.
DRAINAGE AREA.--4,952 mi^2, excluding Goose Lake basin.
PERIOD OF RECORD.--October 1944 to current year (monthly discharge only December 1964 to May 1965). Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1951, 1953, 1955-81.
WATER TEMPERATURE: Water years 1951, 1954-57, 1959 .
REVISED RECORDS.--WSP 1931: Drainage area. WDR CA-86-4: 1983 (M).
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,000.00 ft above sea level (levels by Pacific Gas & Electric Co.). October 1944 to Feb. 17, 1963, at site 0.7 mi upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 1.5 mi upstream at different datum. May 21, 1965, to June 20, 1981, at site 0.9 mi downstream at datum 1,036.00 ft above sea level.
REMARKS.--Low flow completely regulated by many reservoirs and powerplants, total usable reservoir capacity, 337,000 acre-ft. Many diversions upstream from station for irrigation. Diversion from McCloud River to Iron Canyon Reservoir (station 11363920) began December 1965. See schematic diagram of Pit and McCloud River basins.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft^3/s, Jan. 24, 1970, gage height, 32.36 ft, site and datum then in use; maximum gage height, 74.65 ft, Feb. 19, 1986; minimum daily, 30 ft^3/s, July 12, 27, 1975, result of construction work below Pit No. 7 Powerplant.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,500 ft^3/s, Sept. 27, gage height, 63.18 ft; minimum daily, 273 ft^3/s, Aug. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2560	3250	3400	526	4100	4200	2440	1590	2730	2690	2730	3060
2	2480	2980	3340	2740	2800	4320	2640	3060	2240	1860	3050	1130
3	3740	3220	3530	2720	2580	5990	1130	2750	2260	1910	e3530	2090
4	1900	3210	1660	3680	3440	5690	3760	4740	3530	2600	4010	1790
5	2530	2950	1750	4300	2750	4920	4680	3270	3010	2800	e2760	1550
6	1980	2580	4050	3160	4000	6380	2870	4210	2750	2940	1300	2570
7	2050	1170	3090	3670	4040	3240	3430	3940	1940	2600	273	2730
8	3220	3200	4770	1790	4010	4080	4750	3050	2820	3050	1810	2820
9	6040	2550	4870	2020	2010	3140	5440	2380	4040	1780	3010	2430
10	6530	2690	4650	3820	4200	3830	3120	3730	3810	1090	2690	1540
11	5250	2750	3040	3500	3680	4350	1980	3710	887	2760	2850	1190
12	2700	3640	2210	3020	2280	4010	2450	2650	1630	2940	2440	2450
13	1730	2380	4990	3670	1090	3990	2410	4270	3280	2680	2300	3000
14	727	3150	e4940	3710	2410	3910	2380	3340	1390	3150	2390	3070
15	1290	5210	e4020	1540	3790	3470	2320	2560	2720	2200	2790	3400
16	1460	4780	e3410	2690	3680	4030	2280	3830	3520	1670	3030	3550
17	1410	4670	3300	6160	3500	4390	2330	4300	3210	731	2350	3330
18	2670	3940	2550	5270	3890	3650	2350	3070	2210	1910	1740	2590
19	3160	6140	1740	3540	2840	3930	2320	2600	914	2150	568	2620
20	3270	3350	2860	2990	2640	3900	2260	2810	3160	2630	1760	3900
21	3230	2230	3190	3600	4670	3890	2270	2830	2220	2310	404	2680
22	3840	2990	3490	2800	5080	3630	2280	2790	2480	3060	2920	1930
23	3000	5120	3440	1970	3430	3540	2300	3710	3120	2220	2710	1050
24	2320	5460	2940	4220	3400	3980	2340	2670	1960	693	2980	1010
25	2830	3090	2130	3730	4860	2710	2320	3340	2400	3580	2890	387
26	2860	1050	723	3940	5550	1490	3420	1800	1330	1890	2540	2360
27	2430	3250	3960	3970	6120	1460	4120	3430	3330	2260	1370	2560
28	2860	990	3310	4170	6550	4230	4720	2790	2310	2600	1160	2580
29	3870	4060	3380	1360	---	3940	4050	2190	2750	2430	1990	3340
30	2230	3410	3600	1940	---	4380	1020	2340	2750	1130	2620	2430
31	2320	---	3310	4740	---	4670	---	3610	---	2710	3130	---
TOTAL	88487	99460	101643	100956	103390	123340	86180	97360	76701	71024	72095	71137
MEAN	2854	3315	3279	3257	3692	3979	2873	3141	2557	2291	2326	2371
MAX	6530	6140	4990	6160	6550	6380	5440	4740	4040	3580	4010	3900
MIN	727	990	723	526	1090	1460	1020	1590	887	693	273	387
AC-FT	175500	197300	201600	200200	205100	244600	170900	193100	152100	140900	143000	141100
a	12632	15147	14760	15199	7409	14862	15121	14965	15487	15513	14888	14991
b	173800	168300	195700	185300	190500	221800	173100	183900	151400	143500	149500	144900
c	33584	33769	32986	33261	32667	31900	33445	33078	33032	30014	32080	33399

e Estimated.

a Contents, in acre-feet, at end of month for Pit No. 6 Reservoir (station 11364100), provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, for Pit No. 6 Powerplant (station 11364150), provided by Pacific Gas & Electric Co.
c Contents, in acre-feet, at end of month for Pit No. 7 Reservoir (station 11364700), provided by Pacific Gas & Electric Co.

C-042080

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1965, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2643	2828	3821	4320	5592	5331	5711	4297	3127	2376	2231	2284
MAX	5999	3710	9541	11240	12970	8212	13350	7380	5044	3037	2651	2744
(WY)	1963	1951	1956	1956	1958	1956	1952	1952	1953	1958	1958	1959
MIN	2112	2232	2219	2137	2500	3225	3404	2299	2353	1935	1971	1899
(WY)	1950	1950	1950	1949	1948	1964	1947	1947	1950	1949	1947	1949

SUMMARY STATISTICS	WATER YEARS 1945 - 1965	
ANNUAL TOTAL		
ANNUAL MEAN	3704	
HIGHEST ANNUAL MEAN	5529	1956
LOWEST ANNUAL MEAN	2658	1947
HIGHEST DAILY MEAN	32100	Dec 23 1955
LOWEST DAILY MEAN	150	Jul 19 1965
ANNUAL SEVEN-DAY MINIMUM	1610	Jul 19 1965
INSTANTANEOUS PEAK FLOW	37100	Dec 23 1955
INSTANTANEOUS PEAK STAGE	14.12	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	2684000	
10 PERCENT EXCEEDS	6080	
50 PERCENT EXCEEDS	3010	
90 PERCENT EXCEEDS	1740	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3300	3972	4687	6198	6735	7794	6429	5114	3850	3227	3076	3071
MAX	4804	8174	9814	20890	18670	16030	12920	9098	6237	4297	4187	3966
(WY)	1985	1974	1982	1970	1986	1983	1982	1967	1971	1974	1983	1974
MIN	2286	2533	2408	2632	2784	3241	2626	2404	2268	2291	2049	1427
(WY)	1993	1993	1991	1991	1991	1977	1977	1992	1992	1994	1992	1966

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	1913627		1091773			
ANNUAL MEAN	5243		2991		4778	
HIGHEST ANNUAL MEAN					7693	1974
LOWEST ANNUAL MEAN					2808	1992
HIGHEST DAILY MEAN	30700	Mar 18	6550	Feb 28	53900	Jan 23 1970
LOWEST DAILY MEAN	505	Jul 24	273	Aug 7	30	Jul 12 1975
ANNUAL SEVEN-DAY MINIMUM	1710	Oct 12	1700	Sep 22	939	Sep 5 1966
INSTANTANEOUS PEAK FLOW			8500	Sep 27	73000	Jan 24 1970
INSTANTANEOUS PEAK STAGE			63.18	Sep 27	74.65	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	3796000		2166000		3461000	
10 PERCENT EXCEEDS	9240		4330		8270	
50 PERCENT EXCEEDS	3960		2870		3840	
90 PERCENT EXCEEDS	2230		1550		2010	

C-042081

11367500 McCLOUD RIVER NEAR McCLOUD, CA

LOCATION.--Lat 41°11'18", long 122°03'52", in NW 1/4 NE 1/4 sec.34, T.39 N., R.2 W., Siskiyou County, Hydrologic Unit 18020004, on right bank 0.4 mi downstream from Angel Creek and 6 mi southeast of McCloud.

DRAINAGE AREA.--358 mi^2.

PERIOD OF RECORD.--April 1931 to current year.

REVISED RECORDS.--WSP 843: 1936(M). WSP 1445: 1940(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,711.2 ft above sea level, from river-profile map.

REMARKS.--No estimated daily discharges. Two small diversions upstream from station for irrigation, and one 22-in. pipeline for town of McCloud. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft^3/s, Dec. 21, 1955, gage heights, 9.42 ft, in gage well, 10.7 ft from floodmarks, from rating curve extended above 8,800 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 524 ft^3/s, Nov. 23, 24, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	1445	*782	*1.51

Minimum daily, 566 ft^3/s, Sept. 21-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	687	662	650	639	640	642	672	658	615	582	578	571
2	686	661	647	637	636	642	671	654	612	587	579	571
3	686	661	646	637	635	645	673	654	611	587	579	571
4	686	659	648	640	632	647	674	664	610	586	578	571
5	686	656	645	642	631	657	670	690	610	586	576	571
6	686	655	645	642	635	671	672	702	612	586	576	571
7	684	655	659	639	638	666	676	709	611	586	577	571
8	682	654	709	640	635	663	674	706	608	586	578	571
9	683	653	709	637	632	661	675	700	604	586	577	571
10	687	653	752	635	632	665	671	695	602	586	577	571
11	685	654	771	632	632	674	664	692	601	586	576	571
12	683	653	744	632	629	668	663	688	601	585	576	571
13	679	653	703	632	626	664	662	677	600	584	576	571
14	677	652	691	632	626	669	664	667	597	583	576	571
15	680	651	675	632	623	674	664	666	596	581	575	570
16	680	650	664	627	622	689	667	667	595	581	575	570
17	676	648	660	626	642	724	674	662	594	580	575	570
18	674	650	656	626	638	715	680	654	593	580	574	569
19	674	650	652	626	637	703	687	658	592	580	574	569
20	672	649	651	626	632	691	694	665	591	580	574	567
21	670	649	647	627	632	685	691	655	591	579	573	566
22	668	651	644	631	627	682	686	647	589	579	573	566
23	668	648	642	671	624	675	680	641	585	580	572	566
24	667	646	642	751	621	667	676	637	585	579	571	566
25	666	648	641	712	626	662	686	632	584	578	572	566
26	665	648	642	680	631	658	680	632	582	578	571	566
27	664	647	642	666	633	655	674	628	581	578	571	566
28	664	649	637	657	638	658	666	624	580	577	571	566
29	664	664	637	651	---	662	662	621	581	577	571	566
30	664	658	638	645	---	667	661	620	581	578	571	566
31	664	---	637	642	---	674	---	617	---	578	571	---
TOTAL	20957	19587	20626	20012	17685	20775	20209	20482	17894	18039	17813	17069
MEAN	676	653	665	646	632	670	674	661	596	582	575	569
MAX	687	664	771	751	642	724	694	709	615	587	579	571
MIN	664	646	637	626	621	642	661	617	580	577	571	566
AC-FT	41570	38850	40910	39690	35080	41210	40080	40630	35490	35780	35330	33860

11367500 McCLOUD RIVER NEAR McCLOUD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	763	789	855	887	960	1025	1115	1112	941	828	790	768
MAX	1030	1569	1879	2348	2155	2220	1896	2182	1549	1219	1101	1059
(WY)	1984	1974	1956	1970	1958	1983	1974	1938	1938	1983	1983	1983
MIN	536	537	534	539	549	568	674	606	574	561	556	544
(WY)	1933	1933	1933	1933	1933	1935	1994	1992	1992	1934	1992	1932

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1931 - 1994	
ANNUAL TOTAL	311543		231148			
ANNUAL MEAN	854		633		905	
HIGHEST ANNUAL MEAN					1406	1974
LOWEST ANNUAL MEAN					589	1992
HIGHEST DAILY MEAN	3840	Mar 18	771	Dec 11	10100	Jan 16 1974
LOWEST DAILY MEAN	532	Jan 11	566	Sep 21	524	Nov 23 1932
ANNUAL SEVEN-DAY MINIMUM	535	Jan 6	566	Sep 21	528	Nov 20 1932
INSTANTANEOUS PEAK FLOW			782	Dec 10	11800	Dec 21 1955
INSTANTANEOUS PEAK STAGE			1.51	Dec 10	9.42	Dec 21 1955
ANNUAL RUNOFF (AC-FT)	617900		458500		655600	
10 PERCENT EXCEEDS	1260		684		1240	
50 PERCENT EXCEEDS	717		641		833	
90 PERCENT EXCEEDS	578		571		604	

11367720 McCLOUD-IRON CANYON DIVERSION TUNNEL, NEAR McCLOUD, CA

LOCATION.--Lat 41°08'06", long 122°04'26", in SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on left bank of Lake McCloud, 8.8 mi southeast of McCloud.

PERIOD OF RECORD.--December 1965 to current year.

REVISED RECORDS.--WDR CA-75-4: 1973.

GAGE.--None. Water-stage recorders on Iron Canyon Reservoir and Lake McCloud (stations 11363920 and 11367740) used to compute record.

REMARKS.--No estimated daily discharges. Water is diverted from Lake McCloud (station 11367740) via tunnel to Iron Canyon Reservoir (station 11363920) and then via penstock into James B. Black Powerplant (station 11363910) on the Pit River. Diversion began Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,890 ft^3/s, several days during May and June 1967; no flow several days in 1965-68, 1971, 1978.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	561	555	520	477	670	574	601	544	519	463	456	378
2	567	531	526	496	663	561	536	582	517	463	498	355
3	552	542	458	535	588	555	468	592	514	448	559	381
4	550	557	503	572	506	574	495	670	521	451	592	381
5	578	540	508	598	540	622	573	696	503	463	584	365
6	600	536	522	596	572	710	523	672	523	469	544	399
7	598	499	479	614	570	679	505	652	484	461	471	411
8	642	499	526	576	529	616	537	582	514	463	434	405
9	654	546	542	546	592	590	563	521	550	468	453	417
10	645	535	624	531	576	578	526	486	580	453	478	394
11	660	515	627	555	580	551	588	471	530	466	500	362
12	599	553	655	533	604	555	567	429	476	498	496	397
13	579	503	734	559	551	557	517	488	500	493	493	463
14	591	479	742	551	578	578	530	521	486	488	512	498
15	581	542	703	540	612	593	528	463	476	483	517	526
16	570	602	668	568	574	608	463	541	514	491	517	533
17	551	629	641	580	598	601	436	561	554	474	481	530
18	543	580	637	586	596	605	481	548	505	412	455	447
19	547	596	624	608	610	611	537	588	474	409	390	488
20	553	524	553	511	566	630	512	546	498	418	355	512
21	549	461	513	489	644	630	488	530	491	406	304	478
22	548	459	515	527	663	630	481	514	481	448	352	498
23	555	513	508	503	622	645	450	567	498	461	378	458
24	547	501	503	624	576	637	431	554	486	406	426	402
25	568	454	535	627	592	587	442	559	476	440	439	323
26	591	412	451	629	612	560	448	500	479	432	473	348
27	560	491	506	641	592	536	567	561	503	403	405	315
28	536	491	522	682	620	520	606	532	512	426	359	330
29	562	520	522	631	---	554	610	505	505	432	372	387
30	540	510	517	639	---	587	586	491	471	409	414	405
31	522	---	533	684	---	617	---	544	---	400	399	---
TOTAL	17800	15675	17417	17808	16596	18471	15595	17010	15140	13897	14106	12586
MEAN	574	522	562	574	593	596	520	549	505	448	455	420
MAX	660	629	742	684	670	710	610	696	580	498	592	533
MIN	522	412	451	477	506	520	431	429	471	400	304	315
AC-FT	35310	31090	34550	35320	32920	36640	30930	33740	30030	27560	27980	24960

C—042084

C-042084

11367720 McCLOUD-IRON CANYON DIVERSION TUNNEL, NEAR McCLOUD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	658	678	811	865	923	1083	1117	1008	885	780	743	707
MAX	1028	1205	1362	1451	1583	1592	1624	1729	1854	1305	1150	1123
(WY)	1984	1984	1974	1970	1970	1970	1966	1967	1967	1967	1971	1983
MIN	.000	.000	333	383	439	562	445	388	416	409	343	383
(WY)	1966	1966	1992	1992	1991	1991	1990	1977	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	285442		192101			
ANNUAL MEAN	782		526		855	
HIGHEST ANNUAL MEAN					1260	1967
LOWEST ANNUAL MEAN					453	1992
HIGHEST DAILY MEAN	1420	Mar 27	742	Dec 14	1890	May 20 1967
LOWEST DAILY MEAN	271	Jan 9	304	Aug 21	.00	Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	375	Jan 7	359	Sep 24	.00	Oct 1 1965
ANNUAL RUNOFF (AC-FT)	566200		381000		619100	
10 PERCENT EXCEEDS	1380		624		1400	
50 PERCENT EXCEEDS	628		529		792	
90 PERCENT EXCEEDS	500		416		472	

C-042085

11367760 McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD, CA

LOCATION.--Lat 41°07'44", long 122°04'08", in SW 1/4 NE 1/4 sec.27, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on left bank 0.1 mi downstream from Lizard Creek, 0.6 mi downstream from McCloud Dam, and 9 mi southeast of McCloud.

DRAINAGE AREA.--404 mi^2.

PERIOD OF RECORD.--April 1966 to current year (operated as a low-flow station only).

GAGE.--Water-stage recorder. Datum of gage is 2,398.76 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to Apr. 7, 1972, at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Low flow regulated by Lake McCloud (station 11367740) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (station 11363920) in Pit River basin. This station records fishwater release. The minimum release requirement is 40 ft^3/s at all times. Prior to water year 1974, flow was computed up to 400 ft^3/s. During water years 1975-81, because of channel changes, flow was computed up to 200 ft^3/s. Currently, because of maximum required release, flow is computed to 220 ft^3/s. See schematic diagram of Pit and McCloud River basins.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	210	204	143	126	95	126	142	144	151	155	171
2	202	211	204	141	130	83	126	139	146	151	155	171
3	202	212	204	142	131	69	126	138	148	151	155	170
4	201	208	204	142	133	68	128	138	148	152	155	170
5	201	204	204	142	133	68	132	139	150	152	154	169
6	201	204	204	140	131	69	133	139	145	152	154	172
7	201	204	192	141	125	81	133	133	145	152	154	171
8	201	204	112	141	124	93	133	133	146	152	154	171
9	203	204	160	141	125	96	127	133	148	152	154	171
10	202	204	142	141	125	97	132	133	148	152	154	171
11	202	204	154	142	125	87	134	133	148	152	154	171
12	202	204	156	143	125	100	134	134	148	152	154	171
13	201	204	167	144	125	109	134	137	148	155	154	171
14	201	204	173	144	126	102	136	137	148	158	154	169
15	201	204	179	145	128	93	140	137	148	155	154	167
16	201	204	145	145	128	88	140	138	148	154	154	167
17	201	204	148	145	110	86	140	142	148	154	154	172
18	201	203	151	145	104	87	141	142	148	154	154	172
19	202	203	151	146	90	94	141	142	151	154	154	171
20	205	204	154	146	91	102	144	142	154	156	154	171
21	205	205	155	146	104	107	148	142	154	161	154	171
22	205	205	156	147	122	110	147	142	152	162	154	170
23	205	205	156	118	122	114	144	142	149	164	154	170
24	205	205	158	62	121	118	143	141	149	164	154	170
25	205	204	157	58	121	123	142	142	150	160	154	170
26	205	205	158	77	120	123	142	145	150	155	154	170
27	205	204	158	93	100	124	143	144	151	155	154	170
28	205	205	158	103	101	126	143	144	151	156	154	170
29	208	202	158	113	---	126	142	144	151	155	154	169
30	208	199	158	118	---	126	142	144	151	156	154	166
31	209	---	157	122	---	126	---	144	---	156	156	---
TOTAL	6297	6142	5137	4016	3346	3090	4116	4325	4465	4805	4780	5105
MEAN	203	205	166	130	119	99.7	137	140	149	155	154	170
MAX	209	212	204	147	133	126	148	145	154	164	156	172
MIN	201	199	112	58	90	68	126	133	144	151	154	166
AC-FT	12490	12180	10190	7970	6640	6130	8160	8580	8860	9530	9480	10130

C-042086

11367800 McCLOUD RIVER AT AH-DI-NA, NEAR McCLOUD, CA

LOCATION.--Lat 41°06'39", long 122°05'42", in NE 1/4 SW 1/4 sec.33, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on right bank at Ah-Di-Na, 1.8 mi downstream from Squirrel Creek, 3.9 mi downstream from McCloud Dam, and 9.6 mi south of McCloud.
DRAINAGE AREA.--427 mi^2.
PERIOD OF RECORD.--October 1964 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 2,160 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Low flow completely regulated by Lake McCloud (station 11367740) 3.9 mi upstream since November 1965. Diversion to Iron Canyon Reservoir (station 11363920) through McCloud-Iron Canyon diversion tunnel (station 11367720) started Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins. This station records fishwater release. The minimum release requirements range from 160 to 210 ft^3/s per schedule outlined in Federal Energy Regulatory Commission License 2106.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Prior to completion of McCloud Dam in 1965, maximum discharge, 9,660 ft^3/s, Dec. 22, 1964, gage height, 9.43 ft, from rating curve extended above 2,500 ft^3/s; minimum daily, 86 ft^3/s, Oct. 1-26, 1964. Since completion of McCloud Dam, maximum discharge, 26,400 ft^3/s, Jan. 16, 1974, gage height, 13.68 ft in gage well, 15.38 ft from floodmarks, from rating curve extended above 8,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 41 ft^3/s, Dec. 18-20, 1971 (caused by valve malfunction at McCloud Dam).
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of 12.5 ft, discharge, 17,800 ft^3/s, from rating curve extended above 2,500 ft^3/s.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 24	0500	*373	*1.86

Minimum daily, 149 ft^3/s, Feb. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	229	223	172	170	184	176	177	170	168	171	190
2	223	230	222	169	171	187	175	173	170	168	171	190
3	223	229	220	169	170	182	175	171	173	168	171	189
4	224	226	221	173	171	186	174	174	172	169	171	189
5	223	222	220	175	169	191	178	176	175	170	171	188
6	223	220	221	171	174	184	178	176	171	169	170	190
7	223	220	240	171	175	182	176	175	169	169	170	189
8	223	220	274	172	175	187	181	172	169	169	170	190
9	223	220	239	169	175	186	178	171	171	169	170	190
10	228	220	243	168	178	196	178	170	171	169	169	190
11	229	220	240	167	174	190	177	168	170	169	169	190
12	226	220	227	169	171	194	176	167	170	168	169	190
13	223	220	222	168	169	198	175	170	169	170	169	190
14	223	220	222	169	169	192	175	169	169	174	170	188
15	227	220	221	168	169	184	179	171	169	170	171	185
16	228	220	182	169	167	190	178	172	169	170	171	185
17	224	220	180	169	181	188	178	175	168	170	170	191
18	223	220	180	167	175	179	177	173	168	170	170	191
19	223	220	180	169	157	177	177	179	171	170	170	190
20	225	220	180	169	149	177	178	179	173	170	171	190
21	225	220	180	169	160	178	182	176	173	176	171	189
22	225	222	180	171	177	177	181	175	171	177	171	189
23	225	221	180	215	173	177	179	173	168	179	171	188
24	225	220	180	318	171	176	179	172	168	179	171	189
25	225	221	180	214	172	180	190	171	168	177	171	188
26	224	221	180	178	180	178	183	173	168	170	171	187
27	223	220	180	172	172	177	183	172	170	169	171	187
28	223	221	180	167	178	179	181	171	169	171	171	189
29	225	237	180	169	---	179	180	171	169	171	171	189
30	227	222	182	169	---	179	178	170	169	171	171	185
31	228	---	181	169	---	178	---	171	---	171	172	---
TOTAL	6962	6661	6340	5504	4792	5692	5355	5353	5100	5300	5286	5665
MEAN	225	222	205	178	171	184	178	173	170	171	171	189
MAX	229	237	274	318	181	198	190	179	175	179	172	191
MIN	223	220	180	167	149	176	174	167	168	168	169	185
AC-FT	13810	13210	12580	10920	9500	11290	10620	10620	10120	10510	10480	11240

C-042087

11367800 McCLOUD RIVER AT AH-DI-NA, NEAR McCLOUD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	256	293	299	416	399	458	352	336	253	226	223	235
MAX	919	1140	1863	2211	1769	2107	2102	1498	1173	1035	992	954
(WY)	1966	1974	1965	1970	1986	1983	1965	1965	1965	1965	1965	1965
MIN	180	182	93.2	93.4	119	167	166	162	160	159	155	182
(WY)	1978	1978	1972	1972	1972	1977	1968	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	105962		68010			
ANNUAL MEAN	290		186		312	
HIGHEST ANNUAL MEAN					1326	1965
LOWEST ANNUAL MEAN					168	1977
HIGHEST DAILY MEAN	3940	Mar 24	318	Jan 24	17300	Jan 16 1974
LOWEST DAILY MEAN	168	Jan 29	149	Feb 20	41	Dec 18 1971
ANNUAL SEVEN-DAY MINIMUM	171	Jan 27	165	Feb 15	42	Dec 15 1971
INSTANTANEOUS PEAK FLOW			373	Jan 24	26400	Jan 16 1974
INSTANTANEOUS PEAK STAGE			1.86	Jan 24	13.68	Jan 16 1974
ANNUAL RUNOFF (AC-FT)	210200		134900		225800	
10 PERCENT EXCEEDS	369		223		488	
50 PERCENT EXCEEDS	220		177		205	
90 PERCENT EXCEEDS	180		169		168	

C-042088

11368000 McCLOUD RIVER ABOVE SHASTA LAKE, CA

LOCATION.--Lat 40°57'30", long 122°13'07", unsurveyed, T.36 N., R.3 W., Shasta County, Hydrologic Unit 18020004, on right bank just upstream from Shasta Lake, 0.2 mi downstream from Big Bollibokka Creek, and 11.3 mi east of Lamoine.

DRAINAGE AREA.--604 mi^2.

PERIOD OF RECORD.--October 1945 to current year. Prior to 1950, published as "above Shasta Reservoir." TEMPERATURE: Water years 1956-58.

REVISED RECORDS.--WSP 1445: 1953(M). WSP 1931: Drainage area. WDR CA-94-4: 1993(P).

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--No estimated daily discharges. Low flow completely regulated by Lake McCloud (station 11367740) 16.5 mi upstream since Nov. 3, 1965. Diversions to Iron Canyon Reservoir (station 11363920) began Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,500 ft^3/s, Jan. 16, 1974, gage height, 28.26 ft, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 109 ft^3/s, Dec. 16-20, 1971. Minimum prior to regulation by Lake McCloud, 820 ft^3/s, Jan. 3, 1950.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 24	0830	*2,750	*13.18

Minimum daily, 204 ft^3/s, Aug. 18-21.

REVISIONS.--The gage height for a water year 1993 peak has been revised to 19.12 ft, Mar. 24, 1993, discharge, 11,900 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	303	313	323	440	779	381	349	281	234	215	216
2	293	305	306	317	427	786	375	338	279	234	214	222
3	293	306	302	313	411	771	374	334	278	232	214	223
4	295	306	306	336	400	747	368	348	275	230	214	224
5	306	297	302	368	387	734	367	366	279	230	212	224
6	310	296	310	342	438	688	370	366	290	229	211	223
7	306	297	471	325	524	633	367	388	273	229	210	222
8	302	297	1220	335	539	604	391	370	267	227	210	222
9	303	297	652	330	509	576	400	358	266	226	210	223
10	327	299	718	319	560	583	370	348	263	225	208	224
11	349	300	786	309	549	577	363	338	260	224	207	225
12	328	297	700	303	515	543	355	329	257	224	207	225
13	315	297	538	298	489	526	348	324	255	222	207	226
14	313	298	540	295	464	518	345	320	253	226	206	225
15	346	297	493	292	446	503	343	329	253	224	207	222
16	351	297	435	288	429	532	343	338	252	222	205	221
17	323	297	394	284	853	525	338	334	249	221	205	223
18	312	297	372	280	987	494	334	324	247	220	204	225
19	307	295	355	279	862	476	333	338	246	219	204	224
20	311	295	342	276	769	457	329	348	249	219	204	221
21	311	297	333	276	805	449	334	329	248	224	204	221
22	307	303	325	291	819	441	333	320	247	225	205	221
23	306	299	313	706	717	432	330	311	240	227	205	221
24	306	297	310	2210	649	425	347	306	240	227	205	221
25	306	295	306	1460	638	418	456	297	241	226	205	222
26	302	294	306	955	694	409	420	297	239	217	205	221
27	302	296	303	747	752	400	390	293	239	216	205	221
28	302	300	299	620	763	396	375	288	239	217	206	225
29	303	402	297	543	---	395	365	288	237	216	206	231
30	306	355	303	497	---	392	358	284	235	215	206	231
31	306	---	310	465	---	389	---	280	---	215	205	---
TOTAL	9640	9111	13260	14982	16835	16598	10902	10180	7677	6942	6431	6695
MEAN	311	304	428	483	601	535	363	328	256	224	207	223
MAX	351	402	1220	2210	987	786	456	388	290	234	215	231
MIN	293	294	297	276	387	389	329	280	235	215	204	216
AC-FT	19120	18070	26300	29720	33390	32920	21620	20190	15230	13770	12760	13280

C—042089

C-042089

11368000 McCLOUD RIVER ABOVE SHASTA LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1965, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1121	1252	2080	2077	2617	2177	2467	1965	1460	1159	1059	1020
MAX	1899	2162	6513	4525	7493	3966	4599	2978	2248	1715	1489	1395
(WY)	1951	1951	1956	1953	1958	1958	1963	1958	1958	1958	1958	1958
MIN	856	870	856	903	1040	1265	1320	1085	1069	901	852	839
(WY)	1950	1950	1950	1949	1948	1964	1964	1947	1949	1950	1950	1950

SUMMARY STATISTICS	WATER YEARS 1946 - 1965	
ANNUAL MEAN	1699	
HIGHEST ANNUAL MEAN	2703	1958
LOWEST ANNUAL MEAN	1213	1950
HIGHEST DAILY MEAN	36100	Dec 21 1955
LOWEST DAILY MEAN	825	Jan 3 1950
ANNUAL SEVEN-DAY MINIMUM	826	Oct 9 1950
INSTANTANEOUS PEAK FLOW	a45200	Dec 22 1955
INSTANTANEOUS PEAK STAGE	28.20	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	1231000	
10 PERCENT EXCEEDS	2670	
50 PERCENT EXCEEDS	1270	
90 PERCENT EXCEEDS	928	

a from rating curve extended above 6,400 ft^3/s on basis of slope-area measurement of peak flow.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	308	601	800	1270	1358	1549	910	629	401	310	275	283
MAX	468	4068	2402	6043	5118	5825	2794	1930	952	443	372	340
(WY)	1990	1974	1984	1970	1986	1983	1982	1983	1983	1983	1983	1983
MIN	206	227	235	222	232	248	226	232	215	200	192	200
(WY)	1992	1992	1977	1991	1977	1977	1977	1977	1977	1977	1991	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1967 - 1994	
ANNUAL TOTAL	309995		129253			
ANNUAL MEAN	849		354		722	
HIGHEST ANNUAL MEAN					1720	1974
LOWEST ANNUAL MEAN					230	1977
HIGHEST DAILY MEAN	10200	Mar 24	2210	Jan 24	36300	Jan 16 1974
LOWEST DAILY MEAN	292	Aug 30	204	Aug 18	109	Dec 16 1971
ANNUAL SEVEN-DAY MINIMUM	293	Sep 27	204	Aug 16	113	Dec 15 1971
INSTANTANEOUS PEAK FLOW			2750	Jan 24	45500	Jan 16 1974
INSTANTANEOUS PEAK STAGE			13.18	Jan 24	28.26	Jan 16 1974
ANNUAL RUNOFF (AC-FT)	614900		256400		522800	
10 PERCENT EXCEEDS	1710		545		1410	
50 PERCENT EXCEEDS	400		306		349	
90 PERCENT EXCEEDS	297		217		242	

C-042090

11370000 SHASTA LAKE NEAR REDDING, CA

LOCATION.--Lat 40°43'08", long 122°25'12", in SE 1/4 NW 1/4 sec.15, T.33 N., R.5 W., Shasta County, Hydrologic Unit 18020005, in Shasta Dam on Sacramento River near right bank, 2 mi downstream from Squaw Creek, and 9.5 mi north of Redding.
DRAINAGE AREA.--6,421 mi^2, excluding Goose Lake basin.
PERIOD OF RECORD.--November 1942 to current year. Prior to 1950, published as Shasta Reservoir near Redding. CHEMICAL DATA: Water years 1978-80.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation). Prior to July 10, 1944, nonrecording gage at various sites near dam at same datum. Contents based on capacity table dated May 8, 1967, provided by U.S. Bureau of Reclamation.
REMARKS.--Lake is formed by concrete gravity-type dam completed in 1949; regulation began Dec. 30, 1943. Usable capacity, 4,436,400 acre-ft between elevations 737.75 ft, invert of lowest set of river outlets, and 1,067.0 ft, top of flashboard gates on drum-type spillway gates. Operating pool from elevation, 840.0 ft, capacity, 587,127 acre-ft to 1,067.0 ft, capacity, 4,552,090 acre-ft. Dead storage, 115,800 acre-ft. Installation of flashboard gates on top of drum gates completed Nov. 12, 1964. All water passes down the Sacramento River, most of which is through powerplant at dam. Figures given represent total contents at 2400 hours. Lake is used for flood control, power generation, irrigation, and recreation. See schematic diagram of Pit and McCloud River basins.
COOPERATION.--Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.
EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 4,550,300 acre-ft, May 19, 1967, elevation, 1,066.94 ft; minimum since first filling, 562,600 acre-ft, Sept. 13, 1977, elevation, 836.68 ft.
EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 3,554,256 acre-ft, Apr. 17, elevation, 1,030.82 ft; minimum, 2,101,642 acre-ft, Sept. 30, elevation, 963.12 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated May 8, 1967)

830	515,543	870	843,589	910	1,291,854	950	1,876,996	990	2,616,622	1,030	3,533,478
840	587,127	880	943,929	920	1,424,780	960	2,046,829	1,000	2,828,544	1,050	4,063,108
850	665,511	890	1,051,713	930	1,566,238	970	2,226,093	1,010	3,051,750	1,067	4,552,090
860	751,027	900	1,167,888	940	1,717,255	980	2,416,019	1,020	3,286,929		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3090889	2953888	2918636	2955455	3063007	3307894	3497474	3529191	3455975	3255680	2839222	2430885
2	3079111	2951651	2917079	2953440	3065763	3316841	3498478	3522385	3451503	3243230	2830723	2407642
3	3070128	2951203	2915967	2950533	3067602	3329195	3496221	3516584	3448274	3231774	2821379	2388786
4	3058642	2950979	2912203	2951203	3071048	3342068	3499734	3515072	3448274	3221768	2812695	2370422
5	3048779	2951203	2907333	2952322	3073115	3352049	3505756	3511037	3447528	3211069	2801217	2351963
6	3038723	2949861	2907333	2951203	3082576	3365467	3509778	3510028	3445542	3201590	2787612	2335890
7	3030038	2945833	2915303	2952098	3091812	3371829	3513306	3510533	3441073	3189986	2772563	2322367
8	3025031	2946728	2935555	2949637	3099907	3379168	3523140	3512047	3436600	3178903	2759912	2307771
9	3025712	2945833	2946057	2947623	3101995	3384308	3532973	3510280	3433371	3163598	2748377	2293422
10	3028440	2945385	2956349	2949189	3113369	3391441	3538799	3510533	3429168	3147414	2736870	2276693
11	3027531	2943372	2965324	2950755	3119870	3398817	3541839	3506258	3419529	3133864	2726246	2259305
12	3021165	2943594	2966899	2950309	3122897	3405704	3544626	3498478	3410140	3118477	2714806	2246647
13	3015256	2941357	2974548	2951875	3124763	3411374	3548935	3496221	3404966	3102460	2703817	2234791
14	3008209	2938226	2983098	2952994	3128030	3417553	3551469	3493964	3396851	3089965	2692657	2223701
15	3003901	2937559	2986714	2950085	3134798	3422498	3552483	3491452	3390457	3073575	2683198	2215420
16	2998021	2938004	2988975	2947846	3142032	3430158	3553498	3491703	3385293	3056345	2672932	2208796
17	2991689	2939791	2989428	2948518	3159845	3437098	3554256	3494714	3379168	3037351	2662061	2201655
18	2988749	2939791	2987618	2948518	3175366	3442810	3553498	3495970	3370606	3021165	2647278	2194155
19	2987166	2940239	2984001	2948966	3189750	3447528	3552483	3494212	3359351	3007981	2629649	2186125
20	2985131	2936891	2981973	2949189	3199694	3453244	3549442	3494714	3351805	2994402	2613333	2181578
21	2982198	2933775	2979949	2950309	3215097	3458460	3546148	3496221	3343771	2979724	2594423	2174120
22	2981299	2935111	2979273	2952098	3229153	3463202	3543868	3496221	3335738	2968024	2580106	2165604
23	2978823	2936446	2978823	2962624	3237968	3466697	3544376	3496723	3329680	2953218	2565488	2154212
24	2974998	2936446	2976799	2992142	3244906	3471941	3542854	3490450	3319505	2936446	2552726	2142341
25	2972524	2933775	2973198	3012754	3254961	3473937	3545134	3485682	3310303	2924870	2539919	2128538
26	2970498	2927764	2966674	3026167	3267917	3473437	3542600	3478678	3299461	2911318	2524783	2121209
27	2967350	2925537	2966674	3036438	3282597	3472688	3542093	3477932	3292230	2898920	2509326	2115679
28	2965099	2919527	2965998	3046036	3298496	3477932	3542600	3475933	3282838	2886562	2491543	2109994
29	2965099	2921753	2964199	3048779	---	3482923	3540067	3469942	3275137	2875108	2476822	2106972
30	2961049	2920194	2963524	3051750	---	3488441	3533732	3463451	3265268	2860194	2462570	2101642
31	2957021	---	2961949	3058412	---	3495467	---	3460456	---	2849681	2449350	---
MAX	3090889	2953888	2989428	3058412	3298496	3495467	3554256	3529191	3455975	3255680	2839222	2430885
MIN	2957021	2919527	2907333	2947623	3063007	3307894	3496221	3460456	3265268	2849681	2449350	2101642
a	1005.82	1004.17	1006.04	1010.29	1020.48	1028.49	1030.01	1027.09	1019.10	1000.97	981.70	963.12
b	-144742	-36827	+41755	+96463	+240084	+196971	+38265	-73276	-195188	-415587	-400331	-347708
c	5595	4578	1676	2196	1964	5693	7377	9804	13531	17917	14283	8579

CAL YR 1993 b +873214
WTR YR 1994 b -1000121

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by U.S. Bureau of Reclamation; not reviewed by U.S. Geological Survey.

C—042091

C-042091

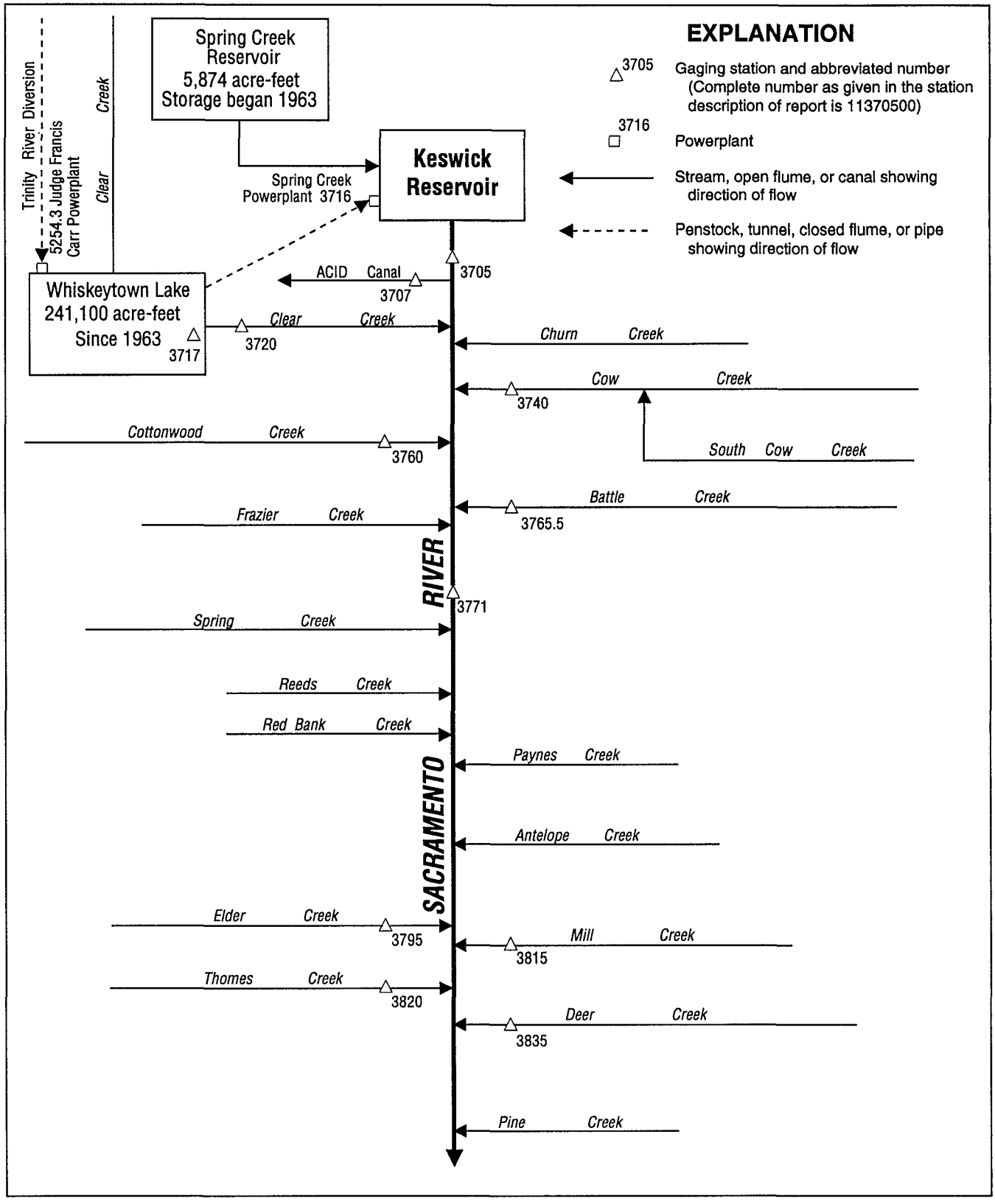

Figure 28. Diversions and storage in upper Sacramento River basin.

C-042092

11370500 SACRAMENTO RIVER AT KESWICK, CA
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 40°36'04", long 122°26'36", in SW 1/4 NW 1/4 sec.28, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020101, on right bank 0.4 mi upstream from Middle Creek, 0.8 mi downstream from Keswick Dam, 1.6 mi downstream from Keswick, and 10 mi downstream from Shasta Dam.
DRAINAGE AREA.--6,468 mi^2, excluding Goose Lake basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
REVISED RECORDS.--WSP 1931: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 479.81 ft above sea level. Prior to Oct. 1, 1939, at site 1.5 mi upstream at datum 20.2 ft higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 mi upstream at datum 15.2 ft higher. Aug. 20, 1960, to July 3, 1973, auxiliary water-stage recorder at city of Redding pumping plant 2.1 mi downstream.
REMARKS.--Records good. Flow completely regulated by Shasta Lake (station 11370000) beginning Dec. 30, 1943. Minor regulation by Keswick Reservoir since 1950, total capacity, 23,800 acre-ft, operational capacity, 4,170 acre-ft, between normal operating elevations of 579.0 ft and 586.0 ft. No diversion between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (station 11371700), through a tunnel to Spring Creek Powerplant (station 11371600), and then into Keswick Reservoir. See schematic diagrams of upper Sacramento River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 186,000 ft^3/s, Feb. 23, 1940, gage height, 47.2 ft, site and datum then in use, from rating curve extended above 75,000 ft^3/s on basis of peak discharge at Kennet plus 4,000 ft^3/s estimated inflow; minimum observed, 2,730 ft^3/s, Aug. 22, 1939. Since regulation by Shasta Dam in 1943, maximum discharge, 81,400 ft^3/s, Apr. 1, 1974, gage height, 31.92 ft; maximum gage height, 32.22 ft, Jan. 24, 1970; minimum discharge, 154 ft^3/s, May 15, 1948.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,500 ft^3/s, Sept. 2, gage height, 16.50 ft; minimum daily, 3,350 ft^3/s, Mar. 19, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9150	5330	5140	4990	3670	3420	3690	7670	9250	10800	12000	12500
2	9300	5290	5180	5120	3660	3440	3760	8630	8470	10800	11400	13100
3	8850	5270	5150	5090	3680	3440	3730	7820	7710	10800	11300	11800
4	8880	5320	5170	5110	3570	3470	3780	7580	7730	10800	11400	11800
5	8500	5150	5150	5010	3550	3440	3760	7620	8250	10900	11400	11300
6	7950	5130	5200	4840	3560	3440	3750	7670	8240	10900	10800	11300
7	7510	5150	5130	4600	3630	3440	3750	7120	8290	11900	10800	10400
8	6950	5140	5310	4390	3550	3410	e3830	6820	9090	11900	10800	10200
9	6830	5140	5230	4290	3460	3430	e3470	7670	9910	12500	11400	10200
10	6870	5110	5170	4130	3460	3440	3540	8220	9930	12900	11300	10300
11	6300	5140	5180	4090	3490	3430	3520	8910	10000	13000	10800	9820
12	6120	5180	5130	4100	3480	3430	3500	9590	9930	13000	10800	9740
13	5910	5200	5180	4160	3450	3450	3430	8940	9360	13000	10800	9700
14	5730	5200	5010	4110	3490	3460	3930	8460	9360	13000	10900	9500
15	5510	5170	4930	4130	3500	3450	e4420	7450	9920	13000	10900	8940
16	5300	5150	5150	4090	3470	3390	4680	6620	10500	13000	10900	8480
17	5210	5060	5180	4100	3600	3360	5440	6070	10500	13000	10900	8370
18	5360	5010	5130	4110	3550	3400	5430	6090	10400	13000	12500	7920
19	5370	5150	5100	4110	3550	3350	5840	6800	10400	13100	12400	7970
20	5230	5100	5120	4090	3560	3380	6310	6880	10500	13100	12500	7890
21	5090	4980	5160	3990	3540	3350	6580	6930	10600	13000	12500	7900
22	5100	5180	5130	3890	3500	3390	6560	7670	10700	13000	12500	8000
23	5100	5300	5100	3910	3490	3450	6880	8760	10700	12900	12500	7780
24	5190	5220	5150	3830	3470	3470	6910	10100	10800	13000	12500	7280
25	5110	5220	5120	3890	3510	3470	6960	9790	10700	13100	12200	7320
26	4840	5170	5090	3860	3460	3460	6790	8890	10800	12600	12500	7370
27	4800	5290	5160	3610	3430	3460	6390	8020	10800	12500	12500	7260
28	5050	5480	5160	3610	3530	3440	6380	8190	10800	12600	12500	7050
29	5260	5390	5160	3550	---	3450	6740	9060	10800	12100	12500	6380
30	5240	5120	5100	3510	---	3450	7120	9930	10800	12100	12600	6230
31	5200	---	5160	3590	---	3720	---	10000	---	12100	12700	---
TOTAL	192810	155740	159430	129900	98860	106580	150870	249870	295240	383400	363500	273800
MEAN	6220	5191	5143	4190	3531	3438	5029	8064	9841	12370	11730	9127
MAX	9300	5480	5310	5120	3680	3720	7120	10100	10800	13100	12700	13100
MIN	4800	4980	4930	3510	3430	3350	3430	6070	7710	10800	10800	6230
AC-FT	382400	308900	316200	257700	196100	211400	299300	495800	585600	760500	721000	543100

e Estimated.

C-042093

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5992	5603	6611	10610	11700	6564	6714	8212	8564	9951	10030	7331
MAX	8572	8970	16680	32870	44170	14490	21180	13400	10300	11810	11870	10030
(WY)	1959	1958	1951	1953	1958	1957	1958	1948	1948	1951	1958	1958
MIN	4785	4064	3726	3234	3060	2546	2830	5247	6437	7480	7057	5239
(WY)	1948	1952	1960	1962	1950	1950	1950	1951	1947	1947	1947	1947

SUMMARY STATISTICS	WATER YEARS 1946 - 1962	
ANNUAL MEAN	8141	
HIGHEST ANNUAL MEAN	13910	1958
LOWEST ANNUAL MEAN	5364	1950
HIGHEST DAILY MEAN	75800	Feb 21 1958
LOWEST DAILY MEAN	2360	Mar 15 1950
ANNUAL SEVEN-DAY MINIMUM	2440	Mar 9 1950
INSTANTANEOUS PEAK FLOW	78800	Feb 21 1958
INSTANTANEOUS PEAK STAGE	31.55	Feb 21 1958
INSTANTANEOUS LOW FLOW	154	May 15 1948
ANNUAL RUNOFF (AC-FT)	5898000	
10 PERCENT EXCEEDS	11600	
50 PERCENT EXCEEDS	7000	
90 PERCENT EXCEEDS	3720	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6328	7493	10090	10800	12020	10290	8884	10280	11130	12330	11430	8089
MAX	10290	23430	27340	37250	38970	47170	26840	17020	14960	14740	14330	11800
(WY)	1984	1974	1974	1970	1983	1983	1974	1983	1983	1987	1971	1971
MIN	3431	3182	2847	3258	3268	2869	3096	6953	7342	7754	8070	4564
(WY)	1978	1993	1978	1993	1990	1991	1991	1992	1992	1992	1992	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1964 - 1994	
ANNUAL TOTAL	3253350		2560100			
ANNUAL MEAN	8913		7014		9926	
HIGHEST ANNUAL MEAN					18230	1974
LOWEST ANNUAL MEAN					5390	1992
HIGHEST DAILY MEAN	54100	Mar 27	13100	Jul 19	79700	Mar 31 1974
LOWEST DAILY MEAN	2850	Jan 29	3350	Mar 19	2360	Mar 17 1989
ANNUAL SEVEN-DAY MINIMUM	2900	Feb 2	3370	Mar 16	2460	Mar 12 1989
INSTANTANEOUS PEAK FLOW			15500	Sep 2	81400	Apr 1 1974
INSTANTANEOUS PEAK STAGE			16.50	Sep 2	32.22	Jan 24 1970
INSTANTANEOUS LOW FLOW					154	May 15 1948
ANNUAL RUNOFF (AC-FT)	6453000		5078000		7191000	
10 PERCENT EXCEEDS	12400		12100		14600	
50 PERCENT EXCEEDS	7210		5430		8430	
90 PERCENT EXCEEDS	3250		3470		3910	

C-042094

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to September 1994 (discontinued).
CHEMICAL DATA: Water years 1951 to September 1994 (discontinued). Published as "near Keswick" in 1951 and 1953, and as "at Keswick Dam, near Keswick" in 1968-69.
BIOLOGICAL DATA: Water years 1979-81.
SPECIFIC CONDUCTANCE: Water years 1978 to September 1994 (discontinued).
WATER TEMPERATURE: Water years 1978 to September 1994 (discontinued).
SEDIMENT DATA: Water years 1978 to September 1994 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1983.
WATER TEMPERATURE: October 1980 to September 1983.

REMARKS.--Samples collected 2.4 mi downstream from gaging station.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)
NOV												
16...	1015	5140	99	7.2	13.0	0.80	757	10.3	98	K20	K7	44
JAN												
12...	0945	4050	121	7.2	10.0	0.50	762	10.4	92	K3	K2	47
MAR												
16...	0920	3490	128	7.0	9.0	0.50	752	11.4	100	K2	<2	49
MAY												
18...	0900	6120	117	7.2	10.0	0.40	760	10.6	94	K4	K8	42
JUL												
12...	0900	13100	118	7.3	11.0	0.40	760	10.6	96	<1	K1	45
SEP												
20...	1015	7800	131	7.5	10.5	0.20	751	10.5	95	K3	K1	49

DATE	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV												
16...	0	10	4.7	5.2	20	0.3	1.0	60	0	49	4.6	1.7
JAN												
12...	0	11	4.8	7.2	24	0.5	1.4	75	0	62	3.8	2.2
MAR												
16...	0	11	5.3	7.1	23	0.4	1.9	69	0	57	5.7	2.3
MAY												
18...	0	8.7	4.8	5.5	22	0.4	1.0	64	0	52	4.0	2.0
JUL												
12...	0	9.0	5.5	5.4	20	0.3	1.1	65	0	53	3.8	2.0
SEP												
20...	0	11	5.2	6.5	22	0.4	1.2	71	0	58	3.6	2.0

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV												
16...	0.10	20	77	77	0.10	<0.010	0.084	<0.010	<0.20	0.020	0.020	0.020
JAN												
12...	<0.10	25	94	93	0.13	<0.010	0.097	0.020	<0.20	0.020	0.020	0.020
MAR												
16...	<0.10	24	81	92	0.11	<0.010	0.070	0.020	<0.20	<0.010	0.020	0.010
MAY												
18...	<0.10	18	87	76	0.12	0.030	0.074	0.030	<0.20	0.010	<0.010	0.010
JUL												
12...	<0.10	20	74	79	0.10	<0.010	<0.050	0.020	<0.20	<0.010	<0.010	<0.010
SEP												
20...	<0.10	23	92	88	0.13	<0.010	0.120	<0.010	<0.20	0.020	0.030	0.020

C—042095

C-042095

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)	COBALT, DISSOLVED (UG/L AS CO)	IRON, DISSOLVED (UG/L AS FE)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)
NOV												
16...	30	13	<3	42	<4	4	<10	<1	<1	<1.0	50	<6
JAN												
12...	<10	15	<3	8	<4	1	<10	<1	<1	<1.0	59	6
MAR												
16...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
18...	20	12	<3	11	<4	3	<10	1	<1	<1.0	45	<6
JUL												
12...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
20...	<10	14	<3	8	5	1	<10	1	<1	<1.0	55	<6

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
SEP										
20...*	0910	10.4	65.0	135	10.5	751	10.4	95	6	52
20...*	0920	9.80	135	131	10.5	751	10.5	95	7	56
20...*	0925	11.6	220	129	10.5	751	10.5	95	6	56
20...*	0930	8.30	310	130	10.5	751	10.4	95	6	65
20...*	0940	7.80	410	129	10.5	751	10.5	95	6	66

* Instantaneous discharge at the time of the cross-sectional measurement: Sept. 20, 7,830 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
16...	1020	5140	13.0	2	28	87
JAN						
12...	0935	4050	10.0	4	44	73
MAR						
16...	0925	3490	9.0	3	28	70
MAY						
18...	0905	6120	10.0	4	66	64
JUL						
12...	0905	13100	11.0	3	106	71
SEP						
20...	1020	7800	10.5	6	126	58

C—042096

C-042096

11370700 ANDERSON-COTTONWOOD IRRIGATION DISTRICT CANAL AT SHARON STREET, AT REDDING, CA

LOCATION.--Lat 40°34'08", long 122°22'49", unsurveyed, Shasta County, Hydrologic Unit 18020101, on right bank of canal 10 ft upstream from Sharon Street, 900 ft downstream from Parkview Avenue, and 0.75 mi southwest of Mercy Hospital.

PERIOD OF RECORD.--April to September 1989, April 1991 to current year.
GAGE.--Water-stage recorder and acoustic-velocity meter. Elevation of gage is 480 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Canal diverts from Sacramento River 0.3 mi downstream from Southern Pacific Railroad bridge and 0.1 mi upstream from Highway 273; water is used for irrigation.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 370 ft^3/s, June 9, 1989; minimum, no flow at times each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	.00	.00	.00	.00	.00	.00	331	290	267	260	272
2	231	.00	.00	.00	.00	.00	.00	330	294	267	259	277
3	230	.00	.00	.00	.00	.00	.00	307	292	263	260	281
4	230	.00	.00	.00	.00	.00	.00	288	291	243	259	281
5	224	.00	.00	.00	.00	.00	.00	265	294	150	275	276
6	221	.00	.00	.00	.00	.00	.00	254	291	262	279	277
7	218	.00	.00	.00	.00	.00	.00	235	291	285	275	275
8	212	.00	.00	.00	.00	.00	.00	196	291	295	269	277
9	210	.00	.00	.00	.00	.00	34	156	282	305	267	275
10	212	.00	.00	.00	.00	.00	90	186	283	309	268	276
11	192	.00	.00	.00	.00	.00	104	224	284	310	268	272
12	161	.00	.00	.00	.00	.00	150	271	283	310	268	260
13	150	.00	.00	.00	.00	.00	198	269	278	309	266	248
14	136	.00	.00	.00	.00	.00	265	275	273	309	266	248
15	70	.00	.00	.00	.00	.00	294	293	279	306	264	258
16	19	.00	.00	.00	.00	.00	297	288	284	302	264	267
17	5.2	.00	.00	.00	.00	.00	307	279	268	276	264	273
18	3.4	.00	.00	.00	.00	.00	310	280	248	255	268	272
19	2.8	.00	.00	.00	.00	.00	296	272	246	256	281	269
20	2.0	.00	.00	.00	.00	.00	290	273	257	262	287	266
21	1.3	.00	.00	.00	.00	.00	287	273	266	277	285	266
22	1.1	.00	.00	.00	.00	.00	276	271	271	289	279	268
23	.80	.00	.00	.00	.00	.00	259	269	272	306	278	263
24	1.4	.00	.00	.00	.00	.00	260	260	273	302	280	246
25	1.1	.00	.00	.00	.00	.00	219	268	274	289	284	245
26	.00	.00	.00	.00	.00	.00	169	298	273	287	284	238
27	.00	.00	.00	.00	.00	.00	257	283	272	286	281	233
28	.00	.00	.00	.00	.00	.00	257	288	266	287	278	233
29	.00	.00	.00	.00	---	.00	253	296	264	285	274	230
30	.00	.00	.00	.00	---	.00	260	298	265	273	272	239
31	.00	---	.00	.00	---	.00	---	297	---	263	272	---
TOTAL	2966.10	0.00	0.00	0.00	0.00	0.00	5132.00	8373	8295	8685	8434	7861
MEAN	95.7	.000	.000	.000	.000	.000	171	270	276	280	272	262
MAX	231	.00	.00	.00	.00	.00	310	331	294	310	287	281
MIN	.00	.00	.00	.00	.00	.00	.00	156	246	150	259	230
AC-FT	5880	.00	.00	.00	.00	.00	10180	16610	16450	17230	16730	15590

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	170	11.4	.000	.000	.000	.000	96.4	284	259	273	271	260
MAX	217	34.2	.000	.000	.000	.000	171	304	293	287	288	270
(WY)	1992	1992	1992	1992	1992	1992	1994	1991	1992	1992	1992	1992
MIN	95.7	.000	.000	.000	.000	.000	32.7	264	208	251	261	244
(WY)	1994	1993	1992	1992	1992	1992	1993	1993	1993	1991	1993	1993

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1991 - 1994	
ANNUAL TOTAL	42298.30		49746.10			
ANNUAL MEAN	116		136		137	
HIGHEST ANNUAL MEAN					149	1992
LOWEST ANNUAL MEAN					125	1993
HIGHEST DAILY MEAN	309	Jun 18	331	May 1	364	May 1 1991
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 26	.00	Apr 1 1991
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 26	.00	Apr 1 1991
ANNUAL RUNOFF (AC-FT)	83900		98670		99030	
10 PERCENT EXCEEDS	279		288		291	
50 PERCENT EXCEEDS	.80		150		234	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042097

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA

LOCATION.--Lat 40°38'49", long 122°37'34", Shasta County, Hydrologic Unit 18010212, at powerplant 1.6 mi downstream from Mill Creek and 3.8 mi south of French Gulch.

PERIOD OF RECORD.--April 1963 to current year.

GAGE.--Recorded powerplant output.

REMARKS.--No estimated daily discharges. Water is diverted from Trinity River at NW 1/4 SE 1/4 sec.8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (station 11371700). See schematic diagram of Sacramento River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,000 ft^3/s, Oct. 18, 1987; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	482	2366	3491	2500	3451	5
2	659	.00	.00	.00	.00	.00	.00	836	3491	2486	3429	.00
3	.00	.00	694	.00	.00	.00	34	372	3403	2507	2414	.00
4	.00	.00	.00	.00	.00	20	.00	262	3478	2507	2476	665
5	526	.00	.00	.00	.00	.00	746	313	3383	2507	2488	.00
6	450	.00	.00	.00	.00	14	1653	315	3383	2435	2497	1
7	.00	.00	753	.00	.00	.00	1252	2137	3340	2847	2491	.00
8	.00	.00	26	.00	.00	50	1662	2297	3352	2825	2455	542
9	.00	.00	10	.00	2	66	1663	2316	3333	2870	2498	23
10	.00	.00	1063	.00	1363	.00	2396	2169	3267	2834	2496	.00
11	524	1062	.00	.00	905	.00	2074	2280	3321	2855	2471	.00
12	954	999	.00	.00	.00	9	2018	1274	3296	2842	2598	.00
13	.00	930	2	.00	816	50	2434	2401	3436	2435	2491	.00
14	.00	919	.00	.00	277	.00	2256	2330	1923	2438	2432	1513
15	.00	921	.00	.00	275	.00	2158	2290	3380	2446	2421	1166
16	.00	923	.00	.00	928	.00	2164	2157	3382	2451	2415	1138
17	.00	929	.00	.00	.00	.00	2229	2340	3394	2207	2415	986
18	.00	939	.00	.00	.00	21	2256	2294	3437	2595	2547	1012
19	670	930	11	.00	.00	.00	2062	2225	3428	3504	2564	1055
20	673	947	414	.00	.00	21	2049	3481	3475	2910	2530	1076
21	.00	952	752	.00	.00	2	1824	3420	3484	3302	2356	1027
22	.00	988	806	.00	.00	646	2523	3413	3064	3454	2530	1031
23	.00	2093	447	.00	.00	.00	2178	3405	3459	3463	2021	492
24	.00	1032	317	.00	.00	18	2171	3538	3361	3464	2298	.00
25	.00	.00	.00	.00	.00	22	931	3554	3452	3464	2693	.00
26	.00	.00	.00	.00	.00	13	396	3488	3499	3458	2179	.00
27	678	698	10	.00	.00	33	281	3242	3500	3446	2727	1038
28	.00	.00	.00	.00	.00	.00	246	3260	3463	3446	2463	1072
29	.00	.00	.00	.00	---	425	834	3257	3458	3445	2464	1071
30	.00	.00	12	.00	---	.00	2261	3246	2401	3437	2443	952
31	.00	---	.00	.00	---	456	---	3340	---	3438	2551	---
TOTAL	5134.00	15262.00	5317.00	0.00	4566.00	1866.00	45233.00	73618	99534	90818	78304	15865.00
MEAN	166	509	172	.000	163	60.2	1508	2375	3318	2930	2526	529
MAX	954	2090	1060	.00	1360	646	2520	3550	3500	3500	3450	1510
MIN	.00	.00	.00	.00	.00	.00	.00	262	1920	2210	2020	.00
AC-FT	10180	30270	10550	.00	9060	3700	89720	146000	197400	180100	155300	31470

C-042098

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1415	908	736	632	820	887	1158	1325	1787	2291	2209	2126
MAX	3363	2158	2891	2755	3222	3111	3220	3512	3662	3589	3236	3504
(WY)	1988	1967	1979	1982	1974	1974	1970	1974	1969	1968	1977	1988
MIN	166	18.0	.16	.000	.34	.000	.000	.097	.63	253	507	457
(WY)	1994	1992	1993	1986	1988	1988	1978	1991	1993	1978	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	77883.00		435517.00			
ANNUAL MEAN	213		1193		1374	
HIGHEST ANNUAL MEAN					2485	1974
LOWEST ANNUAL MEAN					301	1978
HIGHEST DAILY MEAN	2090	Nov 23	3550	May 25	4000	Oct 18 1987
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	May 6 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 15	.00	Oct 28	.00	Oct 14 1969
ANNUAL RUNOFF (AC-FT)	154500		863800		995200	
10 PERCENT EXCEEDS	933		3390		3150	
50 PERCENT EXCEEDS	.00		670		1140	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042099

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA

LOCATION.--Lat 40°37'41", long 122°27'59", in NE 1/4 SE 1/4 sec.18, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020112, at powerplant on Spring Creek, 0.4 mi northwest of Keswick, and 4.9 mi northwest of Redding.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Discharge computed from powerplant output.

REMARKS.--No estimated daily discharges. Water is released from Whiskeytown Lake (station 11371700) through a tunnel to powerplant and then into Keswick Reservoir. Spring Creek Reservoir releases into Keswick Reservoir at Spring Creek Powerplant. See schematic diagram of upper Sacramento River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,800 ft^3/s, May 2, 1983; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	304	250	44	275	273	267	2706	3342	2477	3464	56
2	298	285	550	443	285	271	361	710	3412	2464	3469	100
3	275	1246	276	150	271	255	255	272	3796	2475	2535	.00
4	254	1239	258	150	260	756	293	268	3343	2483	2502	83
5	272	1329	266	134	274	340	291	581	3330	2516	2493	55
6	264	1306	273	53	296	268	1194	607	3323	2511	2500	340
7	264	1339	257	.00	282	265	815	2119	3312	2786	2488	.00
8	253	1314	421	18	271	514	1156	2568	3322	2819	2497	.00
9	254	1320	1443	13	260	562	1135	2576	3286	2808	2498	.00
10	252	1324	1036	19	630	344	1948	2363	3354	2853	2504	53
11	256	1330	266	.00	1012	248	1760	1913	3406	2852	2499	18
12	660	1333	276	16	282	266	1374	1190	3452	2917	2497	4
13	288	1342	266	.00	1009	257	1583	2390	3428	2513	2488	103
14	283	1341	286	.00	1007	271	1587	2693	3354	2506	2686	1007
15	265	1346	293	.00	980	256	1487	2246	3376	2977	2512	1016
16	285	1343	564	.00	918	174	1412	2200	3374	2340	2539	1051
17	315	1346	403	.00	1389	271	1560	2361	3291	2545	2486	999
18	262	1344	263	.00	501	269	1131	2457	3299	2546	2502	1003
19	271	1341	282	.00	477	253	1467	2100	3300	3465	2495	875
20	277	1344	272	.00	991	253	1472	3247	3371	3405	2518	1113
21	236	1341	262	.00	555	248	1590	3579	3388	3295	2516	1195
22	84	1331	262	.00	250	241	1559	3128	3307	3254	2528	1126
23	172	1251	385	81	475	238	1736	3564	3426	3238	2478	648
24	267	1252	274	305	295	81	1775	3249	3379	3462	2258	.00
25	269	255	255	172	503	277	414	3239	3175	3494	2545	.00
26	252	254	260	994	254	243	263	3242	3438	3476	2253	.00
27	231	255	264	993	258	263	261	3209	3484	3487	2662	965
28	264	253	339	1144	1258	279	264	3342	3448	3464	2519	989
29	264	255	29	1128	---	292	276	3569	3473	3484	2523	920
30	243	251	32	1135	---	316	661	3580	2670	3459	2514	1016
31	292	---	30	641	---	250	---	3341	---	3456	2509	---
TOTAL	8415	31114	10593	7633.00	15518	9094	31347	74609	100659	91827	79475	14735.00
MEAN	271	1037	342	246	554	293	1045	2407	3355	2962	2564	491
MAX	660	1346	1443	1144	1389	756	1948	3580	3796	3494	3469	1195
MIN	84	251	29	.00	250	81	255	268	2670	2340	2253	.00
AC-FT	16690	61710	21010	15140	30780	18040	62180	148000	199700	182100	157600	29230
a	194	119	579	137	772	1309	480	284	127	123	91	60

a Discharge, in acre-feet, from Spring Creek Reservoir, provided by U.S. Bureau of Reclamation.

C-042100

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1705	1364	1174	1296	1556	1593	1372	1531	1938	2349	2297	2276
MAX	3691	3173	4031	4532	4497	4364	4405	4265	3866	3886	3654	3526
(WY)	1989	1967	1974	1974	1974	1983	1983	1983	1969	1968	1977	1988
MIN	265	.87	1.55	2.10	3.36	86.6	5.23	5.45	158	250	467	416
(WY)	1978	1992	1992	1991	1991	1988	1987	1991	1989	1978	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1964 - 1994	
ANNUAL TOTAL	221842		475019.00			
ANNUAL MEAN	608		1301		1703	
HIGHEST ANNUAL MEAN					3389	1974
LOWEST ANNUAL MEAN					748	1992
HIGHEST DAILY MEAN	3437	May 31	3796	Jun 3	4800	May 2 1983
LOWEST DAILY MEAN	29	Dec 29	.00	Jan 7	.00	Mar 30 1974
ANNUAL SEVEN-DAY MINIMUM	153	Jul 3	.00	Jan 13	.00	Mar 26 1976
ANNUAL RUNOFF (AC-FT)	440000		942200		1234000	
10 PERCENT EXCEEDS	1330		3340		3490	
50 PERCENT EXCEEDS	475		965		1580	
90 PERCENT EXCEEDS	250		84		4.0	

11371700 WHISKEYTOWN LAKE NEAR IGO, CA

LOCATION.--Lat 40°37'03", long 122°31'31", unsurveyed, Shasta County, Hydrologic Unit 18010112, Whiskeytown-Shasta-Trinity National Recreation Area, at outlet works to Spring Creek Powerplant on Clear Creek, 1.8 mi downstream from Whiskey Creek, and 7.8 mi northeast of Igo.
DRAINAGE AREA.--200 mi^2.
PERIOD OF RECORD.--May 1963 to current year. Prior to October 1964 published as Whiskeytown Reservoir near Igo.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation). Contents based on capacity table dated April 1962 provided by U.S. Bureau of Reclamation.
REMARKS.--Lake is formed by earth and rockfill dam. Storage began in May 1963. Usable capacity, 241,088 acre-ft between elevations 972.0 ft, invert of sluice pipe, and 1,210.00 ft, crest of glory hole spillway. Dead storage 8 acre-ft. Normal operating pool is from elevation 1,197.0 ft, capacity, 201,288 acre-ft, to 1,210.0 ft, capacity, 241,096 acre-ft. Transbasin water enters the reservoir through Judge Francis Carr Powerplant (station 11525430) and is released through Spring Creek Tunnel to Spring Creek Powerplant (station 11371600) and Keswick Reservoir. Figures given represent total contents at 2400 hours. Lake is used for power generation and recreation. See schematic diagram of upper Sacramento River basin.
COOPERATION.--Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.
EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 258,600 acre-ft, Mar. 2, 1983, elevation, 1,215.34 ft; minimum since first filling, 145,562 acre-ft, Dec. 27, 1992, elevation, 1,176.05 ft.
EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 239,272 acre-ft, Oct. 12, elevation, 1,209.43 ft; minimum, 203,946 acre-ft, Dec. 19, elevation, 1,147.91 ft.

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

1,015	714	1,040	3,055	1,080	15,076	1,140	73,960
1,020	994	1,050	4,898	1,100	27,542	1,180	155,276
1,030	1,797	1,060	7,418	1,120	46,701	1,220	274,389

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238151	236242	205829	205653	205682	206330	205800	238119	237704	237768	237831	237101
2	238888	235702	205181	205034	205505	206625	205299	238503	237768	237991	237641	236815
3	238343	233329	206065	205122	205358	206919	205004	238855	237768	238183	237450	236783
4	237959	230842	205682	205270	205240	206330	204621	239143	237895	238183	237577	237863
5	238567	228214	205240	205446	205004	206448	205564	238951	237959	238215	237641	237673
6	239143	225696	204769	205594	205329	206684	206566	238631	237991	238151	237768	236910
7	238759	223071	206919	205711	205653	206743	207541	238791	237991	238183	237863	236751
8	238343	220431	207808	205947	205711	206419	208907	238407	238119	238247	237863	237704
9	238023	217838	205417	206065	205800	205977	210095	238023	238279	238311	238055	237545
10	237768	215382	205918	206212	207927	206006	211203	237768	238087	238343	238183	237323
11	238503	214809	206330	206389	208284	205977	212011	238503	237959	238311	238311	237132
12	239272	214175	206183	206448	208254	205859	213511	238663	237609	238151	238663	236973
13	238919	213300	206242	206566	208313	205888	215352	238727	237545	238087	238855	236751
14	238631	212490	206360	206684	207333	205859	216865	237959	237545	237991	238471	237768
15	238407	211652	206094	206802	206330	205741	218294	238055	237482	237927	238407	237959
16	238087	210874	205240	206919	206802	205800	219971	238055	237418	238183	238215	238151
17	237609	210006	204621	207037	206566	205564	221717	238055	237704	237514	238055	238055
18	237228	209204	204327	207126	207126	205446	224058	237800	237895	237450	238183	237959
19	238151	208432	203946	207185	207660	205240	225447	238119	238119	237641	238311	238183
20	239079	207630	204386	207304	206743	205093	226815	238343	238311	236624	238343	238247
21	238759	206890	205476	207511	206684	204946	227437	237895	238535	236910	238023	238119
22	238663	206242	206654	207838	207067	205977	229339	238375	237673	237386	238023	238055
23	238471	207779	206890	209175	206919	205800	229808	237895	237673	237863	237164	237895
24	238087	207274	207096	211353	207067	205859	229808	238183	237609	237927	237196	237768
25	237673	206831	206713	213511	206860	205594	233360	238567	238055	237959	237577	237609
26	237355	206419	206360	212880	207185	205358	233928	238727	238087	237991	237482	237482
27	238343	207274	205977	211742	207541	205063	234118	238631	238023	238023	237577	237577
28	237959	206978	205358	210125	206124	204739	234307	238503	238087	238023	237514	237863
29	237545	206772	205299	208432	---	205181	235543	237895	237991	237991	237386	238151
30	237228	206360	205358	206654	---	204739	238663	237291	237545	237927	237260	238023
31	236815	---	205446	205829	---	205240	---	237514	---	237831	237323	---
MAX	239272	236242	207808	213511	208313	206919	238663	239143	238535	238343	238855	238247
MIN	236815	206242	203946	205034	205004	204739	204621	237291	237418	236624	237164	236751
a	1208.66	1198.73	1198.42	1198.55	1198.65	1198.35	1209.24	1208.88	1208.89	1208.98	1208.82	1209.04
b	-1880	-30455	-914	+383	+295	-884	+33423	-1149	+31	+286	-508	+700
c	458	232	75	91	113	478	655	928	1424	1755	1611	1063

CAL YR 1993 b +26825
WTR YR 1994 b -672

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by U.S. Bureau of Reclamation; not reviewed by U.S. Geological Survey.

C-042102

11372000 CLEAR CREEK NEAR IGO, CA

LOCATION.--Lat 40°30'48", long 122°31'23", unsurveyed, Shasta County, Hydrologic Unit 18020112, on left bank at old highway bridge on Redding-Igo Road 1.0 mi northeast of Igo, 7.0 mi downstream from Whiskeytown Dam, 8.3 mi southwest of Redding, and 10.4 mi upstream from mouth.

DRAINAGE AREA.--228 mi^2.

PERIOD OF RECORD.--October 1940 to current year.
CHEMICAL DATA: Water years 1958-79.
WATER TEMPERATURE: Water years 1965-79.

REVISED RECORDS.--WSP 1345: Drainage area. WSP 1395: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 672.99 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Low flow completely regulated by Whiskeytown Lake (station 11371700) since May 1963. Transbasin diversion from Trinity River through Judge Francis Carr Powerplant (station 11525430) to Whiskeytown Lake began in April 1963. Diversions from Whiskeytown Lake to Spring Creek Powerplant (station 11371600) began in December 1963. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft^3/s, Dec. 21, 1955, gage height, 13.75 ft; minimum daily, 9.0 ft^3/s, Sept. 4-7, 1950. Since completion of Whiskeytown Dam in 1963, maximum discharge, 19,200 ft^3/s, Mar. 3, 1983, gage height, 12.73 ft, from rating curve extended above 12,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 30 ft^3/s, Oct. 10, 11, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 599 ft^3/s, Jan. 25, gage height, 4.67 ft; minimum daily, 52 ft^3/s, Oct. 19, Aug. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	77	104	66	79	95	70	87	64	58	54	53
2	55	105	105	64	78	93	70	84	63	57	54	53
3	55	105	105	64	76	91	70	83	63	57	54	53
4	57	105	105	65	75	89	69	87	62	57	54	53
5	57	105	105	64	73	93	68	85	65	56	54	53
6	57	105	105	64	91	87	70	85	67	56	54	53
7	57	104	140	64	145	85	69	98	64	56	54	53
8	57	104	396	64	110	83	138	87	62	55	54	53
9	56	104	149	64	97	82	123	82	62	55	53	53
10	58	105	133	64	124	88	90	80	61	55	53	53
11	59	105	133	63	110	86	83	79	62	55	53	53
12	59	104	125	63	100	82	81	77	61	55	53	53
13	58	104	121	63	94	81	79	76	60	55	54	53
14	59	104	237	63	88	79	77	76	61	55	54	53
15	60	104	138	63	86	79	75	74	61	55	54	53
16	60	104	122	62	85	78	75	77	60	55	54	53
17	58	104	116	62	187	77	74	77	60	55	53	53
18	55	104	113	64	147	76	73	74	60	55	52	53
19	52	104	111	64	151	76	72	73	60	55	53	53
20	56	104	110	64	171	75	72	72	59	55	53	53
21	57	104	109	65	180	75	72	71	58	54	55	53
22	57	104	109	65	152	75	71	71	59	54	53	53
23	57	104	108	138	128	73	75	70	59	54	53	53
24	56	104	107	186	116	73	97	69	58	54	53	53
25	56	104	107	315	109	73	257	68	58	54	53	53
26	56	104	107	179	109	72	161	68	59	54	53	53
27	56	104	107	119	103	71	118	68	58	54	53	53
28	57	104	107	100	99	71	102	67	57	54	53	53
29	57	105	107	91	---	70	95	66	57	54	53	53
30	57	104	89	86	---	70	90	65	57	54	53	53
31	57	---	64	82	---	70	---	65	---	54	53	---
TOTAL	1763	3101	3894	2700	3164	2468	2736	2361	1817	1706	1656	1590
MEAN	56.9	103	126	87.1	113	79.6	91.2	76.2	60.6	55.0	53.4	53.0
MAX	60	105	396	315	187	95	257	98	67	58	55	53
MIN	52	77	64	62	73	70	68	65	57	54	52	53
AC-FT	3500	6150	7720	5360	6280	4900	5430	4680	3600	3380	3280	3150

C-042103

11372000 CLEAR CREEK NEAR IGO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	76.7	150	597	807	1226	834	676	347	161	63.4	35.1	32.8
MAX	373	427	2336	2513	5753	2595	2431	773	289	126	64.6	89.7
(WY)	1951	1951	1956	1941	1958	1941	1941	1957	1953	1941	1941	1957
MIN	25.8	39.0	47.0	65.5	142	168	172	87.6	66.5	24.3	14.3	13.4
(WY)	1950	1960	1950	1947	1948	1955	1944	1947	1950	1950	1950	1944

SUMMARY STATISTICS	WATER YEARS 1941 - 1962		
ANNUAL MEAN	413		
HIGHEST ANNUAL MEAN	1092		1941
LOWEST ANNUAL MEAN	128		1944
HIGHEST DAILY MEAN	15100	Mar 1	1941
LOWEST DAILY MEAN	9.0	Sep 4	1950
ANNUAL SEVEN-DAY MINIMUM	9.5	Sep 1	1950
INSTANTANEOUS PEAK FLOW	24500	Dec 21	1955
INSTANTANEOUS PEAK STAGE	13.75	Dec 21	1955
ANNUAL RUNOFF (AC-FT)	299000		
10 PERCENT EXCEEDS	929		
50 PERCENT EXCEEDS	133		
90 PERCENT EXCEEDS	27		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	62.9	139	193	247	259	326	151	89.2	65.7	55.8	51.4	51.2
MAX	317	299	625	1358	1509	3437	668	419	249	117	68.4	64.5
(WY)	1993	1974	1965	1970	1983	1983	1974	1982	1993	1982	1990	1967
MIN	38.8	70.7	94.2	54.3	49.7	51.3	50.7	48.6	42.9	39.2	37.9	37.9
(WY)	1978	1969	1977	1977	1977	1977	1977	1966	1966	1966	1966	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	57872		28956			
ANNUAL MEAN	159		79.3		142	
HIGHEST ANNUAL MEAN					570	1983
LOWEST ANNUAL MEAN					57.9	1977
HIGHEST DAILY MEAN	3020	Jan 20	396	Dec 8	15000	Mar 3 1983
LOWEST DAILY MEAN	52	Oct 19	52	Oct 19	30	Oct 10 1977
ANNUAL SEVEN-DAY MINIMUM	54	Sep 9	53	Aug 22	31	Oct 5 1977
INSTANTANEOUS PEAK FLOW			599	Jan 25	19200	Mar 3 1983
INSTANTANEOUS PEAK STAGE			4.67	Jan 25	12.73	Mar 3 1983
ANNUAL RUNOFF (AC-FT)	114800		57430		102600	
10 PERCENT EXCEEDS	294		109		214	
50 PERCENT EXCEEDS	104		68		67	
90 PERCENT EXCEEDS	56		53		49	

C-042104

11372080 SOUTH COW CREEK CANAL DIVERSION TO SOUTH COW CREEK NEAR WHITMORE, CA

LOCATION.--Lat 40°35'35", long 121°58'53", in NE 1/4 NW 1/4 sec.33, T.32 N., R.1 W., Shasta County, Hydrologic Unit 18020118, on left bank 2.5 mi northeast of Cow Creek Powerplant and 4.3 mi southwest of Whitmore.

PERIOD OF RECORD.--October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1984-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 1,560 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirements are 2.0 ft^3/s during dry years and 4.0 ft^3/s during normal years. Flow is computed to 7.0 ft^3/s.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	5.5	5.5	5.5	5.5	6.0	6.1	5.5	3.5	3.4	3.3	3.4
2	5.6	5.5	5.5	5.5	5.5	5.9	6.1	5.5	3.5	3.4	3.3	3.4
3	5.6	5.5	5.5	5.5	5.5	5.8	6.1	4.4	3.5	---	3.3	3.4
4	5.6	5.5	5.5	5.5	5.5	5.8	6.0	---	3.5	3.3	3.3	3.4
5	5.6	5.5	5.5	5.5	5.5	6.1	5.8	---	3.5	3.3	3.3	3.4
6	5.6	5.5	5.5	5.5	---	6.0	6.4	---	3.5	3.3	3.3	3.4
7	5.6	5.5	5.5	5.5	---	5.8	6.5	---	3.5	3.3	3.3	3.4
8	5.6	5.5	---	5.5	---	5.9	---	---	3.5	3.3	3.3	3.4
9	5.6	5.5	5.9	5.5	5.8	5.9	---	6.7	3.5	3.3	3.3	3.4
10	5.6	5.5	5.6	5.5	---	6.2	6.5	6.6	3.5	3.3	3.3	3.4
11	5.6	5.5	---	5.5	5.8	6.3	6.3	6.3	3.5	3.3	3.3	3.4
12	5.6	5.5	---	5.5	5.8	6.0	6.1	5.9	3.5	3.3	3.3	3.4
13	5.6	5.6	---	5.5	5.6	5.9	6.2	5.8	3.5	3.3	3.3	3.5
14	5.6	5.5	---	5.5	5.5	5.9	6.3	5.8	3.5	3.3	3.3	3.5
15	---	5.5	5.8	5.5	5.5	5.9	6.4	6.0	3.5	3.3	3.4	3.5
16	e4.3	5.5	5.6	5.5	5.5	---	6.5	6.1	3.5	3.3	3.4	3.5
17	e3.5	5.5	5.4	5.5	---	5.8	6.7	5.8	3.5	3.3	3.4	3.5
18	5.8	5.5	5.5	5.5	---	6.0	6.7	5.8	3.5	3.3	3.4	3.5
19	5.8	5.5	5.5	5.4	---	6.2	---	6.0	3.4	3.3	3.4	3.4
20	---	5.5	5.5	5.5	6.0	5.9	---	6.0	3.4	3.3	3.4	3.5
21	6.2	5.5	5.5	5.5	---	5.8	6.8	5.8	3.4	3.3	3.4	3.5
22	5.5	5.5	5.5	5.5	5.8	5.9	6.8	5.7	3.4	3.3	3.4	3.4
23	5.6	5.5	5.5	---	5.8	5.8	---	5.0	---	3.3	3.4	3.5
24	5.6	5.5	5.5	---	6.0	5.8	---	3.5	3.4	3.3	3.4	3.5
25	5.6	5.5	5.5	5.8	6.3	5.8	---	3.4	3.4	3.3	3.4	3.4
26	---	5.5	5.4	5.8	---	5.8	---	3.5	3.4	3.3	3.4	3.4
27	5.6	5.5	5.5	5.5	---	5.9	6.5	3.5	3.4	3.3	3.4	3.4
28	5.6	5.5	5.4	5.5	6.2	---	5.8	3.5	3.4	3.3	3.4	3.4
29	5.6	---	5.5	5.5	---	6.1	5.5	3.5	3.4	3.3	3.4	3.5
30	5.6	5.6	5.5	5.5	---	6.1	5.6	3.5	3.4	3.3	3.4	3.5
31	5.6	---	5.5	5.5	---	6.1	---	---	---	3.3	3.4	---
TOTAL	---	---	---	---	---	---	---	---	---	---	104.0	103.2
MEAN	---	---	---	---	---	---	---	---	---	---	3.35	3.44
MAX	---	---	---	---	---	---	---	---	---	---	3.4	3.5
MIN	---	---	---	---	---	---	---	---	---	---	3.3	3.4
AC-FT	---	---	---	---	---	---	---	---	---	---	206	205

e Estimated.

NOTE: Discharges were above 7.0 ft^3/s many days during the year.

C-042105

11372325 KILARC CANAL DIVERSION TO OLD COW CREEK NEAR WHITMORE, CA

LOCATION.--Lat 40°41'13", long 121°48'27", in SW 1/4 NE 1/4 sec.25, T.32 N., R.1 E., Shasta County, Hydrologic Unit 18020118, on right bank of Kilarc Canal 3.6 mi upstream of Kilarc Powerplant and 6.9 mi northeast of Whitmore.

PERIOD OF RECORD.--October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1983-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Cipolletti weir. Elevation of gage is 3,840 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 2.0 ft^3/s during dry or normal years. Flow is computed to 5.0 ft^3/s.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.2	2.8	3.3	3.3	3.6	3.3	3.5	3.1	3.0	3.0	3.0
2	3.0	3.2	3.1	3.3	3.3	3.6	3.4	3.5	3.1	3.0	3.0	3.0
3	3.0	3.1	3.1	3.2	3.3	3.7	3.4	3.2	3.1	3.0	3.0	3.0
4	3.7	3.1	3.2	3.8	3.2	3.8	3.4	3.3	3.1	3.0	3.0	3.0
5	4.3	3.0	3.1	3.6	3.2	4.3	3.3	3.3	3.1	3.0	3.0	3.0
6	4.4	3.1	3.2	3.2	3.4	4.2	3.5	3.2	3.2	3.0	3.0	3.0
7	3.6	3.1	3.3	3.3	3.6	4.1	3.5	3.2	3.1	3.0	3.0	3.0
8	2.9	3.0	4.5	3.5	3.2	3.8	3.5	3.2	3.1	3.0	3.0	3.0
9	3.0	3.0	4.3	3.4	3.1	3.6	3.4	3.2	3.2	3.0	3.0	3.0
10	3.5	3.1	3.5	3.3	3.2	3.9	3.4	3.2	3.2	3.0	3.0	3.0
11	3.9	3.1	3.5	3.2	3.1	3.9	3.2	3.2	3.2	3.0	3.0	3.0
12	3.0	3.2	3.2	3.2	3.3	3.7	3.2	3.2	3.1	3.0	3.0	3.0
13	3.0	3.2	3.3	3.3	3.4	3.7	3.4	3.2	3.1	3.0	3.0	3.0
14	3.5	3.2	3.5	3.2	3.2	3.7	3.5	3.2	3.1	3.0	3.0	3.0
15	4.7	3.3	3.2	3.2	3.1	3.8	3.6	3.2	3.1	3.1	3.0	3.0
16	4.5	3.3	3.4	3.2	3.2	3.9	3.7	3.2	3.1	3.1	3.0	3.0
17	3.2	3.3	3.6	3.3	3.4	4.0	3.8	3.2	3.1	3.1	3.0	3.0
18	3.0	3.1	3.5	3.3	3.7	4.0	3.6	3.2	3.0	3.1	3.0	3.0
19	3.0	3.1	3.4	3.2	4.0	4.0	3.5	3.2	3.0	3.1	3.0	3.0
20	2.9	3.1	3.3	3.2	3.9	3.9	3.5	3.2	3.0	3.1	3.0	3.0
21	3.0	3.1	3.1	3.3	3.9	3.9	3.3	3.1	3.0	3.0	3.0	3.0
22	3.1	3.2	3.1	3.5	3.8	3.8	3.1	3.2	3.0	3.0	3.0	3.0
23	3.1	3.2	3.2	3.9	3.8	3.6	3.1	3.2	3.0	3.0	3.0	3.0
24	3.0	3.2	3.3	3.4	3.9	3.6	3.1	3.1	3.0	3.0	3.0	3.0
25	3.0	3.3	3.5	3.3	3.7	3.5	3.1	3.1	3.0	3.0	3.0	3.0
26	3.0	3.3	3.5	3.2	4.0	3.5	3.1	3.1	3.0	3.0	3.0	3.0
27	2.9	3.4	3.4	3.1	4.5	3.6	3.1	3.1	3.0	3.0	3.0	3.0
28	2.9	3.4	3.4	3.1	3.8	3.8	3.1	3.1	3.0	3.0	3.0	3.0
29	3.0	4.2	3.4	3.2	---	3.5	3.3	3.1	3.0	3.0	3.0	3.0
30	3.1	2.9	3.3	3.2	---	3.3	3.6	3.1	3.0	3.0	3.0	3.0
31	3.2	---	3.2	3.1	---	3.3	---	3.1	---	3.0	3.0	---
TOTAL	102.4	96.0	104.4	102.5	98.5	116.6	101.0	99.1	92.1	93.6	93.0	90.0
MEAN	3.30	3.20	3.37	3.31	3.52	3.76	3.37	3.20	3.07	3.02	3.00	3.00
MAX	4.7	4.2	4.5	3.9	4.5	4.3	3.8	3.5	3.2	3.1	3.0	3.0
MIN	2.9	2.9	2.8	3.1	3.1	3.3	3.1	3.1	3.0	3.0	3.0	3.0
AC-FT	203	190	207	203	195	231	200	197	183	186	184	179

C-042106

11374000 COW CREEK NEAR MILLVILLE, CA

LOCATION.--Lat 40°30'19", long 122°13'56", in NE 1/4 NW 1/4 sec.32, T.31 N., R.3 W., Shasta County, Hydrologic Unit 18020101, on right bank 2.9 mi upstream from mouth, 4.2 mi southwest of Millville, and 4.3 mi downstream from Little Cow Creek.

DRAINAGE AREA.--425 mi^2.

PERIOD OF RECORD.--October 1949 to current year.
CHEMICAL DATA: Water years 1959-66.
WATER TEMPERATURE: Water years 1966-71, 1973-76, 1978-79.
SEDIMENT DATA: Water year 1978.
REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 385.7 ft above sea level. Prior to June 11, 1987, at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Numerous small diversions upstream from station for irrigation. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,700 ft^3/s, Nov. 16, 1981, gage height, 24.22 ft, present datum; maximum gage height, 24.55 ft, Dec. 27, 1951, present datum; minimum daily, 0.02 ft^3/s, July 29, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1937 or 1940 reached a stage of 26.8 ft from floodmarks, present datum; probable backwater effect from high flows on the Sacramento River.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 13,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 10	1245	*8,640	*11.82				

Minimum daily, 2.4 ft^3/s, Aug. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	121	267	159	204	927	264	212	121	24	3.4	8.2
2	56	115	199	178	193	738	257	200	124	20	6.0	8.9
3	50	114	175	164	184	648	247	191	112	17	6.2	7.3
4	59	114	169	163	177	588	244	208	99	18	5.9	5.2
5	61	114	164	202	170	685	228	339	95	19	6.0	5.3
6	76	114	160	184	782	605	233	386	114	16	3.7	7.3
7	68	114	169	168	3000	515	266	646	119	15	2.6	8.7
8	64	108	927	163	2280	464	253	537	98	17	5.3	9.9
9	67	103	919	206	954	431	623	442	89	16	6.6	11
10	97	101	514	184	3380	439	384	389	81	15	8.1	9.3
11	132	127	2560	169	1480	547	306	355	69	13	5.4	10
12	157	127	1320	160	841	422	278	330	63	14	4.7	13
13	133	127	605	153	632	388	266	300	58	13	2.9	14
14	166	127	3190	149	505	371	259	262	50	12	2.4	16
15	543	127	1070	148	433	365	250	259	48	11	2.4	16
16	2520	127	543	143	393	504	228	314	52	11	4.1	14
17	508	127	395	137	2220	770	239	297	50	10	4.0	12
18	267	127	324	136	1610	502	240	260	47	8.7	4.9	11
19	208	127	282	136	2120	470	241	325	44	11	4.7	11
20	175	125	249	132	2950	420	245	352	44	11	3.1	10
21	158	119	230	134	2500	390	237	285	43	9.7	3.6	7.6
22	150	116	208	137	1530	382	234	252	41	8.2	3.2	8.8
23	133	113	186	616	1010	359	230	217	37	7.6	4.9	11
24	127	108	174	2220	783	341	282	190	36	7.6	6.1	10
25	127	105	168	991	684	321	324	171	33	9.0	8.3	13
26	127	107	166	685	958	304	431	166	28	8.6	7.4	17
27	127	107	162	443	2820	286	300	163	33	8.2	7.7	18
28	127	112	157	345	1300	280	257	146	32	8.0	8.8	19
29	127	242	152	290	---	280	230	138	26	7.1	8.0	22
30	126	678	150	251	---	277	221	134	23	5.4	9.3	26
31	122	---	152	224	---	271	---	120	---	5.9	9.8	---
TOTAL	6928	4193	16106	9570	36093	14290	8297	8586	1909	377.0	169.5	360.5
MEAN	223	140	520	309	1289	461	277	277	63.6	12.2	5.47	12.0
MAX	2520	678	3190	2220	3380	927	623	646	124	24	9.8	26
MIN	50	101	150	132	170	271	221	120	23	5.4	2.4	5.2
AC-FT	13740	8320	31950	18980	71590	28340	16460	17030	3790	748	336	715

C-042107

11374000 COW CREEK NEAR MILLVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	131	493	1143	1612	1575	1324	836	498	208	57.0	35.0	45.8
MAX	1057	2539	3929	5593	4634	5275	3012	1795	952	218	115	130
(WY)	1963	1982	1984	1970	1986	1983	1963	1967	1993	1983	1983	1983
MIN	19.4	58.3	76.1	80.7	103	118	63.0	54.1	13.5	.63	.74	3.19
(WY)	1992	1992	1991	1991	1977	1977	1977	1992	1992	1977	1977	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1950 - 1994	
ANNUAL TOTAL	357858		106879.0			
ANNUAL MEAN	980		293		659	
HIGHEST ANNUAL MEAN					1505	1983
LOWEST ANNUAL MEAN					66.8	1977
HIGHEST DAILY MEAN	13500	Jan 20	3380	Feb 10	32500	Dec 27 1951
LOWEST DAILY MEAN	49	Sep 6	2.4	Aug 14	.02	Jul 29 1977
ANNUAL SEVEN-DAY MINIMUM	51	Sep 11	3.6	Aug 12	.09	Jul 23 1977
INSTANTANEOUS PEAK FLOW			8640	Feb 10	48700	Nov 16 1981
INSTANTANEOUS PEAK STAGE			11.82	Feb 10	24.55	Dec 27 1951
ANNUAL RUNOFF (AC-FT)	709800		212000		477600	
10 PERCENT EXCEEDS	2490		638		1540	
50 PERCENT EXCEEDS	422		148		185	
90 PERCENT EXCEEDS	68		8.0		23	

C-042108

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'14", long 122°14'15", in NE 1/4 NE 1/4 sec.7, T.29 N., R.3 W., Shasta County, Hydrologic Unit 18020102, on left bank 2.2 mi east of Cottonwood and 2.5 mi upstream from mouth.
DRAINAGE AREA.--927 mi^2.

PERIOD OF RECORD.--October 1940 to current year.
CHEMICAL DATA: Water years 1982-85.
WATER TEMPERATURE: Water years 1963-67, 1977-85.
SEDIMENT DATA: Water years 1957-67, 1977-85.
REVISED RECORDS.--WSP 1345: 1943, 1944(M), 1946-47, 1949(M), 1951-52. WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 363.80 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to July 26, 1963, on right bank at datum 3.59 ft higher. July 26, 1963, to Sept. 13, 1972, at site 250 ft downstream on right bank at present datum. Sept. 21, 1967, to Jan. 14, 1968, supplementary gage at a site 1,450 ft downstream on right bank at datum 2.35 ft higher.

REMARKS.--No estimated daily discharges. Records good. Small diversions for irrigation upstream from station. At times during irrigation season, Cottonwood Creek receives water from the Sacramento River by way of Anderson-Cottonwood Irrigation District Canal. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,000 ft^3/s, Mar. 1, 1983, gage height, 21.59 ft from rating curve extended above 34,000 ft^3/s on basis of runoff comparisons with upstream stations then in use; minimum, 15 ft^3/s several days during September 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 20	0230	*3,820	*7.98				

Minimum daily, 25 ft^3/s, Aug. 8, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	83	94	107	278	710	222	229	175	53	37	52
2	67	82	96	128	257	780	215	230	155	45	46	50
3	62	82	81	182	242	820	214	228	144	41	47	41
4	60	74	73	174	226	809	214	219	149	40	38	38
5	64	72	69	168	215	890	207	255	147	38	37	31
6	76	69	67	173	279	990	206	315	143	34	32	30
7	77	69	68	166	1550	841	204	435	158	39	28	31
8	76	69	147	151	901	708	202	559	144	37	25	33
9	75	69	460	150	558	631	358	490	132	34	25	41
10	97	70	316	151	841	607	249	430	121	40	29	40
11	131	73	284	148	1010	679	209	386	111	38	31	42
12	153	73	270	137	637	556	189	369	107	38	33	44
13	145	73	241	130	503	498	190	291	102	36	32	59
14	136	73	301	124	437	466	206	274	99	35	30	60
15	153	72	310	119	395	459	191	261	93	35	30	61
16	182	71	235	114	365	559	179	276	90	36	33	57
17	148	71	194	111	973	522	176	340	85	46	44	48
18	124	71	170	106	1130	434	179	304	84	51	41	39
19	115	71	155	104	1010	401	182	272	78	42	42	35
20	109	70	143	101	2440	374	183	287	76	38	34	34
21	106	69	137	100	1740	352	179	310	73	37	30	40
22	104	69	130	109	1210	333	179	350	77	35	28	45
23	100	69	124	485	859	310	203	335	73	29	27	49
24	99	69	115	1120	707	300	256	308	72	31	27	54
25	95	67	114	1090	635	290	346	216	65	27	31	50
26	92	67	111	1110	633	273	469	204	59	29	37	58
27	87	67	109	658	655	259	348	213	56	33	32	77
28	84	68	107	496	681	246	294	196	59	32	32	75
29	85	81	107	412	---	236	270	188	57	30	36	69
30	85	88	105	351	---	233	254	190	59	30	45	50
31	84	---	104	307	---	227	---	182	---	33	46	---
TOTAL	3138	2171	5037	8982	21367	15793	6973	9142	3043	1142	1065	1433
MEAN	101	72.4	162	290	763	509	232	295	101	36.8	34.4	47.8
MAX	182	88	460	1120	2440	990	469	559	175	53	47	77
MIN	60	67	67	100	215	227	176	182	56	27	25	30
AC-FT	6220	4310	9990	17820	42380	31330	13830	18130	6040	2270	2110	2840

C-042109

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	133	360	1238	1970	2234	1816	1151	606	292	111	68.7	76.9
MAX	805	1828	5428	7596	10800	10770	4270	2447	979	365	169	164
(WY)	1958	1985	1984	1970	1958	1983	1941	1983	1993	1983	1983	1983
MIN	50.8	52.2	49.8	60.3	76.3	146	136	165	74.5	36.8	26.4	30.8
(WY)	1950	1991	1991	1991	1977	1977	1977	1977	1977	1994	1945	1945

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1941 - 1994	
ANNUAL TOTAL	388277		79286			
ANNUAL MEAN	1064		217		831	
HIGHEST ANNUAL MEAN					2714	1983
LOWEST ANNUAL MEAN					94.4	1977
HIGHEST DAILY MEAN	20500	Jan 20	2440	Feb 20	54300	Jan 16 1974
LOWEST DAILY MEAN	55	Sep 6	25	Aug 8	15	Sep 7 1945
ANNUAL SEVEN-DAY MINIMUM	58	Sep 6	29	Aug 6	16	Sep 4 1945
INSTANTANEOUS PEAK FLOW			3820	Feb 20	86000	Mar 1 1983
INSTANTANEOUS PEAK STAGE			7.98	Feb 20	21.59	Mar 1 1983
ANNUAL RUNOFF (AC-FT)	770100		157300		602400	
10 PERCENT EXCEEDS	2530		536		1950	
50 PERCENT EXCEEDS	349		111		218	
90 PERCENT EXCEEDS	68		35		57	

C-042110

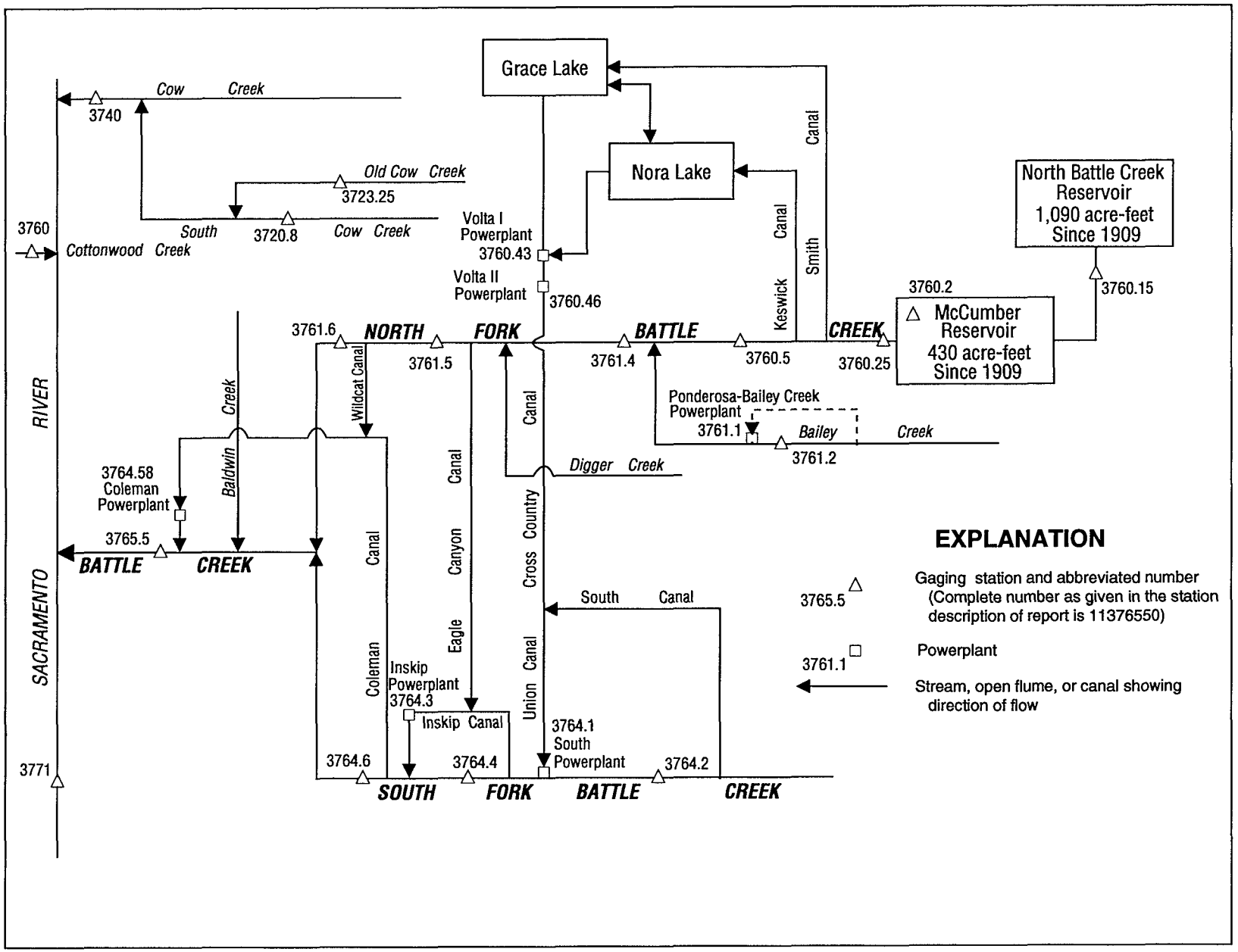

Figure 29. Diversions and storage in Battle Creek basin.

C-042111

11376015 NORTH FORK BATTLE CREEK BELOW NORTH BATTLE CREEK DAM, NEAR MANZANITA LAKE, CA

LOCATION.--Lat 40°36'10", long 121°39'17", in SE 1/4 SE 1/4 sec.20, T.32 N., R.3 E., Shasta County, Hydrologic Unit 18020118, Lassen National Forest, on left bank 300 ft downstream from North Battle Creek Dam and 6.7 mi northwest of Manzanita Lake.

DRAINAGE AREA.--6.40 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water years 1920-77 in files of the Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and a compound weir consisting of a 5-ft rectangular and V-notch weir. Elevation of gage is 5,560 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 0.30 ft^3/s Oct. 1-31 and Apr. 1 to Sept. 30. No license requirement Nov. 1 to Mar. 31, records not computed. Each fall, North Battle Creek Reservoir is drafted and flows may exceed the rated limits of the weirs; flow is computed to 50 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	---	---	---	---	---	1.3	.85	1.2	1.3	1.1	1.5
2	10	---	---	---	---	---	1.3	.85	1.4	1.2	1.3	1.3
3	10	---	---	---	---	---	1.3	.81	1.3	1.3	1.4	1.2
4	10	---	---	---	---	---	1.2	.83	1.3	1.4	1.3	1.2
5	10	---	---	---	---	---	1.2	.85	1.4	1.4	1.2	1.1
6	10	---	---	---	---	---	1.2	.82	1.4	1.3	1.2	1.3
7	10	---	---	---	---	---	1.2	.83	1.2	1.4	1.0	1.5
8	10	---	---	---	---	---	1.2	.83	1.2	1.6	.90	2.0
9	9.8	---	---	---	---	---	1.2	.84	1.2	1.7	1.1	2.1
10	9.7	---	---	---	---	---	1.2	1.3	1.2	1.6	1.1	1.7
11	9.7	---	---	---	---	---	1.2	1.9	1.2	1.5	1.1	1.3
12	9.6	---	---	---	---	---	1.3	1.0	1.2	1.3	1.0	1.2
13	9.5	---	---	---	---	---	1.3	.95	1.2	1.2	.98	1.2
14	9.5	---	---	---	---	---	1.3	.94	1.1	1.4	.95	1.2
15	4.5	---	---	---	---	---	1.3	.97	1.1	1.3	.94	.96
16	1.6	---	---	---	---	---	1.3	3.1	1.1	1.4	.91	.78
17	1.5	---	---	---	---	---	1.3	4.9	1.1	1.3	.90	.63
18	1.4	---	---	---	---	---	1.3	4.7	1.1	1.2	1.2	.64
19	4.0	---	---	---	---	---	1.3	6.5	1.1	5.6	1.4	.68
20	5.8	---	---	---	---	---	1.3	6.7	1.1	10	1.4	5.6
21	5.8	---	---	---	---	---	1.3	4.8	1.1	8.2	1.4	12
22	5.8	---	---	---	---	---	1.2	3.8	1.1	3.5	1.2	5.7
23	5.8	---	---	---	---	---	1.1	3.2	1.1	1.4	1.0	1.5
24	5.8	---	---	---	---	---	1.1	2.8	1.1	1.4	.96	1.6
25	5.8	---	---	---	---	---	1.1	2.5	1.1	1.4	1.2	1.4
26	8.8	---	---	---	---	---	1.1	2.2	1.1	1.4	1.5	1.5
27	11	---	---	---	---	---	.99	1.9	1.1	1.3	1.4	1.2
28	11	---	---	---	---	---	.95	1.6	1.2	1.3	1.6	1.5
29	10	---	---	---	---	---	.95	1.4	1.4	1.2	1.6	1.5
30	10	---	---	---	---	---	.93	1.1	1.3	1.1	2.0	1.1
31	10	---	---	---	---	---	---	1.0	---	1.1	1.7	---
TOTAL	246.4	---	---	---	---	---	35.92	66.77	35.7	63.7	37.94	58.09
MEAN	7.95	---	---	---	---	---	1.20	2.15	1.19	2.05	1.22	1.94
MAX	11	---	---	---	---	---	1.3	6.7	1.4	10	2.0	12
MIN	1.4	---	---	---	---	---	.93	.81	1.1	1.1	.90	.63
AC-FT	489	---	---	---	---	---	71	132	71	126	75	115

C-042112

11376025 NORTH FORK BATTLE CREEK BELOW MCCUMBER DAM, NEAR MANZANITA LAKE, CA

LOCATION.--Lat 40°32'15", long 121°43'53", in SW 1/4 SE 1/4 sec.15, T.31 N., R.2 E., Shasta County, Hydrologic Unit 18020118, on right bank 300 ft downstream from McCumber Dam, 3.0 mi northwest of Viola, and 9.0 mi west of Manzanita Lake.

DRAINAGE AREA.--27.6 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch weir. Elevation of gage is 4,080 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 0.30 ft^3/s at all times; flow is computed to 211 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	15	12	4.9	2.2	9.5	5.9	5.2	2.5	.92	1.4	.89
2	13	15	10	6.8	2.2	11	13	3.5	2.5	1.0	1.4	.93
3	13	14	8.8	8.2	2.2	11	11	2.5	2.5	.91	1.4	.99
4	13	14	8.8	8.1	2.2	9.6	6.4	2.5	2.5	.67	1.4	1.0
5	16	14	6.7	8.2	2.2	8.2	4.0	4.5	2.5	1.3	1.2	.93
6	17	14	5.4	8.1	2.2	8.2	6.6	7.7	2.5	2.2	1.2	1.1
7	17	14	7.1	8.1	2.2	9.9	8.3	11	2.5	2.2	1.1	1.0
8	17	14	8.2	7.8	2.2	12	8.3	13	2.5	2.2	1.1	.93
9	7.2	13	11	7.7	2.2	12	9.3	10	2.5	2.2	1.1	.93
10	2.2	13	13	7.7	2.2	12	10	5.9	2.5	2.2	1.1	1.0
11	2.2	13	15	7.7	2.2	11	8.2	3.7	2.5	2.2	1.1	1.1
12	2.2	13	12	5.9	2.2	12	6.3	3.7	1.8	2.2	1.1	1.1
13	2.2	13	8.2	4.9	2.2	12	6.3	3.4	1.4	1.2	1.1	1.1
14	2.2	10	8.2	4.6	2.2	10	6.3	3.4	1.3	1.1	1.1	1.1
15	2.2	7.7	5.3	4.8	2.2	9.4	6.3	3.4	1.1	1.4	1.1	1.0
16	14	7.3	4.5	6.0	2.3	9.4	7.6	6.3	1.1	1.4	1.1	1.1
17	14	5.3	5.9	6.7	7.1	11	8.0	11	1.1	1.4	1.1	1.1
18	4.7	2.3	5.9	6.7	10	14	8.0	11	.93	1.4	1.1	1.0
19	2.2	2.0	6.3	6.7	10	14	7.8	8.8	.99	1.4	1.1	.93
20	2.2	2.0	6.7	6.7	10	13	7.0	8.9	1.1	1.4	1.1	.82
21	2.2	2.0	6.3	6.7	10	13	4.4	10	.89	1.4	1.1	1.1
22	2.2	3.8	6.5	6.7	6.8	10	3.4	11	.93	1.4	1.1	1.2
23	2.2	6.3	6.7	6.7	4.9	8.8	3.4	6.7	.81	1.4	1.1	1.1
24	6.3	6.3	6.7	6.7	4.9	7.1	3.4	3.4	.81	1.4	1.1	1.1
25	8.8	6.3	6.7	6.7	4.9	5.9	3.4	2.8	.92	1.4	1.1	1.0
26	13	6.3	6.7	7.9	4.9	5.9	3.4	2.8	1.0	1.4	1.1	1.1
27	15	6.3	5.8	8.8	6.5	4.7	4.5	2.8	1.1	1.4	1.1	1.1
28	15	6.3	4.9	8.6	7.7	2.7	4.5	2.8	1.0	1.4	1.1	1.3
29	15	9.9	4.9	8.7	---	2.5	5.2	2.6	.94	1.4	1.1	1.7
30	15	13	4.9	8.6	---	2.0	6.3	2.5	.93	1.4	.99	2.0
31	15	---	4.9	5.6	---	3.1	---	2.5	---	1.4	.93	---
TOTAL	286.2	282.1	234.0	218.0	123.0	284.9	196.5	179.3	47.65	46.30	35.22	32.75
MEAN	9.23	9.40	7.55	7.03	4.39	9.19	6.55	5.78	1.58	1.48	1.14	1.09
MAX	17	15	15	8.8	10	14	13	13	2.5	2.2	1.4	2.0
MIN	2.2	2.0	4.5	4.6	2.2	2.0	3.4	2.5	.81	.67	.93	.82
AC-FT	568	560	464	432	244	565	390	356	95	92	70	65
a	306	134	110	99	266	403	403	395	327	247	186	201

WTR YR 1994 TOTAL 1965.92 MEAN 5.39 MAX 17 MIN .67 AC-FT 3900

a Contents, in acre-feet, at end of month for McCumber Reservoir (station 11376020, provided by Pacific Gas & Electric Co.

C—042113

C-042113

POWERPLANTS IN BATTLE CREEK BASIN

11376043 VOLTA NO. 1 POWERPLANT NEAR MANTON, CA, in NW 1/4 NE 1/4 sec.16, T.30 N., R.1 E., Shasta County, Hydrologic Unit 18020118, 1.7 mi north of Manton. Powerplant consists of one unit with a total of 8,550 KW normal operating capacity. See schematic diagram of Battle Creek basin.

11376046 VOLTA NO. 2 POWERPLANT NEAR MANTON, CA, in NE 1/4 SW 1/4 sec.16, T.30 N., R.1 E., Shasta County, Hydrologic Unit 18020118, 1.2 mi northeast of Manton. Powerplant consists of one unit with a total of 956 KW normal operating capacity. See schematic diagram of Battle Creek basin.

11376410 SOUTH POWERPLANT NEAR MANTON, CA, in NE 1/4 SE 1/4 sec.5, T.29 N., R.1 E., Tehama County, Hydrologic Unit 18020118, 2.7 mi south of Manton. Powerplant consists of one unit with a total of 6,750 KW normal operating capacity. See schematic diagram of Battle Creek basin.

11376430 INSKIP POWERPLANT NEAR MANTON, CA, in NE 1/4 NW 1/4 sec.3, T.29 N., R.1 W., Tehama County, Hydrologic Unit 18020118, 5.5 mi southwest of Manton. Powerplant consists of one unit with a total of 7,650 KW normal operating capacity. See schematic diagram of Battle Creek basin.

11376458 COLEMAN POWERPLANT NEAR COTTONWOOD, CA, in SW 1/4 SW 1/4 sec.32, T.30 N., R.2 W., Shasta County, Hydrologic Unit 18020006, 8.5 mi east of Cottonwood. Powerplant consists of one unit with a total of 12,150 KW normal operating capacity. See schematic diagram of Battle Creek basin.

MONTHLY DISCHARGE, IN ACRE-FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

Date	Volta No. 1	Volta No. 2	South	Inskip	Coleman
Oct.	3,530	4,460	6,470	10,890	13,660
Nov.	3,080	3,870	8,420	11,850	14,000
Dec.	3,010	3,950	9,920	13,770	16,040
Jan.	2,880	3,880	9,450	13,100	15,900
Feb.	2,900	3,780	9,510	13,670	16,760
Mar.	4,730	5,910	12,040	16,720	19,890
Apr.	4,160	5,330	11,560	15,490	18,510
May	4,240	5,330	11,870	16,220	19,000
June	3,380	4,280	9,130	12,330	14,660
July	2,690	3,550	6,840	9,260	11,760
Aug.	2,030	2,910	6,100	8,200	9,980
Sept.	2,040	2,950	5,720	5,360	9,350

NOTE.--Records were provided by Pacific Gas & Electric Co., in connection with a Federal Energy Regulatory Commission project. Unpublished records for water years 1979-86 available in files of U.S. Geological Survey. Fragmentary records prior to water year 1979 available in files of Pacific Gas & Electric Co.

C-042114

11376050 NORTH FORK BATTLE CREEK BELOW DIVERSION TO KESWICK DITCH, NEAR MANTON, CA

LOCATION.--Lat 40°30'00", long 121°48'29", in NW 1/4 NE 1/4 sec.36, T.31 N., R.1 E., Shasta County, Hydrologic Unit 18020118, on right bank 4.2 mi east of Shingletown and 5.5 mi northeast of Manton.

PERIOD OF RECORD.--October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1978-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 3,600 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 3.0 ft^3/s at all times; flow is computed to 4.3 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.3	3.5	3.5	3.4	3.8	3.4	3.5	3.4	3.3	---	3.4
2	3.3	3.3	3.5	3.6	3.5	3.8	3.5	3.4	3.4	3.3	---	3.4
3	3.3	3.3	3.5	3.7	3.5	3.8	3.6	3.4	3.4	3.3	---	3.4
4	3.3	3.3	3.5	3.7	3.5	3.8	3.5	3.4	3.4	3.3	---	3.4
5	3.4	3.3	3.5	3.7	3.5	3.9	3.4	3.5	3.3	3.3	3.5	3.4
6	3.4	3.3	3.4	3.6	3.5	3.9	3.5	3.6	3.4	3.3	3.5	3.4
7	3.4	3.3	3.5	3.6	3.6	3.9	3.5	3.6	3.4	3.4	3.5	3.3
8	3.4	3.3	3.6	3.6	3.5	3.9	3.5	3.5	3.3	3.4	3.5	3.3
9	3.3	3.3	3.6	3.6	3.5	3.9	3.6	3.4	3.3	3.4	3.4	3.3
10	3.4	3.3	3.6	3.6	3.6	3.9	3.5	3.2	3.4	3.3	3.5	3.3
11	3.4	3.3	3.7	3.6	3.6	3.9	3.5	3.2	3.4	3.3	3.5	3.3
12	3.4	3.3	3.6	3.5	3.6	3.9	3.4	3.3	3.4	3.3	3.5	3.3
13	3.4	3.3	3.5	3.4	3.6	3.9	3.4	3.3	3.4	3.3	3.4	3.3
14	3.4	3.3	3.5	3.4	3.6	3.8	3.4	3.3	3.4	3.3	3.4	3.3
15	3.9	3.4	3.5	3.4	3.6	3.6	3.4	3.4	3.4	3.6	3.3	3.3
16	3.7	3.4	3.6	3.4	3.5	---	3.4	3.5	3.3	3.6	3.3	3.3
17	3.4	3.4	3.6	3.5	3.6	3.6	3.5	3.6	3.3	3.6	3.4	3.3
18	3.9	3.4	3.6	3.5	3.6	3.8	3.5	3.6	3.4	3.6	3.4	3.3
19	3.7	3.4	3.6	3.5	3.6	3.9	3.6	3.6	3.4	3.5	3.3	3.3
20	3.4	3.4	3.6	3.5	3.6	3.7	3.5	3.5	3.4	3.3	3.4	3.3
21	3.4	3.4	3.6	3.5	3.6	3.4	3.4	3.5	3.4	3.3	3.4	3.3
22	3.4	3.4	3.6	3.5	3.5	3.3	3.3	3.5	3.4	3.4	3.4	3.3
23	3.4	3.5	3.6	3.5	3.5	3.3	3.2	3.5	3.4	3.4	3.4	3.3
24	3.4	3.5	3.6	3.6	3.6	3.3	3.2	3.4	3.4	3.4	3.4	3.3
25	3.3	3.5	3.6	3.5	3.6	3.4	3.4	3.4	3.4	3.4	3.4	3.3
26	3.3	3.5	3.6	3.5	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.3
27	3.4	3.5	3.5	3.6	3.9	3.3	3.3	3.4	3.3	3.3	3.4	3.3
28	3.4	3.5	3.5	3.5	3.8	3.3	3.3	3.4	3.4	3.3	3.4	3.3
29	3.4	3.8	3.5	3.5	---	3.3	3.3	3.3	3.3	3.4	3.4	3.3
30	3.3	3.7	3.5	3.5	---	3.3	3.4	3.4	3.3	3.4	3.4	3.4
31	3.3	---	3.5	3.5	---	3.3	---	3.4	---	3.4	3.4	---
TOTAL	106.1	101.9	110.1	109.6	100.2	---	102.8	106.4	101.2	104.8	---	99.7
MEAN	3.42	3.40	3.55	3.54	3.58	---	3.43	3.43	3.37	3.38	---	3.32
MAX	3.9	3.8	3.7	3.7	3.9	---	3.6	3.6	3.4	3.6	---	3.4
MIN	3.3	3.3	3.4	3.4	3.4	---	3.2	3.2	3.3	3.3	---	3.3
AC-FT	210	202	218	217	199	---	204	211	201	208	---	198

NOTE: Canal was out of service Aug. 1-4 and all flow remained in the natural channel. Discharge above 4.3 ft^3/s Mar. 16.

C-042115

11376120 BAILEY CREEK BELOW DIVERSION TO PONDEROSA-BAILEY CREEK POWERPLANT, NEAR MANTON, CA

LOCATION.--Lat 40°27'59", long 121°59'20", in NE 1/4 SE 1/4 sec.11, T.30 N., R.1 E., Shasta County, Hydrologic Unit 18020118, on right bank 250 ft downstream from Spring Creek, 0.4 mi upstream from Ponderosa Way, 3.3 mi northeast of Manton, and 3.9 mi southeast of Shingletown.

DRAINAGE AREA.--29.6 mi^2.

PERIOD OF RECORD.--January 1990 to current year (operated as low-flow station only).

GAGE.--Water-stage recorder and V-notch weir. Elevation of gage is 2,650 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. During times of powerplant operation the minimum release requirement is 17 ft^3/s; flow is computed to 100 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Highland Hydro Constructors, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	24	21	20	18	19	17	17	17	16	16
2	16	17	23	21	21	17	19	17	17	17	16	16
3	16	17	21	21	20	17	20	17	17	17	16	16
4	16	17	21	22	20	17	19	17	17	17	16	16
5	16	17	21	24	20	17	19	19	17	17	16	16
6	17	17	21	22	21	17	19	23	17	17	16	16
7	18	17	21	21	24	17	19	17	17	17	16	16
8	18	17	23	22	24	17	19	17	17	17	16	16
9	18	17	28	21	23	17	20	17	17	17	16	16
10	18	17	24	21	20	18	19	17	17	17	16	16
11	18	17	28	21	23	17	19	20	17	17	16	16
12	18	17	25	20	24	17	18	30	17	16	16	16
13	18	17	25	20	23	17	18	17	17	16	16	16
14	18	17	25	20	22	17	19	17	17	16	16	16
15	22	17	24	20	22	24	20	17	17	16	16	16
16	37	17	23	20	22	23	24	17	17	16	16	16
17	23	18	22	21	25	24	28	17	17	16	16	16
18	19	18	21	21	24	23	17	17	25	16	16	16
19	18	18	21	21	25	23	17	17	25	16	16	16
20	18	18	21	20	24	22	17	17	24	16	16	16
21	18	18	21	20	24	21	19	19	24	16	16	16
22	17	18	21	21	23	21	22	27	23	16	16	16
23	17	17	21	23	23	21	20	22	21	16	16	16
24	17	18	21	24	24	25	20	23	20	16	16	16
25	17	19	21	23	25	21	20	20	19	16	16	16
26	17	20	21	23	22	20	19	17	19	16	16	16
27	17	20	21	22	17	20	18	17	18	16	16	16
28	17	21	20	21	17	20	18	17	18	16	16	16
29	17	28	20	21	---	21	18	17	17	16	16	16
30	17	29	20	21	---	20	17	17	17	16	16	16
31	17	---	21	20	---	19	---	17	---	16	16	---
TOTAL	566	552	690	659	622	608	580	577	559	507	496	480
MEAN	18.3	18.4	22.3	21.3	22.2	19.6	19.3	18.6	18.6	16.4	16.0	16.0
MAX	37	29	28	24	25	25	28	30	25	17	16	16
MIN	16	17	20	20	17	17	17	17	17	16	16	16
AC-FT	1120	1090	1370	1310	1230	1210	1150	1140	1110	1010	984	952
a	0	0	0	0	99	337	63	1180	639	0	0	0

WTR YR 1994 TOTAL 6896 MEAN 18.9 MAX 37 MIN 16 AC-FT 13680

a Discharge, in acre-feet, for Ponderosa-Bailey Creek Powerplant (station 11376110), provided by Highland Hydro Constructors.

C-042116

11376140 NORTH FORK BATTLE CREEK BELOW DIVERSION TO CROSS COUNTRY CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°27'16", long 121°51'35", in SW 1/4 NW 1/4 sec.15, T.30 N., R.1 E., Shasta County, Hydrologic Unit 18020118, on left bank at diversion dam 800 ft upstream from Volta No. 2 Powerplant and 1.4 mi northeast of Manton.

DRAINAGE AREA.--133 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 2,240 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 3.0 ft^3/s at all times; flow is computed to 6.8 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	4.8	5.4	4.5	4.4	---	4.5	4.9	---	5.0	4.9	4.9
2	4.6	4.7	4.6	4.5	4.4	---	4.5	4.9	---	5.0	4.8	4.9
3	4.6	4.7	4.5	4.5	4.4	---	4.5	4.9	---	5.0	4.8	4.9
4	4.6	4.7	4.6	4.6	4.4	---	4.5	6.0	---	5.0	4.8	4.9
5	4.5	4.8	4.5	4.7	4.4	---	6.0	---	---	5.0	4.8	4.9
6	4.5	4.7	4.6	4.5	4.4	---	---	---	---	4.9	4.8	4.9
7	4.5	4.8	4.7	4.5	5.4	---	---	---	6.0	4.8	4.8	4.9
8	4.5	4.7	4.9	4.6	5.2	---	---	---	5.2	5.0	4.8	4.9
9	4.5	4.7	5.5	4.5	4.4	---	---	---	5.2	4.9	4.8	4.9
10	4.5	4.7	4.7	4.6	6.8	---	---	---	5.8	4.9	4.8	4.9
11	---	4.7	---	4.8	---	---	---	---	---	4.9	4.8	4.9
12	---	4.7	6.4	4.6	6.0	---	6.4	---	---	4.9	4.8	4.8
13	---	4.7	5.2	4.6	5.5	---	6.5	---	---	4.9	4.8	4.9
14	---	5.0	6.5	4.6	5.0	---	6.5	---	---	4.8	4.8	4.9
15	---	4.6	5.3	4.6	4.8	6.8	6.5	---	6.3	4.9	5.7	4.9
16	---	4.7	4.7	4.5	4.7	6.7	---	---	5.1	4.8	---	4.9
17	---	4.7	4.6	4.7	---	6.8	---	---	5.1	4.9	6.5	4.9
18	---	4.6	4.6	4.7	---	6.3	---	---	5.1	4.8	4.8	4.9
19	---	4.5	4.6	4.4	---	6.1	---	---	5.1	4.8	4.8	4.9
20	---	4.6	4.6	4.5	---	5.5	---	---	5.1	4.8	4.8	4.8
21	---	4.6	4.5	4.5	---	5.2	---	---	5.0	4.9	4.8	4.8
22	---	4.6	4.6	4.6	---	5.3	---	---	4.9	4.9	4.8	4.8
23	---	4.6	4.6	6.1	6.4	4.9	---	---	4.9	4.9	4.8	4.9
24	---	4.6	4.5	6.1	6.1	5.7	---	---	4.9	4.9	4.9	4.8
25	---	4.7	4.5	4.4	6.8	4.8	---	---	4.9	4.9	4.8	4.8
26	4.7	4.6	4.5	4.4	---	4.5	---	---	4.8	4.8	4.9	4.8
27	4.7	4.6	4.6	5.3	---	4.5	6.5	---	4.8	4.8	4.9	4.8
28	4.8	4.7	4.5	5.3	---	4.5	5.0	---	4.8	4.8	4.8	4.9
29	4.7	---	4.5	4.4	---	4.5	5.0	---	4.9	4.8	4.9	4.8
30	4.7	---	4.6	4.4	---	4.5	4.9	---	5.0	4.8	4.8	4.8
31	4.7	---	4.6	4.3	---	4.5	---	---	---	4.8	4.8	---
TOTAL	---	---	---	145.3	---	---	---	---	---	151.3	---	146.0
MEAN	---	---	---	4.69	---	---	---	---	---	4.88	---	4.87
MAX	---	---	---	6.1	---	---	---	---	---	5.0	---	4.9
MIN	---	---	---	4.3	---	---	---	---	---	4.8	---	4.8
AC-FT	---	---	---	288	---	---	---	---	---	300	---	290

NOTE: Discharges above 6.8 ft^3/s for many days during the year.

11376150 NORTH FORK BATTLE CREEK BELOW DIVERSION TO EAGLE CANYON CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°25'26", long 121°55'09", in NW 1/4 SE 1/4 sec.25, T.30 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on left bank at diversion dam to Eagle Canyon Canal and 2.8 mi southwest of Manton.

DRAINAGE AREA.--186 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,400 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 3.0 ft^3/s at all times; flow is computed to 7.2 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	4.6	4.6	4.6	4.6	---	4.5	4.5	4.7	4.7	4.6	4.6
2	4.7	4.6	4.6	4.6	4.6	---	4.5	4.5	4.7	4.6	4.6	4.6
3	4.7	4.6	4.6	4.6	4.6	---	4.5	4.5	4.7	4.6	4.6	4.6
4	4.7	4.6	4.6	4.6	4.6	---	4.5	4.5	4.7	4.6	4.6	4.7
5	4.7	5.0	4.6	4.6	4.6	---	4.5	4.5	4.7	4.6	4.6	4.6
6	4.7	4.6	4.6	4.6	4.6	---	4.5	5.1	5.1	4.6	4.6	4.7
7	4.7	4.6	4.6	4.6	4.7	---	4.5	---	4.7	4.6	4.6	4.6
8	4.7	4.6	4.7	4.6	5.6	---	4.6	---	4.7	4.6	4.6	4.6
9	4.6	4.6	4.6	4.6	4.5	---	4.5	---	4.7	4.6	4.6	4.6
10	4.7	4.6	4.6	4.6	---	---	4.5	---	4.7	4.6	4.6	4.6
11	---	4.6	---	4.6	4.5	---	4.5	---	4.7	4.6	4.7	4.7
12	---	4.6	5.0	4.5	4.4	---	4.5	---	4.8	4.6	4.7	4.6
13	---	4.6	4.5	4.5	4.5	---	4.5	---	4.7	4.6	4.7	4.7
14	---	4.6	6.4	4.6	4.5	---	4.5	---	4.6	4.6	4.7	4.7
15	---	4.6	4.5	4.5	4.5	5.0	4.5	---	4.7	4.6	4.7	4.7
16	---	4.6	4.6	4.6	4.5	6.0	4.6	---	4.7	4.6	4.6	4.7
17	---	4.6	4.6	4.6	4.7	---	4.6	---	4.7	4.6	4.6	4.7
18	---	4.6	4.6	4.6	5.1	6.6	5.3	---	4.6	4.6	4.6	4.6
19	---	4.6	4.6	4.6	4.5	---	---	---	4.7	4.6	4.6	---
20	---	4.6	4.6	4.5	5.1	4.7	---	4.7	4.7	4.6	4.6	---
21	---	4.6	4.6	4.6	4.4	4.6	5.2	4.7	4.6	4.6	4.6	---
22	---	4.6	4.6	4.6	4.5	4.5	4.4	4.7	4.7	4.6	4.6	4.6
23	4.6	4.6	4.6	4.6	4.4	4.5	4.5	4.7	5.1	4.6	4.6	4.6
24	4.6	4.6	4.6	4.7	4.5	4.5	4.5	4.7	5.3	4.6	4.6	4.6
25	4.6	4.6	4.6	4.5	4.5	4.5	4.5	4.9	5.4	4.6	4.6	4.6
26	4.6	4.6	4.6	4.5	---	4.5	4.4	4.9	5.1	4.6	4.7	4.6
27	4.6	4.6	4.6	4.6	---	4.5	4.5	4.8	4.7	4.6	4.6	4.6
28	4.6	4.6	4.6	4.6	---	4.5	4.5	4.7	4.6	4.6	4.6	4.6
29	4.6	6.1	4.6	4.6	---	4.5	4.5	4.7	4.7	4.6	4.7	4.6
30	4.6	5.9	4.6	4.6	---	4.5	4.5	4.8	4.6	4.6	4.7	4.6
31	4.6	---	4.6	4.6	---	4.5	---	4.8	---	4.6	4.6	---
TOTAL	---	141.2	---	142.1	---	---	---	---	143.1	142.7	143.4	---
MEAN	---	4.71	---	4.58	---	---	---	---	4.77	4.60	4.63	---
MAX	---	6.1	---	4.7	---	---	---	---	5.4	4.7	4.7	---
MIN	---	4.6	---	4.5	---	---	---	---	4.6	4.6	4.6	---
AC-FT	---	280	---	282	---	---	---	---	284	283	284	---

NOTE: Discharges above 7.2 ft^3/s for many days during the year.

C-042118

11376160 NORTH FORK BATTLE CREEK BELOW DIVERSION TO WILDCAT CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°25'14", long 121°57'36", in SE 1/4 SW 1/4 sec.27, T.30 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on left bank at diversion dam to Wildcat Canal and 4.9 mi west of Manton.

DRAINAGE AREA.--189 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,080 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 3.0 ft^3/s at all times; flow is computed to 24 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	4.9	4.8	4.7	4.7	---	4.3	4.6	4.5	5.1	5.2	4.6
2	4.7	4.9	4.7	4.7	4.8	---	4.3	4.4	4.5	5.1	5.4	4.7
3	4.7	5.1	4.8	4.8	4.8	22	4.3	4.3	4.5	5.3	5.2	4.9
4	4.6	4.9	4.8	4.7	4.8	15	4.2	4.4	4.5	5.1	5.3	4.7
5	4.6	5.1	4.8	4.4	4.8	---	4.4	4.5	4.5	5.1	5.3	4.8
6	4.6	5.0	4.7	4.4	6.9	---	4.5	4.5	4.5	5.2	5.3	4.7
7	4.6	5.1	4.8	4.4	19	20	4.5	---	4.5	5.2	5.1	4.9
8	4.7	5.1	4.8	4.5	14	13	4.4	---	4.5	5.1	5.3	4.8
9	4.6	5.0	4.7	4.6	4.4	7.1	4.4	---	4.4	5.2	5.2	4.7
10	4.6	5.1	4.8	4.6	18	11	4.4	---	4.5	5.3	5.1	4.6
11	---	4.9	15	4.4	4.2	---	4.5	---	4.8	5.2	5.2	4.6
12	---	5.0	5.4	4.4	4.4	5.8	4.5	---	5.1	5.1	5.4	4.7
13	---	4.9	4.8	4.5	4.5	4.7	4.4	19	5.1	5.1	5.2	4.7
14	---	5.0	10	4.4	4.3	4.8	4.4	7.5	5.0	5.2	5.3	4.8
15	---	4.9	4.9	4.6	4.4	4.3	4.5	4.4	5.1	5.2	5.2	4.7
16	---	5.0	4.8	4.5	4.4	5.3	4.5	7.8	5.1	5.2	5.2	4.9
17	---	5.0	4.7	4.4	6.2	9.1	4.4	7.3	5.0	5.2	5.3	4.8
18	---	5.1	4.7	4.4	5.3	4.3	4.4	5.3	5.0	5.2	5.3	4.8
19	---	4.9	4.6	4.5	4.4	4.2	4.4	4.4	5.0	5.0	5.3	10
20	---	4.9	4.6	4.6	4.5	4.2	5.0	4.4	5.1	5.1	5.2	17
21	---	4.8	4.6	4.5	4.1	4.2	4.4	4.4	5.1	5.2	5.3	9.7
22	---	4.8	4.8	4.6	4.5	4.2	4.5	4.5	5.1	5.2	5.2	4.8
23	6.5	4.7	4.7	4.6	4.5	4.2	4.4	4.5	5.1	5.0	5.2	4.8
24	6.7	4.7	4.8	7.9	4.5	4.3	4.5	4.6	5.2	5.1	5.3	4.7
25	6.6	4.7	4.8	4.3	4.4	4.2	4.3	4.6	5.1	5.1	4.9	4.8
26	6.6	4.8	4.7	4.4	6.6	4.2	4.4	4.5	5.1	5.2	4.6	4.8
27	6.4	4.7	4.6	4.5	---	4.3	4.5	4.6	5.1	5.1	4.8	4.9
28	5.3	4.8	4.8	4.4	---	4.3	4.6	4.5	5.2	5.2	4.7	4.8
29	4.9	6.3	4.6	4.4	---	4.2	4.5	4.6	5.2	5.1	4.9	4.6
30	4.8	7.4	4.8	4.4	---	4.3	4.5	4.5	5.1	5.3	5.0	4.8
31	4.9	---	4.8	4.5	---	4.3	---	4.6	---	5.2	4.8	---
TOTAL	---	151.5	163.2	143.0	---	---	133.3	---	146.5	159.9	159.7	165.1
MEAN	---	5.05	5.26	4.61	---	---	4.44	---	4.88	5.16	5.15	5.50
MAX	---	7.4	15	7.9	---	---	5.0	---	5.2	5.3	5.4	17
MIN	---	4.7	4.6	4.3	---	---	4.2	---	4.4	5.0	4.8	4.6
AC-FT	---	301	324	284	---	---	264	---	291	317	317	327

NOTE: Discharges above 24 ft^3/s for many days during the year.

C-042119

11376420 SOUTH FORK BATTLE CREEK BELOW DIVERSION TO SOUTH BATTLE CREEK CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°22'08", long 121°47'48", in SW 1/4 NW 1/4 sec.18, T.29 N., R.2 E., Tehama County, Hydrologic Unit 18020118, on right bank at diversion dam to South Battle Creek Canal and 5.9 mi southeast of Manton.

DRAINAGE AREA.--66.7 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water years 1976-77 in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 2,040 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 5.0 ft^3/s at all times; flow is computed to 8.9 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	6.4	6.4	6.4	6.6	6.6	---	5.9	6.8	6.9	7.1	7.1
2	6.5	6.3	6.5	6.4	6.6	7.0	---	6.8	6.7	6.9	7.2	7.1
3	6.5	6.3	6.5	6.4	6.6	7.6	---	8.7	6.8	6.9	7.1	7.1
4	6.5	6.3	6.5	6.9	6.6	8.8	---	---	6.8	7.0	7.1	7.1
5	6.5	6.3	6.5	6.6	6.6	---	7.6	---	6.8	7.1	7.1	7.2
6	6.5	6.3	6.4	8.4	6.6	---	7.5	---	6.8	7.1	7.1	7.2
7	6.6	6.2	6.5	---	6.6	---	8.2	---	6.7	7.1	7.1	7.1
8	6.5	6.3	---	---	6.5	---	---	---	6.7	7.1	7.2	7.2
9	6.5	6.2	---	7.9	6.5	---	---	---	6.8	7.2	7.1	7.1
10	6.5	6.1	---	7.1	6.5	---	8.4	---	6.8	7.2	7.1	7.1
11	---	6.2	---	6.5	6.5	---	6.2	---	6.8	7.3	7.2	7.1
12	---	6.2	---	6.6	6.6	---	6.2	---	6.8	7.2	7.1	7.1
13	---	6.2	6.8	6.6	6.5	---	6.3	---	6.8	7.3	7.1	7.1
14	---	6.1	---	6.6	6.6	---	6.8	---	6.8	7.3	7.1	7.3
15	---	6.1	6.4	6.6	6.6	---	---	---	6.8	7.3	7.2	7.4
16	---	6.3	6.4	6.6	6.6	---	---	---	6.8	7.3	7.1	7.4
17	8.4	6.4	6.4	6.6	6.6	---	---	---	6.8	7.2	7.2	7.5
18	6.5	6.5	6.4	6.5	6.6	---	---	---	6.8	7.4	7.1	7.5
19	6.6	6.5	6.4	6.5	6.5	---	---	---	6.7	7.3	7.1	7.4
20	6.6	6.5	6.4	6.6	6.1	---	---	---	6.8	7.3	7.2	7.4
21	6.6	6.4	6.4	6.0	6.5	---	---	---	6.8	7.2	7.2	7.4
22	6.6	6.4	6.3	7.4	6.5	---	---	6.8	6.8	7.1	7.1	7.4
23	6.5	6.4	6.5	---	6.4	6.7	---	6.8	6.8	7.1	7.1	7.4
24	6.5	6.4	6.4	---	6.2	6.3	---	6.9	6.8	7.1	7.1	7.4
25	6.5	6.4	6.5	6.5	6.2	6.3	---	6.9	6.8	7.1	7.1	7.4
26	6.5	6.5	6.4	6.5	6.8	6.6	---	6.8	6.8	7.2	7.1	7.4
27	6.5	6.5	6.4	6.6	---	7.6	---	6.8	6.8	7.1	7.1	7.4
28	6.5	6.5	6.4	6.6	6.5	---	7.4	6.8	6.8	7.2	7.1	7.3
29	6.4	---	6.5	6.6	---	---	6.2	6.8	6.8	7.1	7.1	7.3
30	6.5	---	6.4	6.6	---	8.5	6.2	6.8	6.9	7.1	7.1	7.3
31	6.4	---	6.4	6.6	---	---	---	6.8	---	7.1	7.1	---
TOTAL	---	---	---	---	---	---	---	---	203.7	221.8	220.8	218.2
MEAN	---	---	---	---	---	---	---	---	6.79	7.15	7.12	7.27
MAX	---	---	---	---	---	---	---	---	6.9	7.4	7.2	7.5
MIN	---	---	---	---	---	---	---	---	6.7	6.9	7.1	7.1
AC-FT	---	---	---	---	---	---	---	---	404	440	438	433

NOTE: Discharges above 8.9 ft^3/s for many days during the year.

C-042120

11376440 SOUTH FORK BATTLE CREEK BELOW DIVERSION TO INSKIP CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°23'43", long 121°52'57", in NW 1/4 SE 1/4 sec.5, T.29 N., R.1 E., Tehama County, Hydrologic Unit 18020118, on left bank at diversion dam to Inskip Canal and 2.8 mi south of Manton.

DRAINAGE AREA.--88.3 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,440 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 5.0 ft^3/s at all times; flow is computed to 12 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	7.1	8.0	7.4	7.1	---	---	---	6.9	6.8	6.4	6.7
2	7.3	7.3	8.1	7.4	7.2	---	---	11	6.9	6.7	6.4	6.9
3	7.2	7.2	8.2	7.4	7.2	---	---	10	7.7	6.9	6.4	6.8
4	7.2	7.3	8.1	8.1	7.2	---	---	---	8.0	6.8	6.5	6.7
5	7.4	7.0	8.1	---	7.2	---	---	---	7.9	6.9	6.4	7.0
6	7.5	7.3	8.1	7.4	7.3	---	---	---	12	6.9	6.4	6.8
7	7.5	7.1	8.2	7.5	---	---	---	---	9.9	6.7	6.4	6.9
8	7.5	7.1	---	7.5	---	---	---	---	7.1	6.7	6.5	6.8
9	7.5	7.3	---	7.4	8.4	---	---	---	6.5	6.7	6.3	6.8
10	7.5	7.2	---	7.5	---	---	---	---	7.0	6.7	6.5	6.9
11	7.3	7.3	---	7.4	10	---	11	---	7.0	6.7	6.4	6.7
12	7.5	7.0	---	7.3	8.0	---	12	---	7.0	6.7	6.8	6.9
13	7.5	6.9	---	7.3	7.3	---	---	---	7.0	6.8	7.2	6.9
14	7.7	7.2	---	7.2	7.2	---	---	---	7.0	6.8	7.2	6.8
15	7.6	7.0	---	7.2	7.2	---	---	---	7.0	6.7	7.1	6.6
16	---	7.0	---	7.2	7.1	---	---	---	7.0	6.6	7.2	6.7
17	7.7	6.8	8.7	7.2	---	---	---	---	7.0	6.6	7.2	6.7
18	7.8	6.8	8.6	7.3	---	---	---	---	7.0	6.6	6.9	6.8
19	7.8	7.1	8.6	7.3	---	---	---	---	6.9	6.6	6.3	---
20	7.8	7.0	8.6	7.3	---	---	---	---	6.9	6.5	6.5	---
21	7.6	6.9	8.5	7.3	---	---	---	---	6.9	6.5	6.5	---
22	7.6	6.8	8.3	7.3	---	---	---	---	8.8	6.5	6.8	---
23	7.2	6.9	8.4	---	12	---	---	11	7.0	6.5	6.8	---
24	7.3	7.0	8.5	---	10	---	---	9.5	7.0	6.4	6.9	---
25	7.3	7.2	8.4	---	9.9	---	---	9.9	6.9	6.4	6.9	---
26	7.1	7.0	8.4	9.6	---	---	---	9.8	6.9	6.4	6.5	---
27	7.2	7.8	8.4	7.5	---	---	---	9.1	6.9	6.4	6.9	---
28	7.2	8.2	8.4	7.2	---	---	---	8.1	6.8	6.4	6.8	---
29	7.2	---	8.0	7.2	---	---	---	7.6	6.8	6.5	6.9	6.8
30	7.1	---	7.4	7.2	---	---	---	7.1	6.8	6.4	6.8	6.7
31	7.2	---	7.3	7.3	---	---	---	6.9	---	6.4	6.9	---
TOTAL	---	---	---	---	---	---	---	---	220.5	205.2	207.7	---
MEAN	---	---	---	---	---	---	---	---	7.35	6.62	6.70	---
MAX	---	---	---	---	---	---	---	---	12	6.9	7.2	---
MIN	---	---	---	---	---	---	---	---	6.5	6.4	6.3	---
AC-FT	---	---	---	---	---	---	---	---	437	407	412	---

NOTE: Canal was out of service Sept. 19-28 and all flow remained in the natural channel. Discharges above 12 ft^3/s for many days during the year.

C-042121

11376460 SOUTH FORK BATTLE CREEK BELOW DIVERSION TO COLEMAN DITCH, NEAR MANTON, CA

LOCATION.--Lat 40°24'10", long 121°58'02", in NW 1/4 NW 1/4 sec.3, T.29 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on right bank 7.5 mi southwest of Shingletown and 5.7 mi southwest of Manton.

DRAINAGE AREA.--102 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-86 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 980 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 5.0 ft^3/s at all times; flow is computed to 10 ft^3/s. See schematic diagram of Battle Creek basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	7.4	7.3	7.2	6.8	9.1	7.2	7.6	7.7	7.8	6.8	7.1
2	7.7	7.4	7.3	7.2	6.8	7.5	7.2	7.6	7.6	7.3	6.8	7.1
3	7.7	7.4	7.3	7.2	6.8	7.8	7.2	7.6	7.7	8.2	6.8	7.1
4	7.6	7.4	7.4	7.2	6.9	7.4	7.3	7.6	7.6	8.3	7.1	7.1
5	7.7	7.6	7.3	7.1	6.9	---	7.2	9.3	7.6	7.5	7.4	7.2
6	7.7	7.4	7.3	7.0	7.0	---	7.3	8.9	7.8	6.4	6.9	7.4
7	7.6	7.4	7.4	7.0	---	---	7.2	---	7.7	6.5	6.9	7.2
8	7.6	7.4	---	7.0	---	---	7.3	---	7.7	6.4	6.9	7.3
9	7.6	7.4	---	7.0	7.4	---	7.6	---	7.6	6.4	6.9	7.3
10	7.5	7.4	7.3	7.0	---	---	7.3	---	7.7	6.4	6.8	7.3
11	7.5	7.3	---	7.0	8.2	---	7.4	9.0	8.1	6.3	6.9	7.3
12	7.7	7.3	---	7.2	6.8	---	7.4	8.7	8.1	6.4	6.9	---
13	7.7	7.3	7.3	7.1	6.8	---	7.4	7.6	8.2	7.0	6.9	---
14	7.6	7.3	---	7.0	6.8	---	7.4	7.3	7.9	8.1	7.0	---
15	7.6	7.3	---	7.0	6.8	---	7.5	7.4	7.4	8.5	7.0	---
16	8.1	7.3	7.2	7.1	6.8	---	7.4	8.1	7.3	8.3	7.1	7.3
17	7.5	7.4	7.3	7.0	---	---	7.6	9.4	7.4	8.0	7.1	7.4
18	7.5	7.4	7.2	7.1	---	---	7.7	8.5	7.4	7.7	6.8	7.3
19	7.5	7.3	7.2	7.0	---	---	7.8	9.2	7.4	8.6	7.0	6.9
20	7.5	7.3	7.2	7.0	---	8.4	8.0	7.4	7.4	7.7	7.0	6.6
21	7.6	7.2	7.1	6.9	---	7.4	7.6	7.4	7.4	6.6	7.0	6.8
22	7.6	7.2	7.0	6.9	---	7.1	7.5	7.5	7.3	6.5	7.0	6.8
23	7.5	7.2	7.1	7.0	7.0	7.0	7.6	7.5	7.2	6.8	7.0	6.8
24	7.5	7.2	7.2	---	6.8	7.1	7.6	8.2	7.4	7.1	6.5	6.8
25	7.5	7.3	7.1	---	6.8	7.1	7.6	9.1	7.4	7.5	7.0	6.8
26	7.5	7.3	7.2	6.8	7.7	7.1	7.5	8.8	7.5	7.6	7.0	6.8
27	7.5	7.3	7.1	7.0	---	7.1	7.6	8.8	7.8	7.1	7.0	6.7
28	7.5	7.3	7.2	6.9	---	7.2	7.6	8.8	7.3	7.3	7.0	6.7
29	7.4	8.0	7.2	6.9	---	7.1	7.6	8.8	6.8	7.9	7.1	6.6
30	7.4	---	7.2	6.9	---	7.1	7.6	8.8	7.5	8.0	7.1	6.6
31	7.4	---	7.2	6.9	---	7.2	---	8.1	---	7.4	7.1	---
TOTAL	235.0	---	---	---	---	---	224.2	---	226.9	227.6	215.8	---
MEAN	7.58	---	---	---	---	---	7.47	---	7.56	7.34	6.96	---
MAX	8.1	---	---	---	---	---	8.0	---	8.2	8.6	7.4	---
MIN	7.4	---	---	---	---	---	7.2	---	6.8	6.3	6.5	---
AC-FT	466	---	---	---	---	---	445	---	450	451	428	---

NOTE: Canal was out of service Sept. 12-15 and all flow remained in the natural channel. Discharges above 10.0 ft^3/s for many days during the year.

C-042122

11376550 BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'54", long 122°08'43", in SW 1/4 NE 1/4 sec.1, T.29 N., R.3 W., Shasta County, Hydrologic Unit 18020101, U.S. Fish and Wildlife Service land, on right bank 3.7 mi downstream from Spring Branch, 5.7 mi upstream from mouth, and 7.0 mi east of Cottonwood.

DRAINAGE AREA.--357 mi^2.

PERIOD OF RECORD.--October 1961 to current year. October 1940 to September 1961 at site 0.8 mi upstream published as "near Cottonwood"; low-flow records not equivalent owing to Coleman Fish Hatchery diversion, maximum flows considered equivalent.
CHEMICAL DATA: Water years 1962-66.
WATER TEMPERATURE: Water years 1966-79.
SEDIMENT DATA: Water years 1962-70.

GAGE.--Water-stage recorder. Elevation of gage is 415 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Some regulation at low flows by five small powerplants, several small reservoirs, and Coleman Fish Hatchery. Coleman Fish Hatchery diverts from 50 to 90 ft^3/s and pumps ground water for temperature control, which is returned above the station. At times, 10 ft^3/s diverted upstream from station for irrigation. See schematic diagrams of Battle Creek and upper Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft^3/s, Jan. 24, 1970, gage height, 14.75 ft, from rating curve extended above 4,200 ft^3/s on basis of slope-area measurement of peak flow; minimum, 52 ft^3/s, Aug. 8, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 15.8 ft, Dec. 11, 1937, from floodmarks, site and datum then in use, discharge, 35,000 ft^3/s by slope-area measurement.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 11	1630	*2,510	*4.52

Minimum daily, 155 ft^3/s, Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	266	343	292	292	487	341	301	313	231	186	188
2	220	255	321	278	287	460	344	295	311	232	187	190
3	221	248	306	273	277	443	351	292	305	232	188	191
4	222	248	300	276	275	426	346	304	304	232	185	185
5	222	245	295	322	273	494	331	380	311	224	177	193
6	237	254	288	307	410	553	331	374	326	228	175	184
7	237	249	289	297	1140	483	341	492	319	223	171	185
8	233	249	435	299	980	452	328	465	299	217	170	186
9	236	255	573	304	445	429	369	429	296	213	170	188
10	234	263	392	298	827	443	351	435	286	219	171	188
11	232	265	999	289	518	531	322	426	289	223	171	189
12	256	280	634	280	384	455	313	432	289	219	168	168
13	255	272	421	281	348	424	316	404	289	208	173	178
14	338	266	1080	278	323	418	319	375	284	204	170	181
15	423	264	556	276	310	421	322	361	274	204	163	205
16	564	262	396	274	305	479	330	382	265	194	171	184
17	400	262	354	280	771	575	356	412	259	186	178	182
18	313	258	331	279	1040	438	362	386	261	181	167	181
19	288	254	318	278	635	428	359	397	255	181	174	170
20	277	254	311	284	940	418	368	371	250	180	174	177
21	272	255	305	281	674	397	361	353	243	184	175	184
22	268	264	300	285	512	394	341	340	244	192	182	176
23	279	264	300	473	424	378	329	330	240	190	187	179
24	265	253	293	990	394	362	328	318	244	172	180	184
25	269	252	289	521	380	355	331	316	251	173	170	186
26	264	254	288	437	424	347	335	325	247	183	179	183
27	267	259	291	366	725	348	326	329	245	187	177	183
28	270	267	291	336	542	353	311	317	241	189	175	193
29	270	352	283	318	---	352	300	311	225	189	155	197
30	268	499	284	310	---	348	302	314	231	195	161	190
31	266	---	287	304	---	344	---	314	---	188	185	---
TOTAL	8581	8088	12153	10366	14855	13235	10064	11280	8196	6273	5415	5548
MEAN	277	270	392	334	531	427	335	364	273	202	175	185
MAX	564	499	1080	990	1140	575	369	492	326	232	188	205
MIN	215	245	283	273	273	344	300	292	225	172	155	168
AC-FT	17020	16040	24110	20560	29460	26250	19960	22370	16260	12440	10740	11000

C-042123

11376550 BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	296	420	559	727	693	713	625	578	457	318	256	255
MAX	589	1058	1602	2434	1919	1802	1135	1070	1074	666	461	423
(WY)	1963	1982	1984	1970	1986	1983	1982	1983	1983	1983	1983	1983
MIN	139	205	224	234	260	266	231	266	207	168	160	154
(WY)	1993	1993	1992	1991	1977	1977	1977	1977	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1962 - 1994	
ANNUAL TOTAL	212341		114054			
ANNUAL MEAN	582		312		491	
HIGHEST ANNUAL MEAN					869	1983
LOWEST ANNUAL MEAN					238	1977
HIGHEST DAILY MEAN	3100	Feb 19	1140	Feb 7	10900	Jan 16 1974
LOWEST DAILY MEAN	197	Sep 13	155	Aug 29	102	Oct 27 1992
ANNUAL SEVEN-DAY MINIMUM	217	Sep 26	169	Aug 9	110	Oct 22 1992
INSTANTANEOUS PEAK FLOW			2510	Dec 11	24300	Jan 24 1970
INSTANTANEOUS PEAK STAGE			4.52	Dec 11	14.75	Jan 24 1970
ANNUAL RUNOFF (AC-FT)	421200		226200		355500	
10 PERCENT EXCEEDS	1020		443		856	
50 PERCENT EXCEEDS	440		287		361	
90 PERCENT EXCEEDS	245		181		221	

C-042124

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA

LOCATION.--Lat 40°17'19", long 122°11'08", in NW 1/4 NE 1/4 sec.15, T.28 N., R.3 W., Tehama County, Hydrologic Unit 18020103, on left bank 2.7 mi upstream from Bend Bridge, and 8.1 mi northeast of Red Bluff.

DRAINAGE AREA.--8,900 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--1879-88 annual observed maximums only, published in WSP 1315-A. January 1892 to current year. Monthly discharges only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Published as "at Red Bluff" 1894-96, as "at Jellys Ferry" 1895-1902, and as "near Red Bluff" 1903-68 (station 11378000).
CHEMICAL DATA: Water years 1955-80.
SPECIFIC CONDUCTANCE: Water years 1955-83.
WATER TEMPERATURE: Water years 1955-80.
SEDIMENT DATA: Water years 1958-70, 1977-83.

REVISED RECORDS.--WSP 861: 1904, 1907, 1909, 1914-15, 1927-28. WSP 1315-A: 1916(M), 1918(M), 1941(M). WSP 1931: Drainage area. WDR CA-69-2: 1965.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 285.77 ft above sea level. See WSP 2131 for history of changes prior to September 1968.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Shasta Lake (station 11370000), 52 mi upstream, since Dec. 30, 1943. Diversions, in addition to those on tributaries, for irrigation of about 22,000 acres between stations at Keswick and above Bend Bridge. Transbasin diversion from Trinity River to Whiskeytown Lake (station 11371700) via Judge Francis Carr Powerplant (station 11525430) started in April 1963. See schematic diagram of upper Sacramento, Pit, and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291,000 ft^3/s, Feb. 28, 1940, gage height, 38.9 ft, site and datum then in use, from rating curve extended above 170,000 ft^3/s on basis of velocity-area studies; minimum (water years 1892-1994), 2,000 ft^3/s, Mar. 29, 1944. Since regulation by Shasta Lake in 1943, maximum discharge, 170,000 ft^3/s, Dec. 22, 1964, gage height, 28.15 ft, site and datum then in use; maximum gage height, 36.60 ft, Jan. 24, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,300 ft^3/s, Feb. 10, gage height, 8.89 ft; minimum daily, 4,620 ft^3/s, Apr. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9320	6120	6280	6070	5000	6410	4980	7890	9690	10400	11800	12400
2	9370	6210	6160	6120	4950	6180	4960	9020	9010	10400	11200	12700
3	9280	6150	6110	6170	4910	6080	4980	8810	8340	10500	11000	11800
4	9170	6200	6070	6190	4840	5960	4950	8250	8030	10500	11000	11500
5	9050	6060	6040	6210	4750	6160	4940	8580	8320	10700	11000	11200
6	8730	6020	6080	5990	5630	6310	4910	8830	8510	10500	10600	10900
7	8330	6000	6090	5790	13200	5960	4900	8960	8560	11100	10400	10500
8	7960	6000	7150	5600	10100	5680	4870	8650	8870	11500	10500	9980
9	7670	6010	8130	5510	6610	5520	6010	8620	9560	11900	10800	9970
10	7740	5990	7040	5370	10400	5500	5260	9360	9830	12400	11000	10000
11	7460	6000	9920	5250	8410	5970	4990	9440	9880	12600	10600	9760
12	7220	6050	9370	5180	6420	5520	4800	10200	9880	12600	10500	9530
13	7050	6070	7130	5210	5820	5370	4620	9800	9540	12600	10500	9500
14	6910	6030	12200	5170	5530	5280	4750	9280	9350	12600	10500	9420
15	7340	6030	8470	5160	5350	5230	5080	8610	9600	12600	10500	9020
16	9340	6010	7040	5140	5240	5430	5320	7930	10100	12600	10500	8670
17	7150	5970	6730	5120	9250	6790	5860	7490	10300	12700	10500	8360
18	6700	5820	6530	5100	9750	5560	6190	7150	10300	12700	11500	8170
19	6550	5940	6420	5070	8700	5310	6370	7500	10300	12700	12200	7930
20	6470	5930	6330	5090	13600	5210	6820	7870	10200	12900	12000	7970
21	6250	5800	6300	5080	10600	5100	7120	7820	10300	12600	12100	7970
22	6180	5960	6300	4960	8610	5030	7220	8140	10500	12700	12100	8010
23	6170	6100	6240	6050	6990	5040	7390	8880	10500	12600	12200	7930
24	6130	6120	6220	9960	6350	5030	7790	9930	10500	12700	12100	7660
25	6280	6060	6220	7900	6110	4980	8230	10200	10500	12700	11900	7440
26	6070	6100	6160	7880	6100	4930	9030	9510	10500	12400	12100	7510
27	5930	6030	6200	6250	8790	4890	7740	8760	10500	12200	12100	7480
28	5900	6270	6210	5560	7080	4850	7420	8380	10500	12200	12200	7420
29	6090	6540	6190	5330	---	4800	7490	8980	10400	11900	12200	7010
30	6120	6930	6150	5120	---	4790	7830	9710	10500	11700	12300	6770
31	6100	---	6120	4990	---	4880	---	10000	---	11700	12300	---
TOTAL	226040	182520	213600	179590	209090	169750	182820	272550	292870	371900	352200	274480
MEAN	7292	6084	6890	5793	7467	5476	6094	8792	9762	12000	11360	9149
MAX	9370	6930	12200	9960	13600	6790	9030	10200	10500	12900	12300	12700
MIN	5900	5800	6040	4960	4750	4790	4620	7150	8030	10400	10400	6770
AC-FT	448400	362000	423700	356200	414700	336700	362600	540600	580900	737700	698600	544400

C—042125

C-042125

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1892 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4853	7538	11940	18960	24760	22210	18280	12310	7635	5127	4381	4404
MAX	10910	21420	42780	72340	69240	73280	38810	27910	17640	10170	9050	8481
(WY)	1905	1904	1893	1909	1902	1904	1904	1896	1906	1893	1893	1893
MIN	2847	3300	3618	4142	4778	4434	4014	3253	2969	2622	2505	2551
(WY)	1933	1937	1937	1937	1920	1924	1924	1924	1924	1931	1931	1934

SUMMARY STATISTICS	WATER YEARS 1892 - 1943		
ANNUAL MEAN	11800		
HIGHEST ANNUAL MEAN	22180		1904
LOWEST ANNUAL MEAN	4086		1924
HIGHEST DAILY MEAN	261000	Feb 28	1940
LOWEST DAILY MEAN	2400	Aug 13	1931
ANNUAL SEVEN-DAY MINIMUM	2470	Aug 7	1931
INSTANTANEOUS PEAK FLOW	291000	Feb 28	1940
INSTANTANEOUS PEAK STAGE	38.9	Feb 28	1940
ANNUAL RUNOFF (AC-FT)	8545000		
10 PERCENT EXCEEDS	24000		
50 PERCENT EXCEEDS	6500		
90 PERCENT EXCEEDS	3520		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6501	6932	11440	16840	19340	11950	10210	10260	9469	10030	10030	7510
MAX	10490	11180	29530	52620	76870	24840	32420	17830	12930	11630	11800	10230
(WY)	1958	1958	1956	1956	1958	1958	1958	1948	1948	1951	1958	1958
MIN	5468	4681	4336	5104	4579	4727	5335	6788	7253	7476	7080	5289
(WY)	1960	1960	1960	1957	1948	1955	1950	1947	1947	1947	1947	1947

SUMMARY STATISTICS	WATER YEARS 1946 - 1962		
ANNUAL MEAN	10840		
HIGHEST ANNUAL MEAN	20330		1958
LOWEST ANNUAL MEAN	6690		1947
HIGHEST DAILY MEAN	125000	Feb 19	1958
LOWEST DAILY MEAN	3640	Jan 31	1949
ANNUAL SEVEN-DAY MINIMUM	3830	Feb 27	1948
INSTANTANEOUS PEAK FLOW	139000	Feb 19	1958
INSTANTANEOUS PEAK STAGE	24.98	Feb 19	1958
ANNUAL RUNOFF (AC-FT)	7852000		
10 PERCENT EXCEEDS	16900		
50 PERCENT EXCEEDS	8430		
90 PERCENT EXCEEDS	5190		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6901	9499	14280	17320	18140	16270	11990	11770	11780	12520	11460	8303
MAX	10600	29690	43350	61060	58190	75830	35110	22510	17460	15320	14630	11330
(WY)	1984	1974	1984	1970	1983	1983	1974	1983	1983	1983	1983	1971
MIN	3935	4068	4296	4573	4700	5476	4804	7322	7431	7811	7998	5323
(WY)	1978	1993	1977	1992	1990	1994	1991	1992	1992	1992	1992	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1964 - 1994	
ANNUAL TOTAL	4549140		2927410			
ANNUAL MEAN	12460		8020		12500	
HIGHEST ANNUAL MEAN					25450	1983
LOWEST ANNUAL MEAN					6494	1991
HIGHEST DAILY MEAN	78600	Mar 24	13600	Feb 20	127000	Jan 27 1970
LOWEST DAILY MEAN	5500	Jan 6	4620	Apr 13	3200	Oct 11 1977
ANNUAL SEVEN-DAY MINIMUM	5920	Nov 16	4870	Mar 25	3210	Oct 10 1977
INSTANTANEOUS PEAK FLOW			19300	Feb 10	170000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			8.89	Feb 10	36.60	Jan 24 1970
ANNUAL RUNOFF (AC-FT)	9023000		5807000		9056000	
10 PERCENT EXCEEDS	19200		11900		18800	
50 PERCENT EXCEEDS	10200		7490		9850	
90 PERCENT EXCEEDS	6100		5120		5370	

C-042126

11379500 ELDER CREEK NEAR PASKENTA, CA

LOCATION.--Lat 40°01'29", long 122°30'31", in SE 1/4 NW 1/4 sec.14, T.25 N., R.6 W., Tehama County, Hydrologic Unit 18020103, on left bank 2.5 mi downstream from South Fork Elder Creek, 8.2 mi northwest of Flournoy, and 10 mi north of Paskenta.

DRAINAGE AREA.--92.4 mi^2.

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1959-66.
WATER TEMPERATURE: Water year 1963.
SEDIMENT DATA: Water years 1963-70.

REVISED RECORDS.--WSP 1515: 1956. WDR CA-70-2: 1967(P). WDR CA-75-4: 1966-67(P), 1969-71(P), 1973(P). WDR CA-78-4: Drainage area. WDR CA-94-4: 1993(P).

GAGE.--Water-stage recorder. Datum of gage is 718.1 ft above sea level. Prior to Aug. 13, 1965, water-stage recorder at site 300 ft downstream at datum 5.13 ft lower.

REMARKS.--No estimated daily discharges. Records good. No regulation or large diversion upstream from station. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft^3/s, Feb. 28, 1983, gage height, 12.10 ft, from rating curve extended above 5,200 ft^3/s on basis of slope-area measurements at gage height 11.34 ft and of peak flow; maximum gage height, 13.90 ft, Feb. 24, 1958, site and datum then in use; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 7	0130	*848	*4.76				

No flow for many days.

REVISIONS.--The discharge for a 1993 water year peak has been revised to 2,570 ft^3/s, Feb. 8, 1993, gage-height, 6.80 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	6.7	12	13	20	72	25	26	11	1.8	.00	.02
2	4.6	6.4	11	18	19	75	25	25	11	1.7	.00	.04
3	4.5	6.4	10	15	18	78	27	24	10	1.9	.00	.16
4	4.9	6.6	9.8	15	17	81	26	25	9.5	1.7	.00	.21
5	6.7	6.7	9.9	15	17	125	26	33	9.6	1.4	.00	.20
6	8.1	6.5	9.9	14	91	121	26	30	10	1.1	.00	.09
7	8.3	6.6	11	13	366	88	25	84	9.6	.85	.00	.08
8	7.8	6.7	45	13	92	71	27	59	8.5	.73	.00	.17
9	7.2	6.7	36	14	51	66	28	43	7.7	.60	.00	.21
10	8.7	6.8	20	13	84	68	24	37	6.9	.50	.00	.21
11	12	9.4	39	12	68	62	23	32	6.3	.38	.00	.34
12	11	9.1	29	12	46	53	22	30	6.4	.41	.00	.43
13	10	8.4	20	11	37	48	21	26	6.3	.35	.00	.48
14	13	7.7	39	11	32	48	21	24	5.8	.27	.00	.47
15	13	7.4	26	11	29	50	21	23	5.5	.21	.00	.33
16	13	7.4	19	11	28	48	21	28	5.7	.09	.00	.30
17	12	7.4	16	11	251	45	22	43	5.6	.06	.00	.25
18	10	7.7	15	10	101	42	22	51	5.5	.03	.00	.27
19	9.8	7.7	13	10	158	39	22	34	5.3	.00	.00	.16
20	9.5	7.7	13	10	208	36	22	29	4.9	.02	.00	.20
21	9.3	7.7	13	11	162	34	21	25	4.5	.08	.00	.18
22	9.0	7.7	12	14	113	33	21	22	4.4	.17	.00	.11
23	8.5	7.7	12	139	79	31	28	20	4.0	.19	.00	.07
24	8.0	7.7	11	181	66	31	63	18	3.8	.20	.00	.15
25	7.6	8.3	11	108	63	30	47	16	3.4	.11	.00	.22
26	6.9	8.5	11	71	68	28	87	16	3.4	.06	.00	.23
27	6.3	8.4	11	42	78	26	40	15	3.0	.00	.00	.28
28	6.0	9.9	11	32	69	26	32	15	2.5	.00	.00	.35
29	6.3	16	11	26	---	26	29	13	2.3	.00	.00	.46
30	6.4	17	11	23	---	27	27	12	2.0	.00	.03	.48
31	6.5	---	11	21	---	26	---	12	---	.00	.03	---
TOTAL	259.5	244.9	528.7	920	2431	1634	871	890	184.4	14.91	0.06	7.15
MEAN	8.37	8.16	17.1	29.7	86.8	52.7	29.0	28.7	6.15	.48	.002	.24
MAX	13	17	45	181	366	125	87	84	11	1.9	.03	.48
MIN	4.5	6.4	9.9	10	17	26	21	12	2.0	.00	.00	.02
AC-FT	515	486	1050	1820	4820	3240	1730	1770	366	30	.1	14

C-042127

11379500 ELDER CREEK NEAR PASKENTA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.74	50.3	133	227	273	219	144	74.1	27.0	8.00	3.12	3.02
MAX	102	310	649	887	1636	1176	497	355	128	28.7	11.1	11.3
(WY)	1958	1974	1984	1970	1958	1983	1958	1983	1967	1983	1983	1978
MIN	.66	2.89	4.06	5.38	7.00	22.6	13.8	13.4	2.52	.32	.002	.14
(WY)	1992	1991	1991	1991	1977	1964	1977	1977	1977	1977	1994	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1949 - 1994	
ANNUAL TOTAL	49219.0		7985.62			
ANNUAL MEAN	135		21.9		96.8	
HIGHEST ANNUAL MEAN					303	1983
LOWEST ANNUAL MEAN					6.69	1977
HIGHEST DAILY MEAN	3950	Jan 20	366	Feb 7	7650	Dec 22 1964
LOWEST DAILY MEAN	4.2	Sep 13	.00	Jul 19	.00	Aug 6 1950
ANNUAL SEVEN-DAY MINIMUM	4.7	Sep 9	.00	Jul 27	.00	Aug 14 1950
INSTANTANEOUS PEAK FLOW			949	Feb 7	17700	Feb 28 1983
INSTANTANEOUS PEAK STAGE			4.76	Feb 7	13.90	Feb 24 1958
ANNUAL RUNOFF (AC-FT)	97630		15840		70120	
10 PERCENT EXCEEDS	297		55		226	
50 PERCENT EXCEEDS	41		11		18	
90 PERCENT EXCEEDS	6.5		.02		1.4	

C-042128

11381500 MILL CREEK NEAR LOS MOLINOS, CA

LOCATION.--Lat 40°03'17", long 122°01'23", in NE 1/4 NW 1/4 sec.6, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on right bank 4.5 mi northeast of Los Molinos and 5.5 mi upstream from mouth.

DRAINAGE AREA.--131 mi^2.

PERIOD OF RECORD.--September 1909 to August 1913 (fragmentary), October 1928 to current year.

REVISED RECORDS.--WSP 1315-A: 1929(M). WSP 1931: Drainage area. WSP 2131: 1938(M).

GAGE.--Water-stage recorder. Elevation of gage is 385 ft above sea level, from topographic map. Prior to September 1913, nonrecording gage at site 0.3 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. No storage or large diversion upstream from station. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD (water years 1928-94).--Maximum discharge, 36,400 ft^3/s, Dec. 11, 1937, gage height, 23.4 ft, from floodmarks, from rating curve extended above 14,000 ft^3/s on basis of step-backwater computation and slope-area measurement of peak flow; minimum, 49 ft^3/s, Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 8	1800	*1,510	*5.80				

Minimum daily, 73 ft^3/s, several days during August.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	106	145	137	146	279	211	190	195	106	78	74
2	104	106	140	141	144	272	216	192	192	105	77	75
3	103	106	133	139	142	273	222	192	187	104	77	76
4	104	106	130	144	140	274	222	222	182	104	78	76
5	107	106	129	178	137	380	207	296	176	103	78	75
6	108	106	125	161	214	361	205	295	188	101	77	75
7	107	106	129	151	824	307	205	362	178	99	77	75
8	104	106	527	147	488	277	195	331	169	99	77	75
9	103	106	451	149	261	266	226	352	164	97	77	75
10	108	107	239	143	345	275	205	357	161	96	76	76
11	126	111	547	140	320	326	190	356	161	95	75	77
12	127	127	348	137	231	279	189	353	161	94	75	78
13	115	117	233	136	203	258	195	315	158	93	75	79
14	170	113	982	135	184	260	202	281	153	93	74	78
15	164	110	370	136	173	276	215	266	149	92	74	77
16	240	111	225	135	165	263	236	258	147	91	74	76
17	173	112	188	135	559	252	253	266	142	89	74	75
18	136	112	170	136	471	242	265	237	137	88	73	75
19	128	112	159	136	322	243	279	228	133	88	73	76
20	124	111	152	136	431	233	296	215	131	88	73	75
21	123	111	147	135	381	224	275	205	127	86	73	75
22	121	114	144	136	304	223	251	197	123	86	73	75
23	121	116	140	180	243	206	231	197	121	86	73	75
24	117	112	138	693	220	195	215	199	120	84	74	75
25	115	112	137	331	211	190	215	208	119	82	74	76
26	113	112	137	231	230	186	208	214	116	81	73	76
27	110	112	137	195	344	189	201	214	114	81	74	75
28	109	114	137	175	312	197	188	206	112	81	73	77
29	110	181	135	163	---	205	187	202	110	80	73	80
30	109	234	135	157	---	203	186	203	107	80	74	81
31	108	---	136	151	---	212	---	198	---	79	74	---
TOTAL	3811	3515	7045	5399	8145	7826	6591	7807	4433	2831	2320	2283
MEAN	123	117	227	174	291	252	220	252	148	91.3	74.8	76.1
MAX	240	234	982	693	824	380	296	362	195	106	78	81
MIN	103	106	125	135	137	186	186	190	107	79	73	74
AC-FT	7560	6970	13970	10710	16160	15520	13070	15490	8790	5620	4600	4530

C-042129

11381500 MILL CREEK NEAR LOS MOLINOS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	125	202	344	421	465	440	428	433	322	173	115	105
MAX	684	1039	1365	1837	1744	1278	862	923	736	456	230	168
(WY)	1963	1974	1965	1970	1986	1983	1982	1938	1983	1983	1983	1983
MIN	76.0	75.1	87.4	96.8	98.6	107	111	122	94.9	67.8	61.4	65.4
(WY)	1930	1930	1977	1977	1977	1977	1977	1977	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1929 - 1994	
ANNUAL TOTAL	142946		62006			
ANNUAL MEAN	392		170		297	
HIGHEST ANNUAL MEAN					576	1974
LOWEST ANNUAL MEAN					93.6	1977
HIGHEST DAILY MEAN	2910	Feb 19	982	Dec 14	12800	Dec 22 1964
LOWEST DAILY MEAN	103	Oct 3	73	Aug 18	52	Dec 12 1932
ANNUAL SEVEN-DAY MINIMUM	104	Sep 28	73	Aug 17	60	Jul 28 1931
INSTANTANEOUS PEAK FLOW			1510	Dec 8	36400	Dec 11 1937
INSTANTANEOUS PEAK STAGE			5.80	Dec 8	23.40	Dec 11 1937
ANNUAL RUNOFF (AC-FT)	283500		123000		215000	
10 PERCENT EXCEEDS	728		279		567	
50 PERCENT EXCEEDS	257		137		175	
90 PERCENT EXCEEDS	111		76		90	

C-042130

11382000 THOMES CREEK AT PASKENTA, CA

LOCATION.--Lat 39°53'16", long 122°31'41", in SE 1/4 SW 1/4 sec.34, T.24 N., R.6 W., Tehama County, Hydrologic Unit 18020103, on left bank 1.0 mi downstream from highway bridge and 1.2 mi downstream from Digger Creek at Paskenta.

DRAINAGE AREA.--203 mi^2.

PERIOD OF RECORD.--October 1920 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to 1943, published as Thomas Creek at Paskenta.
CHEMICAL DATA: Water years 1959-81.
WATER TEMPERATURE: Water years 1962-78, 1981-83.
SEDIMENT DATA: Water years 1963-73, 1981-83.

REVISED RECORDS.--WSP 1345: 1923, 1924-28(M), 1938, 1940(M). WDR CA-78-4: Drainage area. WDR CA-79-4: 1965(M). WDR CA-81-4: 1980(M). WDR CA-86-4.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 720 ft above sea level, from topographic map. Prior to June 20, 1942, nonrecording gage and water-stage recorder at several sites about 1.5 mi upstream at different datums; June 21, 1942, to Sept. 30, 1959, water-stage recorder at site 1.4 mi upstream at datum 732.85 ft and Oct. 1, 1959, to Oct. 9, 1974, at datum 731.10 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. No storage or large diversions upstream from station. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,800 ft^3/s, Dec. 22, 1964, gage height, 12.7 ft, from floodmarks, present site and datum, from rating curve extended above 6,000 ft^3/s on basis of slope-area measurements at gage height 10.10 ft and of peak flow; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 8	1900	*1,120	*4.97

No flow Aug. 8 to Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	7.5	34	46	97	379	138	115	56	8.4	.50	.00
2	4.7	7.2	22	148	92	470	144	109	51	8.0	.39	.00
3	4.5	7.5	21	101	86	478	159	106	47	7.7	.35	.00
4	5.7	7.5	19	83	80	479	154	108	43	7.2	.27	.00
5	7.0	7.4	19	112	75	712	145	163	41	6.8	.13	.00
6	6.6	7.5	18	87	125	686	143	151	41	6.0	.07	.00
7	6.9	7.5	18	69	270	505	139	228	42	5.5	.02	.00
8	6.7	7.1	444	61	129	427	132	208	37	5.0	.00	.00
9	6.4	7.6	297	68	101	428	137	187	33	5.0	.00	.00
10	7.9	7.9	120	62	132	436	124	184	30	4.3	.00	.00
11	9.6	9.5	131	55	168	396	114	172	28	3.9	.00	.00
12	11	9.6	124	50	118	323	113	156	26	3.3	.00	.00
13	13	9.4	81	45	106	297	117	135	24	2.9	.00	.00
14	16	9.9	88	43	96	330	120	118	22	2.5	.00	.00
15	17	9.4	72	42	92	340	127	111	21	2.6	.00	.00
16	17	9.4	55	42	93	293	139	117	21	2.2	.00	.00
17	19	9.5	48	38	210	267	150	108	21	2.1	.00	.00
18	17	9.6	43	39	172	240	158	107	20	1.6	.00	.00
19	15	9.9	38	39	204	225	165	113	20	1.5	.00	.00
20	13	10	37	39	218	201	154	132	18	1.4	.00	.00
21	12	10	36	40	185	188	143	114	17	1.7	.00	.00
22	11	10	36	140	152	176	133	101	16	1.6	.00	.00
23	10	10	36	584	132	165	128	92	15	1.5	.00	.00
24	10	11	34	444	130	160	148	86	13	1.6	.00	.00
25	9.2	11	34	260	155	150	144	84	13	1.2	.00	.00
26	8.4	11	34	191	168	139	165	83	12	.95	.00	.00
27	8.1	11	36	158	250	132	147	79	11	.77	.00	.00
28	8.3	13	36	135	289	139	135	74	11	.54	.00	.00
29	7.9	19	34	115	---	146	126	66	9.6	.48	.00	.00
30	7.8	41	33	108	---	147	116	60	8.9	.40	.00	.00
31	7.7	---	39	103	---	141	---	58	---	.37	.00	---
TOTAL	309.0	317.9	2117	3547	4125	9595	4157	3725	768.5	99.01	1.73	0.00
MEAN	9.97	10.6	68.3	114	147	310	139	120	25.6	3.19	.056	.000
MAX	19	41	444	584	289	712	165	228	56	8.4	.50	.00
MIN	4.5	7.1	18	38	75	132	113	58	8.9	.37	.00	.00
AC-FT	613	631	4200	7040	8180	19030	8250	7390	1520	196	3.4	.00

C—042131

C-042131

11382000 THOMES CREEK AT PASKENTA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.2	163	399	559	687	595	545	344	114	22.9	6.13	5.05
MAX	310	1500	2879	2900	3483	2007	1879	1406	591	133	38.1	25.5
(WY)	1963	1921	1965	1970	1986	1983	1969	1983	1983	1983	1983	1986
MIN	.000	2.85	6.93	12.4	23.2	48.9	45.3	18.2	1.41	.000	.000	.000
(WY)	1930	1933	1937	1937	1977	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1921 - 1994	
ANNUAL TOTAL	153693.3		28762.14			
ANNUAL MEAN	421		78.8		287	
HIGHEST ANNUAL MEAN					772	1983
LOWEST ANNUAL MEAN					21.5	1977
HIGHEST DAILY MEAN	5350	Jan 20	712	Mar 5	29800	Dec 22 1964
LOWEST DAILY MEAN	4.3	Sep 14	.00	Aug 8	.00	Sep 1 1921
ANNUAL SEVEN-DAY MINIMUM	4.6	Sep 27	.00	Aug 8	.00	Sep 1 1921
INSTANTANEOUS PEAK FLOW			1120	Dec 8	37800	Dec 22 1964
INSTANTANEOUS PEAK STAGE			4.97	Dec 8	12.70	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	304900		57050		207600	
10 PERCENT EXCEEDS	1060		186		746	
50 PERCENT EXCEEDS	124		34		73	
90 PERCENT EXCEEDS	7.2		.00		2.3	

C-042132

11383500 DEER CREEK NEAR VINA, CA

LOCATION.--Lat 40°00'51", long 121°56'50", in NW 1/4 NE 1/4 sec.23, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on left bank 0.5 mi upstream from irrigation diversion dam and 7.9 mi northeast of Vina.

DRAINAGE AREA.--208 mi^2.

PERIOD OF RECORD.--October 1911 to September 1915, March 1920 to current year. December 1937 to January 1939 first published in WDR CA-94-4. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1940-42(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 479.2 ft above sea level, from river-profile survey. Prior to Oct. 9, 1928, nonrecording gage at site 0.8 mi downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, water-stage recorder at present site at datum 2.64 ft higher.

REMARKS.--Records good. No storage or large diversions upstream from station. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,800 ft^3/s, Dec. 10, 1937, gage height, 19.2 ft, present datum, from floodmarks, from rating curve extended above 9,200 ft^3/s on basis of velocity-area studies; minimum, 43 ft^3/s, Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 7	0630	*1,410	*5.67				

Minimum daily, 61 ft^3/s, many days during August.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1937 TO SEPTEMBER 1938
DAILY MEAN VALUES
(DECEMBER 11 TO SEPTEMBER 30 NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	86	202	e247	e1970	e1220	e591	e797	e528	e284	e147	e114
2	180	82	186	e274	e3590	e2050	e557	e813	e534	e280	e145	e113
3	188	80	177	e283	e2350	e1540	e550	e718	e545	e257	e144	e113
4	121	80	168	e271	e1660	e1140	e828	e683	e553	e247	e140	e113
5	96	80	157	e267	e1140	e961	e1180	e683	e543	e242	e138	e113
6	88	83	149	e249	e1380	e1050	e849	e660	e540	e238	e135	e112
7	80	89	144	e241	e1460	e1070	e736	e651	e521	e233	e137	e112
8	79	89	140	e232	e3950	e1070	e707	e669	e507	e226	e133	e113
9	77	86	186	e222	e3980	e901	e733	e718	e481	e221	e130	e111
10	77	95	5520	e207	e4350	e797	e752	e748	e451	e217	e130	e110
11	77	282	e13700	e204	e2850	e762	e734	e769	e431	e213	e128	e109
12	77	212	e4540	e197	e1780	e3460	e718	e807	e400	e213	e127	e109
13	79	138	e2170	e196	e2620	e3040	e679	e922	e388	e211	e125	e109
14	101	153	e1230	e189	e1740	e1790	e636	e1060	e379	e213	e125	e109
15	159	212	e816	e399	e1260	e1280	e620	e1060	e382	e219	e125	e106
16	112	504	e646	e456	e919	e2490	e618	e1000	e386	e213	e124	e106
17	95	1060	e547	e1210	e750	e1790	e667	e895	e381	e213	e124	e105
18	89	394	e503	e798	e779	e1310	e863	e783	e343	e209	e123	e105
19	86	363	e439	e682	e691	e1450	e1030	e696	e332	e213	e123	e108
20	83	2550	e392	e552	e605	e2480	e1050	e624	e325	e196	e122	e107
21	82	1100	e344	e434	e576	e1730	e1090	e609	e336	e186	e122	e105
22	80	518	e331	e416	e593	e1330	e1040	e615	e339	e179	e122	e104
23	80	1190	e331	e407	e618	e3520	e987	e624	e340	e179	e122	e104
24	79	1100	e307	e364	e685	e3130	e980	e641	e330	e175	e121	e106
25	79	630	e300	e335	e696	e1810	e955	e630	e322	e175	e120	e106
26	79	452	e282	e316	e658	e1320	e804	e640	e307	e170	e118	e106
27	79	353	e267	e302	e628	e1070	e779	e615	e297	e168	e117	e113
28	77	295	e255	e312	e631	e921	e723	e566	e288	e162	e117	e166
29	77	252	e251	e304	---	e804	e706	e565	e291	e158	e116	e123
30	80	222	e251	e286	---	e712	e722	e545	e285	e151	e114	e113
31	88	---	e247	e1260	---	e640	---	e533	---	e150	e114	---
TOTAL	2897	12830	35178	12112	44909	48638	23884	22339	12085	6411	3928	3343
MEAN	93.5	428	1135	391	1604	1569	796	721	403	207	127	111
MAX	188	2550	13700	1260	4350	3520	1180	1060	553	284	147	166
MIN	73	80	140	189	576	640	550	533	285	150	114	104
AC-FT	5750	25450	69780	24020	89080	96470	47370	44310	23970	12720	7790	6630

e Estimated

C-042133

11383500 DEER CREEK NEAR VINA, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1938 TO SEPTEMBER 1939
DAILY MEAN VALUES
(OCTOBER 1 TO JANUARY 18 NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e110	e208	e203	e109	139	126	287	135	104	80	72	70
2	e120	e181	e259	e107	133	124	290	131	102	80	72	70
3	e139	e147	e667	e112	148	122	293	126	100	80	70	70
4	e120	e141	e318	e145	142	122	307	124	99	80	70	70
5	e115	e162	e218	e377	133	120	283	122	99	81	70	70
6	e113	e135	e180	e225	193	122	270	118	97	81	70	70
7	e112	e127	e160	e181	193	146	263	116	97	80	70	70
8	e111	e125	e154	e162	173	514	259	114	95	78	70	70
9	e111	e122	e147	e149	151	512	253	114	93	76	70	70
10	e111	e130	e141	e140	148	317	237	114	91	76	70	70
11	e110	e126	e134	e137	142	256	221	120	90	76	70	70
12	e108	e120	e127	e131	139	310	216	112	90	75	70	73
13	e108	e120	e124	e127	139	422	204	108	88	75	70	76
14	e110	e118	e126	e125	135	356	191	106	88	75	70	76
15	e153	e118	e128	e124	142	293	180	108	90	75	70	75
16	e140	e117	e125	e121	151	314	178	108	90	75	70	73
17	e120	e117	e123	e119	142	353	173	104	93	73	70	72
18	e116	e116	e122	e119	146	368	170	102	91	73	70	72
19	e113	e116	e120	118	151	364	170	112	90	73	70	72
20	e111	e116	e125	118	148	356	170	116	88	73	70	70
21	e110	e115	e121	120	142	380	168	160	86	73	70	72
22	e110	e112	e118	118	139	388	168	204	84	73	70	72
23	e111	e109	e113	116	139	396	199	253	83	72	70	70
24	e112	e110	e113	112	139	376	188	173	83	72	70	70
25	e111	e106	e113	110	137	356	170	146	83	72	70	72
26	e110	e106	e112	112	133	418	158	133	83	70	70	81
27	e110	e106	e110	120	131	400	148	124	83	70	70	80
28	e110	e107	e109	128	128	338	144	116	81	70	70	78
29	e161	e132	e109	131	---	321	139	112	81	70	70	76
30	e201	e171	e109	193	---	307	137	108	80	70	70	75
31	e177	---	e109	156	---	290	---	104	---	72	70	---
TOTAL	3774	3836	4937	4362	4076	9587	6234	3943	2702	2319	2174	2175
MEAN	122	128	159	141	146	309	208	127	90.1	74.8	70.1	72.5
MAX	201	208	667	377	193	514	307	253	104	81	72	81
MIN	108	106	109	107	128	120	137	102	80	70	70	70
AC-FT	7490	7610	9790	8650	8080	19020	12370	7820	5360	4600	4310	4310

e Estimated

C-042134

11383500 DEER CREEK NEAR VINA, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	100	126	112	127	277	171	125	103	72	63	62
2	90	99	115	117	123	264	169	123	99	71	63	62
3	90	98	111	116	121	257	169	121	96	71	63	62
4	92	98	108	117	118	251	166	126	94	71	63	63
5	94	98	110	156	115	384	159	145	93	71	62	63
6	95	98	104	141	211	391	159	165	97	70	62	62
7	95	98	104	127	864	327	176	207	101	69	61	62
8	93	98	428	121	457	291	162	189	95	68	61	62
9	92	99	412	122	278	273	194	166	91	68	62	62
10	95	100	202	116	264	274	184	154	89	67	61	63
11	108	102	388	112	264	313	162	143	87	67	61	64
12	120	118	326	110	211	280	155	137	86	67	61	65
13	103	113	200	109	188	257	153	131	85	66	61	65
14	136	107	580	109	171	250	153	125	84	66	61	66
15	141	105	308	108	159	251	152	122	83	66	61	65
16	147	104	200	108	152	239	152	163	83	66	61	64
17	152	104	165	106	568	229	154	227	83	65	61	63
18	116	104	147	107	455	220	153	191	82	65	61	63
19	106	104	136	106	345	217	152	200	80	65	61	63
20	103	103	128	105	403	213	150	175	80	65	61	63
21	101	103	123	104	346	202	145	161	79	65	61	62
22	100	104	119	105	299	196	141	148	77	65	61	62
23	99	106	116	159	254	187	139	138	77	65	61	62
24	98	102	113	645	230	177	140	130	76	65	61	63
25	98	100	112	335	226	169	150	126	75	64	61	64
26	97	100	111	231	230	165	159	121	75	64	61	64
27	98	100	112	190	302	164	148	118	74	63	62	64
28	98	102	111	166	308	167	137	114	74	64	61	65
29	99	142	109	151	---	170	130	111	73	64	61	66
30	100	213	109	141	---	170	127	108	72	64	62	69
31	100	---	110	134	---	174	---	105	---	63	62	---
TOTAL	3246	3222	5643	4686	7789	7399	4661	4515	2543	2062	1905	1905
MEAN	105	107	182	151	278	239	155	146	84.8	66.5	61.5	63.5
MAX	152	213	580	645	864	391	194	227	103	72	63	69
MIN	90	98	104	104	115	164	127	105	72	63	61	62
AC-FT	6440	6390	11190	9290	15450	14680	9250	8960	5040	4090	3780	3780

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	114	198	371	506	614	564	527	378	196	115	96.5	94.0
MAX	775	984	1825	2458	2600	2105	1494	1079	572	267	194	174
(WY)	1963	1974	1956	1970	1986	1983	1982	1915	1983	1983	1983	1983
MIN	63.4	65.2	82.5	87.4	95.3	109	99.5	77.2	66.1	55.8	53.3	55.2
(WY)	1935	1930	1931	1991	1977	1977	1977	1924	1924	1931	1931	1931

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1912 - 1994	
ANNUAL TOTAL	142375		49576			
ANNUAL MEAN	390		136		313	
HIGHEST ANNUAL MEAN					700	1983
LOWEST ANNUAL MEAN					86.2	1977
HIGHEST DAILY MEAN	3730	Feb 19	864	Feb 7	14300	Dec 22 1964
LOWEST DAILY MEAN	89	Aug 14	61	Aug 7	52	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	90	Sep 27	61	Aug 10	53	Aug 21 1931
INSTANTANEOUS PEAK FLOW			1410	Feb 7	23800	Dec 10 1937
INSTANTANEOUS PEAK STAGE			5.67	Feb 7	19.20	Dec 10 1937
ANNUAL RUNOFF (AC-FT)	282400		98330		227000	
10 PERCENT EXCEEDS	842		250		665	
50 PERCENT EXCEEDS	184		108		143	
90 PERCENT EXCEEDS	94		62		78	

C—042135

C-042135

RESERVOIRS IN STONY CREEK BASIN, CA

11385100 EAST PARK RESERVOIR NEAR STONYFORD.--Lat 39°21'24", long 122°30'53", in SW 1/4 NE 1/4 sec.3, T.17 N., R.6 W., Colusa County, Hydrologic Unit 18020115, near south side of spillway section on East Park Dam on Little Stony Creek, 1.9 mi southeast of Stonyford. DRAINAGE AREA, 98.2 mi^2. PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by a concrete arch-type dam. Storage began in 1910. Capacity, 48,210 acre-ft, between elevations 1,131.68 ft, invert of sluice pipe, and 1,198.18 ft, crest of spillway. Capacity increased to 50,889 acre-ft with the addition of flashboards to an elevation of 1,199.68 ft. Dead storage, 279 acre-ft. Records of contents provided by U.S. Bureau of Reclamation. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,500 acre-ft, Mar. 30, 1974, elevation, 1,201.10 ft; minimum, 280 acre-ft, Aug. 8 to Oct. 31, 1972, Apr. 30 to Nov. 1, 1977, elevation, 1,131.68 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 48,709 acre-ft, Feb. 22, elevation, 1,198.46 ft; minimum, 6,496 acre-ft, Sept. 28, elevation, 1,159.20 ft.

11386100 STONY GORGE RESERVOIR NEAR ELK CREEK.--Lat 39°35'09", long 122°31'54", in NE 1/4 SE 1/4 sec.16, T.20 N., R.6 W., Glenn County, Hydrologic Unit 18020115, on south end of Stony Gorge Dam on Stony Creek, 1.3 mi southeast of Elk Creek. DRAINAGE AREA, 301 mi^2. PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by slab and buttress-type dam. Storage began in 1928. Capacity, 50,380 acre-ft between elevations 728.0 ft, top of low intake, and 841.0 ft, crest of spillway. No dead storage. Records of contents provided by U.S. Bureau of Reclamation. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,630 acre-ft, Mar. 26, 1971, elevation, 844.20 ft; minimum, 3,810 acre-ft, Nov. 6, 1971, elevation, 779.20 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 50,945 acre-ft, Mar. 28, elevation, 841.43 ft; minimum, 8,064 acre-ft, Sept. 17, elevation, 791.40 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800 HOURS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	11385100 EAST PARK RESERVOIR			11386100 STONY GORGE RESERVOIR		
Sept. 30.....	1,194.48	41,970	-2,300	831.65	39,040	-490
Oct. 31.....	1,192.90	39,449	-2,521	831.58	38,964	-76
Nov. 30.....	1,192.64	39,047	-402	828.36	35,430	-3,534
Dec. 31.....	1,193.32	40,111	1,064	832.50	40,008	4,578
CAL YR 1993	--	--	-5,539	--	--	6,758
Jan. 31.....	1,194.38	41,805	1,694	831.57	38,952	-1,056
Feb. 28.....	1,198.30	48,426	6,621	831.70	39,099	147
Mar. 31.....	1,198.20	48,249	-177	841.30	50,775	11,676
Apr. 30.....	1,198.20	48,249	0	838.55	47,259	-3,516
May 31.....	1,198.08	48,037	-212	830.92	38,222	-9,037
June 30.....	1,194.20	41,513	-6,524	820.22	27,337	-10,885
July 31.....	1,186.70	30,479	-11,034	808.98	18,144	-9,193
Aug. 31.....	1,173.70	16,189	-14,290	799.18	11,897	-6,247
Sept. 30.....	1,162.90	8,447	-7,742	793.10	8,815	-3,082
WTR YR 1994	--	--	-33,523	--	--	-30,225

C-042136

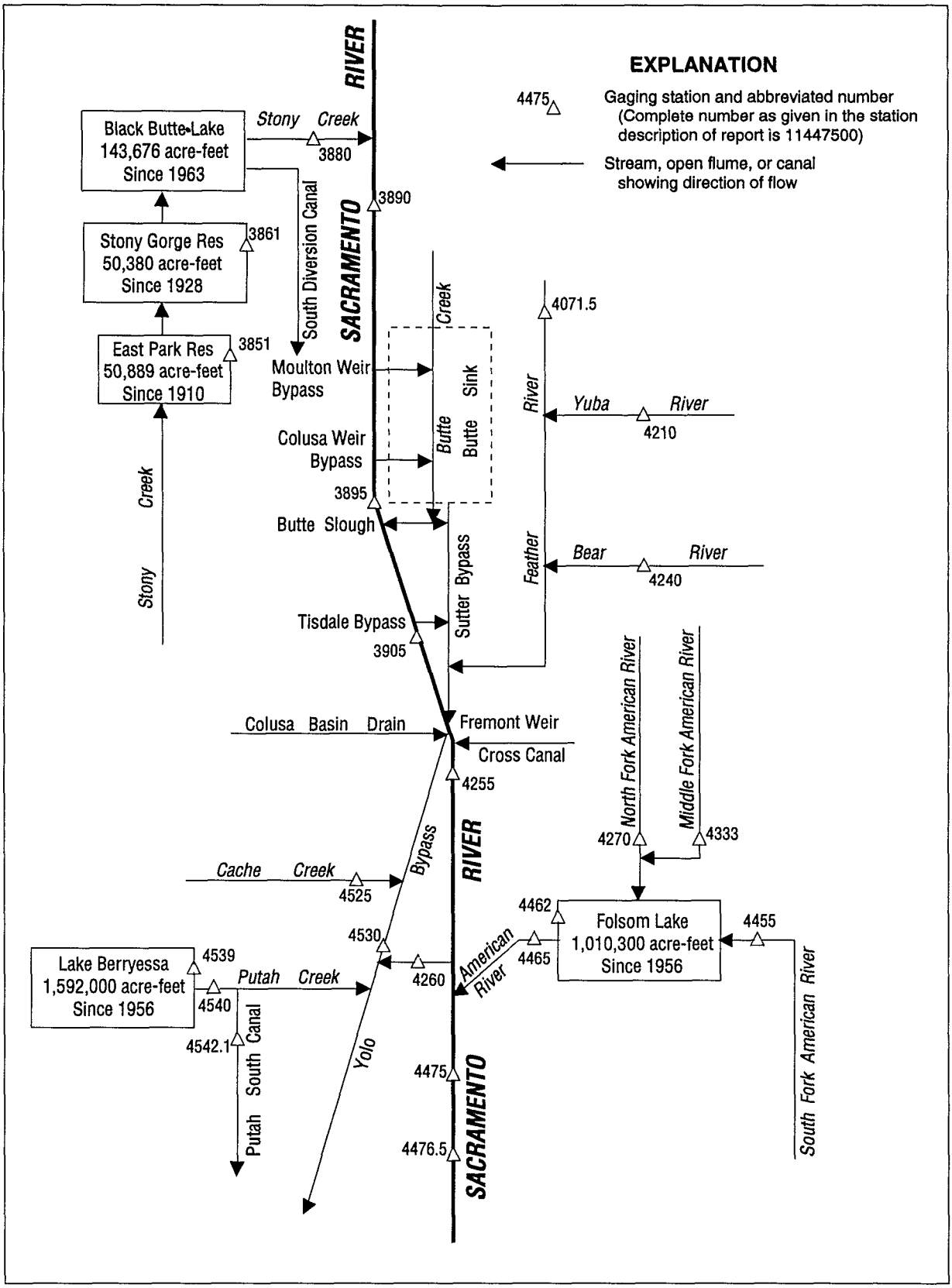

Figure 30. Diversions and storage in Lower Sacramento River basin.

C-042137

11388000 STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 39°49'07", long 122°19'26", in NW 1/4 SW 1/4 sec.28, T.23 N., R.4 W., Tehama County, Hydrologic Unit 18020103, on left bank 200 ft downstream from road bridge, 0.6 mi downstream from Black Butte Dam, 8.1 mi northwest of Orland.

DRAINAGE AREA.--738 mi^2.

PERIOD OF RECORD.--Water years 1958 to September 1994 (discontinued).
DISCHARGE DATA: Water years 1955-90.
CHEMICAL DATA: Water years 1958-79. Published as "at damsite" 1959-64.
WATER TEMPERATURE: Water years 1969 to September 1994 (discontinued).
SEDIMENT DATA: Water years 1958-59, 1961-62.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1969 to September 1994 (discontinued).

INSTRUMENTATION.--Water-temperature recorder since June 1969.

REMARKS.--Water temperature can be affected by releases from Black Butte Dam. No flow Dec. 4-6 and Mar. 19-21.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 31.5°C, Aug. 15, 1977; minimum recorded, 0.0°C, Dec. 22, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 27.5°C, Aug. 4-6, 8, 18; minimum recorded, 7.5°C, Dec. 31 and Jan. 6.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	23.0	21.5	18.5	17.5	10.5	9.0	8.5	8.0	11.0	9.0	12.5	10.0
2	23.0	21.5	18.0	17.0	10.0	9.0	10.0	8.0	11.0	9.0	12.0	10.0
3	23.0	21.5	18.0	16.5	11.0	9.0	9.5	8.5	11.0	9.0	12.0	10.0
4	22.0	21.5	17.5	16.0	---	---	9.0	8.5	11.0	9.0	11.0	10.0
5	22.0	21.0	17.0	15.5	---	---	9.5	8.0	10.0	9.0	12.0	9.5
6	23.0	21.0	16.5	15.5	---	---	11.0	7.5	10.0	10.0	12.5	9.5
7	23.0	21.0	17.0	15.5	11.0	9.0	10.5	9.0	11.5	10.0	13.0	9.5
8	22.0	20.0	16.5	15.0	10.0	9.5	10.0	10.0	11.5	9.5	12.5	10.0
9	22.0	21.0	16.0	15.0	10.0	10.0	10.5	9.5	11.5	9.0	12.5	10.5
10	21.0	20.5	16.0	15.0	10.0	10.0	10.5	9.0	11.5	10.0	13.0	10.0
11	21.5	20.0	15.5	15.0	11.0	10.0	11.0	8.5	11.0	9.0	13.0	10.0
12	22.5	19.5	15.5	14.5	10.5	9.5	11.0	9.0	11.0	8.5	13.0	10.0
13	21.5	19.5	15.0	14.5	11.0	9.5	11.0	9.0	11.0	9.0	13.0	10.5
14	21.0	19.5	14.5	13.5	10.5	10.0	11.0	9.0	11.5	9.0	13.5	10.5
15	21.0	19.5	14.0	13.0	10.5	10.0	11.5	10.0	10.5	9.5	13.0	11.0
16	21.0	19.0	13.0	12.0	10.0	9.5	12.0	9.5	12.5	9.5	14.0	10.5
17	21.0	18.5	13.0	12.0	10.0	9.5	12.0	10.0	11.5	10.0	13.0	10.5
18	20.5	18.0	13.0	12.0	10.0	9.5	11.5	10.0	12.0	9.5	14.5	11.0
19	20.5	18.5	13.0	12.0	9.5	9.0	11.5	9.5	10.0	9.0	---	---
20	20.0	19.0	12.5	11.5	9.5	9.0	11.0	9.5	10.0	8.5	---	---
21	20.0	19.5	12.5	11.5	9.5	8.5	11.0	10.0	11.0	8.5	---	---
22	20.0	19.0	12.5	11.5	9.0	8.5	11.5	10.5	9.5	9.0	13.0	10.0
23	20.0	19.0	12.0	11.5	10.0	8.0	12.5	11.0	10.0	9.5	12.5	10.5
24	20.0	19.0	12.0	9.0	9.5	8.0	12.0	10.5	10.0	9.5	13.0	10.5
25	20.0	18.5	10.5	9.0	9.0	8.0	11.0	10.5	10.5	10.0	13.0	11.0
26	19.5	18.5	11.0	9.0	8.5	8.0	11.5	10.5	10.5	10.0	13.0	11.0
27	19.0	18.5	10.5	9.0	9.5	8.0	12.0	10.0	11.5	9.5	13.5	11.5
28	19.0	18.0	10.0	9.0	9.5	8.0	11.5	9.0	13.0	10.0	13.5	12.0
29	18.5	18.0	10.0	9.5	9.5	8.0	12.0	9.5	---	---	13.5	12.0
30	18.5	18.0	10.5	9.0	9.5	8.0	12.0	9.5	---	---	13.5	11.5
31	18.5	18.0	---	---	9.0	7.5	11.0	9.0	---	---	13.0	12.5
MONTH	23.0	18.0	18.5	9.0	---	---	12.5	7.5	13.0	8.5	---	---

C-042138

11388000 STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	12.5	19.0	16.5	20.5	18.0	24.5	22.0	27.0	24.5	25.5	23.5
2	13.5	12.5	18.0	16.5	20.5	18.0	24.5	21.5	27.0	25.0	25.5	23.5
3	13.5	12.5	18.5	17.0	21.5	18.0	24.5	22.0	27.0	25.0	25.5	23.5
4	13.5	12.5	18.5	17.0	21.0	18.0	24.5	22.5	27.5	25.0	25.0	23.5
5	13.5	12.5	19.0	17.0	20.5	18.0	24.0	22.0	27.5	24.5	25.0	23.5
6	13.5	13.0	18.0	16.5	21.0	18.0	24.5	21.5	27.5	24.5	25.5	23.0
7	14.0	13.0	21.0	16.5	20.5	17.5	24.5	22.5	27.0	24.5	25.5	23.5
8	13.5	13.0	20.0	17.0	20.5	17.5	25.0	22.5	27.5	24.5	25.5	23.5
9	14.5	13.5	19.5	17.0	20.5	18.0	24.5	22.5	27.0	24.5	25.0	23.0
10	14.5	13.5	19.5	17.0	21.0	18.5	25.0	22.5	27.0	24.5	24.5	23.0
11	15.5	14.0	19.5	17.0	21.5	19.0	25.0	22.5	26.5	24.5	25.0	22.5
12	16.0	14.0	19.5	16.5	21.5	19.5	25.0	22.5	26.5	24.5	24.5	22.5
13	16.0	14.5	19.0	16.5	22.0	20.0	25.5	22.5	26.5	24.5	24.5	22.5
14	16.0	14.5	19.0	17.0	22.0	19.5	25.5	22.5	26.5	24.5	25.0	22.5
15	16.0	15.0	18.0	17.0	22.5	20.0	25.5	23.0	27.0	25.0	24.0	22.5
16	16.0	15.0	18.5	17.0	23.0	20.5	25.5	23.0	27.0	24.5	24.0	22.5
17	16.5	15.5	19.0	17.0	23.0	20.5	25.5	23.0	27.0	25.0	24.0	23.0
18	16.5	15.5	19.5	17.0	23.5	20.5	25.0	23.0	27.5	25.0	24.5	23.0
19	17.0	15.5	18.0	17.0	23.5	20.5	25.5	23.0	27.0	25.0	24.0	23.0
20	16.5	15.5	19.5	17.0	23.5	21.0	26.0	23.5	27.0	24.5	24.0	23.0
21	17.0	15.5	19.5	17.0	23.5	21.0	26.0	23.5	27.0	24.5	24.5	23.0
22	17.0	16.0	19.5	17.0	23.5	21.0	26.0	24.0	27.0	24.5	25.0	23.0
23	16.5	16.0	20.0	17.0	23.5	21.0	26.5	23.5	26.5	24.5	24.5	23.0
24	17.0	16.0	20.0	17.0	23.5	21.5	26.0	23.5	26.5	24.5	25.0	23.0
25	17.5	15.5	20.0	17.5	23.0	21.5	26.5	24.0	26.0	24.5	25.0	23.5
26	18.5	15.5	19.5	17.5	23.5	21.5	26.5	24.0	26.0	24.5	25.0	23.0
27	18.5	15.5	20.0	17.5	24.0	21.5	26.0	24.0	26.0	24.0	24.5	23.0
28	18.5	15.5	20.0	17.5	24.0	21.5	26.5	24.0	25.5	24.0	25.0	23.0
29	18.5	16.5	20.5	17.5	24.0	21.5	27.0	24.5	25.0	23.5	25.0	23.0
30	19.0	16.5	20.0	17.5	24.5	21.5	26.5	24.5	25.5	23.0	24.0	22.5
31	---	---	20.5	18.0	---	---	26.5	24.5	25.5	23.0	---	---
MONTH	19.0	12.5	21.0	16.5	24.5	17.5	27.0	21.5	27.5	23.0	25.5	22.5

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA

LOCATION.--Lat 39°27'28", long 121°59'35", in SE 1/4 NE 1/4 sec.32, T.19 N., R.1 W., Glenn County, Hydrologic Unit 18020104, on left bank 100 ft upstream from highway bridge, 0.5 mi south of Butte City, and at mile 115.8 upstream from Sacramento.

DRAINAGE AREA.--12,080 mi^2.

PERIOD OF RECORD.--April 1921 to current year (prior to October 1938, low-water periods only). Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1955-66.
WATER TEMPERATURE: Water years 1955-58, 1960-67, 1969-81.
SEDIMENT DATA: Water years 1978-80.

REVISED RECORDS.--WDR CA-86-4: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.92 ft below sea level. Prior to December 1930, at site 0.5 mi upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. Statistical period is based on completion of Shasta Dam. When discharge exceeds about 90,000 ft^3/s, overbank flow into Butte basin occurs upstream from left (east) bank levee. The combined overbank flow and tributary runoff then flows south on the east bank floodplain into the Butte Sink and Sutter Bypass. Records tabulated below do not include overbank flow into the Butte basin. See schematic diagram showing diversions and storage in the lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1941-94), 170,000 ft^3/s, Feb. 7, 1942, gage height, 96.87 ft, from rating curve extended above 101,000 ft^3/s; minimum daily, 1,350 ft^3/s, August 24, 1939.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,500 ft^3/s, Feb. 8, gage height, 77.56 ft; minimum daily, 3,720 ft^3/s, Apr. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8290	5050	6530	6260	5700	9450	4530	5570	7500	7390	8690	10200
2	8140	5070	5760	6240	5610	8480	4610	5710	7200	7400	8680	10300
3	8190	5170	5520	6270	5510	8070	4580	6290	6490	7340	8180	10600
4	8130	5140	5420	6300	5420	7830	4590	5320	5760	7460	7880	9970
5	8120	5190	5330	6290	5320	7620	4580	5790	5390	7580	7780	9780
6	7980	5100	5300	6350	5400	8230	4590	6010	5600	7600	7650	9500
7	7710	5080	5320	6190	13700	8270	4590	6560	5750	7510	7370	9340
8	7350	5040	5470	6080	23600	7610	4600	7190	5760	7770	7300	8850
9	6940	5030	7800	5910	15500	7110	4510	7310	5950	8160	7310	8440
10	6690	5050	8440	5790	9970	6840	5360	7420	6190	8400	7660	8410
11	6870	5170	7570	5660	13600	6820	5000	7980	6760	8800	7720	8500
12	6670	5180	12700	5520	11400	7290	4650	8110	6780	9000	7600	8560
13	6480	5220	10700	5440	8780	6750	4230	8740	6790	9040	7220	8430
14	6290	5200	9880	5430	7710	6470	3890	8450	6450	9080	7260	8340
15	6930	5190	18500	5400	7070	6330	3720	7890	6190	9130	7340	8280
16	7040	5230	11100	5360	6680	6250	3830	7090	6440	9240	7460	8670
17	9020	5190	8620	5330	7050	6310	3960	6500	6840	8980	7480	8030
18	7090	5150	7860	5310	15400	7340	4280	6180	7140	9330	7510	7670
19	6340	5040	7410	5300	13400	6350	4530	5820	7070	9400	8270	7470
20	6080	5130	7130	5280	18800	5940	4640	6080	7120	9440	8880	7250
21	5910	5140	6900	5310	20500	5730	4960	6400	7200	9580	8990	7210
22	5620	5060	6700	5300	15100	5540	5070	6350	7240	9380	9250	7130
23	5490	5130	6570	5440	12400	5430	5120	6580	7330	9440	9240	7060
24	5490	5210	6450	8330	10600	5370	5320	7160	7330	9420	9460	7040
25	5420	5280	6390	16000	9560	5300	5630	7930	7430	9600	9440	6830
26	5470	5300	6350	11700	8700	5170	6250	7980	7380	9480	9310	6640
27	5310	5280	6300	10300	8570	4980	7080	7310	7360	9260	9480	6660
28	5140	5190	6300	8070	11200	4880	5940	6510	7510	9100	9630	6630
29	5030	5560	6270	6950	---	4670	5450	5970	7410	9050	9790	6550
30	5090	6270	6270	6380	---	4570	5360	6580	7290	8880	9820	6230
31	5110	---	6230	5980	---	4520	---	7200	---	8630	9890	---
TOTAL	205430	156040	233090	205470	302250	201520	145450	211980	202650	269870	259540	244570
MEAN	6627	5201	7519	6628	10790	6501	4848	6838	6755	8705	8372	8152
MAX	9020	6270	18500	16000	23600	9450	7080	8740	7510	9600	9890	10600
MIN	5030	5030	5300	5280	5320	4520	3720	5320	5390	7340	7220	6230
AC-FT	407500	309500	462300	407500	599500	399700	288500	420500	402000	535300	514800	485100

C-042140

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6641	9289	16320	22270	24850	19360	13560	10450	8858	8712	8343	7054
MAX	11920	34010	59220	71890	104500	94150	46270	26780	17710	13010	12150	10610
(WY)	1958	1974	1984	1970	1958	1983	1974	1983	1983	1983	1983	1967
MIN	3323	3654	4241	5124	4994	5578	4848	4997	5034	5332	5325	4378
(WY)	1978	1993	1977	1991	1991	1977	1994	1992	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1946 - 1994	
ANNUAL TOTAL	5430640		2637860			
ANNUAL MEAN	14880		7227		12920	
HIGHEST ANNUAL MEAN					29950	1983
LOWEST ANNUAL MEAN					5789	1977
HIGHEST DAILY MEAN	91800	Jan 22	23600	Feb 8	158000	Feb 20 1958
LOWEST DAILY MEAN	5030	Oct 29	3720	Apr 15	2720	Oct 15 1977
ANNUAL SEVEN-DAY MINIMUM	5090	Nov 4	4060	Apr 13	2790	Oct 11 1977
INSTANTANEOUS PEAK FLOW			27500	Feb 8	160000	Feb 20 1958
INSTANTANEOUS PEAK STAGE			77.56	Feb 8	96.70	Feb 20 1958
ANNUAL RUNOFF (AC-FT)	10770000		5232000		9361000	
10 PERCENT EXCEEDS	32500		9480		23300	
50 PERCENT EXCEEDS	9130		6840		8290	
90 PERCENT EXCEEDS	5380		5100		5280	

C-042141

11389500 SACRAMENTO RIVER AT COLUSA, CA

LOCATION.--Lat 39°12'51", long 121°59'57", at north end of Jimeno Grant, Colusa County, Hydrologic Unit 18020104, on right bank 60 ft downstream from highway bridge at Colusa and at mile 89.4 upstream from Sacramento.

DRAINAGE AREA.--12,090 mi^2.

PERIOD OF RECORD.--April 1921 to current year (prior to October 1940, low-water periods only).
CHEMICAL DATA: Water years 1959-66.
WATER TEMPERATURES: Water years 1977-80.
SEDIMENT DATA: Water years 1973-80.

REVISED RECORDS.--WSP 1345: 1952. WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.95 ft below sea level. Prior to December 1930, water-stage recorder in center fender pier 50 ft upstream from bridge at same datum.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, including Shasta Lake (station 11370000) since 1943, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas. When discharge exceeds about 30,000 ft^3/s, flow begins over Colusa Weir, 2.5 mi upstream on left bank, into Butte Sink and Sutter Bypass. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1941-94), 51,800 ft^3/s, Mar. 4, 1983, gage height, 68.50 ft; maximum gage height, 69.20 ft, Feb. 18, 1942; minimum recorded, 820 ft^3/s, July 25, 26, 1931, gage height, 34.79 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,100 ft^3/s, Feb. 8, gage height, 54.93 ft; minimum daily, 3,820 ft^3/s, Apr. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9250	5740	e7150	e6580	6330	10300	5010	5410	7720	7430	8770	10400
2	9130	5730	e6300	e6620	6150	9290	5070	5570	7720	7530	8830	10600
3	9170	5730	e5950	e6540	6020	8800	5030	6070	7150	7490	8610	10600
4	9240	5730	e5800	e6660	5890	8590	5010	5450	6440	7560	8240	10700
5	9140	5720	e5750	e6620	5790	8360	4830	5650	5820	7670	8130	10200
6	9120	5720	e5720	e6660	5770	8450	4780	5840	5860	7830	8080	10100
7	8820	5710	e5650	e6600	8050	8860	4720	6490	6130	7810	7990	9820
8	8570	5700	e5820	e6420	20400	8370	4760	6980	6030	7820	7700	9610
9	8180	5700	e7000	e6250	18200	7920	4680	7510	5990	8190	7660	9160
10	7920	5690	e9000	e6080	12200	7590	5210	7400	6470	8340	7850	9030
11	7950	5690	e8300	e5920	11400	7410	5410	7930	6900	8680	8160	9030
12	7960	5690	e10400	e5740	13200	7720	5000	8050	6910	8950	8100	9080
13	7690	5680	e12500	5740	10200	7500	4610	8480	6920	9040	7740	8990
14	7500	5680	e9500	5660	8860	7160	4190	8640	6720	9120	7720	8920
15	7960	5670	e13700	5770	8160	6960	3820	8210	6340	9140	7790	8790
16	7930	5690	e13000	5770	7710	6790	3880	7690	6340	9110	7880	9060
17	9190	5690	e9600	5740	7480	6650	4070	6950	6830	9130	7950	8690
18	e7360	5660	e8800	5700	11600	7550	4200	6670	7180	9210	8040	8270
19	e7060	e5400	e8250	5690	13900	7070	4620	6260	7230	9300	8270	8080
20	e6830	e5420	e7800	5680	13900	6490	4670	6230	7190	9290	9070	7800
21	6790	e5500	e7560	5680	20900	6210	4970	6680	7210	9370	9220	7740
22	6450	e5440	e7300	5680	16500	5960	5050	6790	7280	9410	9430	7630
23	6180	e5390	e7160	5780	13500	5790	5060	6800	7350	9320	9510	7460
24	6120	e5510	e7040	7020	11500	5750	5100	7220	7370	9370	9620	7420
25	6080	e5600	e6890	12600	10300	5690	5450	7820	7400	9440	9730	7280
26	6080	e5610	e6840	12300	9570	5580	5810	8220	7470	9520	9730	7030
27	6020	e5620	e6760	10900	8930	5350	6950	7810	7530	9420	9700	6930
28	5820	e5520	e6720	9040	10500	5260	6230	7130	7640	9150	9860	6930
29	5760	e5700	e6700	7860	---	5150	5520	6500	7600	9080	10000	6840
30	5760	e6340	e6680	7200	---	5010	5260	6620	7420	9070	10100	6620
31	5750	---	e6640	6710	---	4990	---	7290	---	8790	10200	---
TOTAL	232780	169670	242280	213210	302910	218570	148970	216360	208160	270580	269680	258810
MEAN	7509	5656	7815	6878	10820	7051	4966	6979	6939	8728	8699	8627
MAX	9250	6340	13700	12600	20900	10300	6950	8640	7720	9520	10200	10700
MIN	5750	5390	5650	5660	5770	4990	3820	5410	5820	7430	7660	6620
AC-FT	461700	336500	480600	422900	600800	433500	295500	429100	412900	536700	534900	513300

e Estimated.

C-042142

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6636	8967	13650	16930	18750	16490	12260	10160	8552	8344	8089	7060
MAX	12040	27000	38000	37630	41270	44450	31490	26680	18730	13150	11920	10510
(WY)	1958	1974	1984	1974	1983	1983	1982	1983	1983	1983	1983	1967
MIN	3219	3860	4141	5193	5147	5852	4966	5015	4852	5073	5081	4322
(WY)	1978	1993	1977	1991	1991	1977	1994	1947	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1946 - 1994	
ANNUAL TOTAL	4897260		2751980			
ANNUAL MEAN	13420		7540		11290	
HIGHEST ANNUAL MEAN					21790	1983
LOWEST ANNUAL MEAN					5671	1977
HIGHEST DAILY MEAN	45400	Jan 22	20900	Feb 21	51300	Mar 4 1983
LOWEST DAILY MEAN	5390	Nov 23	3820	Apr 15	2620	Oct 16 1977
ANNUAL SEVEN-DAY MINIMUM	5470	Nov 19	4200	Apr 13	2690	Oct 12 1977
INSTANTANEOUS PEAK FLOW			22100	Feb 8	51800	Mar 4 1983
INSTANTANEOUS PEAK STAGE			54.93	Feb 8	68.50	Mar 4 1983
ANNUAL RUNOFF (AC-FT)	9714000		5459000		8180000	
10 PERCENT EXCEEDS	30200		9710		23100	
50 PERCENT EXCEEDS	9510		7230		8160	
90 PERCENT EXCEEDS	5810		5450		5310	

C-042143

11389720 BUTTE CREEK BELOW DIVERSION DAM, NEAR STIRLING CITY, CA

LOCATION.--Lat 39°58'53", long 121°35'15", unsurveyed, T.25 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank 400 ft downstream from diversion dam, 0.1 mi upstream from Haw Creek, and 6.2 mi northwest of Stirling City.

DRAINAGE AREA.--61.3 mi^2.

PERIOD OF RECORD.--January to February 1986, June 1986 to current year (low-flow records only).

GAGE.--Water-stage recorder. Elevation of gage is 2,840 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 40 ft^3/s. Flow regulated by diversion dam 400 ft upstream. Most of the water is diverted at diversion dam to Butte Creek Canal and then to De Sabla Powerplant (station 11389750).

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	19	20	19	18	---	---	36	12	9.6	9.7	30
2	---	19	20	19	18	---	---	33	8.8	9.6	9.7	11
3	---	19	19	19	18	---	---	30	8.7	9.6	9.6	12
4	---	19	19	21	18	---	---	38	8.8	9.6	9.7	12
5	---	19	19	20	18	---	---	---	8.8	9.6	9.7	12
6	---	19	19	19	27	---	---	---	9.0	9.5	9.8	11
7	31	19	20	19	---	---	---	---	9.0	9.4	9.7	11
8	21	19	---	19	---	---	---	---	9.0	9.4	---	10
9	20	19	---	19	25	---	---	---	9.0	9.4	---	10
10	20	19	40	19	---	---	---	---	9.0	9.4	---	10
11	20	19	---	19	---	---	---	---	9.0	9.4	---	10
12	19	20	32	19	22	---	---	---	9.0	9.4	---	13
13	22	19	22	19	19	---	---	---	9.0	9.4	---	11
14	28	19	23	19	18	---	---	---	9.0	9.4	---	11
15	21	19	20	19	18	---	---	---	9.0	9.4	---	10
16	26	19	19	19	18	---	---	---	9.0	9.5	---	10
17	20	19	19	19	---	---	---	---	9.0	9.6	---	10
18	20	19	18	19	---	---	---	---	9.0	9.6	---	9.8
19	20	19	18	19	---	---	---	---	8.9	9.6	---	11
20	19	19	18	19	---	---	---	---	8.8	9.6	---	11
21	19	19	18	19	---	---	---	39	9.0	9.6	---	11
22	19	19	19	19	---	---	---	31	9.1	9.6	---	11
23	19	19	19	---	24	---	---	26	9.2	9.6	---	11
24	19	19	19	---	27	---	---	23	9.1	9.6	---	11
25	19	19	19	40	36	38	---	21	9.1	9.6	---	11
26	19	19	19	27	---	34	---	15	9.1	9.7	---	11
27	19	19	19	20	---	35	---	13	9.1	9.8	---	11
28	19	19	19	18	---	38	---	15	9.1	9.8	---	11
29	19	---	19	18	---	---	---	14	9.1	9.8	---	11
30	19	24	19	18	---	---	---	14	9.4	9.8	---	11
31	19	---	19	18	---	---	---	14	---	9.7	---	---
TOTAL	---	---	---	---	---	---	---	---	273.1	296.6	---	345.8
MEAN	---	---	---	---	---	---	---	---	9.10	9.57	---	11.5
MAX	---	---	---	---	---	---	---	---	12	9.8	---	30
MIN	---	---	---	---	---	---	---	---	8.7	9.4	---	9.8
AC-FT	---	---	---	---	---	---	---	---	542	588	---	686

C-042144

11389740 BUTTE CREEK BELOW FORKS OF BUTTE DIVERSION DAM NEAR DE SABLA, CA

LOCATION.--Lat 39°54'05", long 121°37'24" (revised), in NW 1/4 NE 1/4 sec.34, T.24 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank 30 ft downstream from diversion dam, 0.2 mi upstream from American Ravine, and 2.0 mi north of De Sabla.

DRAINAGE AREA.--96.4 mi^2.

PERIOD OF RECORD.--April 1992 to current year (low-flow records only).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 1,900 ft above sea level, from topographic map.

REMARKS.--No records computed above 60 ft^3/s. Flow regulated by Forks of Butte Diversion Dam 30 ft upstream. Water is diverted out of creek to Butte Canal 7.4 mi upstream by Pacific Gas and Electric Co. Water is diverted 30 ft upstream to Forks of Butte Powerplant (station 11389747).

COOPERATION.--Records were collected by Energy Growth Partnership I, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	31	50	40	45	48	48	48	37	22	19	47
2	48	31	42	41	44	48	48	48	32	22	20	20
3	48	31	34	40	43	48	48	48	31	22	19	22
4	48	31	34	46	42	48	48	48	31	22	19	22
5	48	30	34	51	41	48	48	48	31	21	19	22
6	48	30	33	46	47	48	48	48	33	21	19	22
7	38	30	38	43	---	48	48	48	32	21	19	21
8	31	31	---	43	59	48	48	48	30	21	41	21
9	31	31	---	43	49	48	48	48	29	21	52	21
10	31	31	50	41	49	48	48	49	29	20	53	22
11	35	e32	50	39	49	48	48	48	28	20	53	22
12	32	e32	49	38	49	48	48	48	28	20	53	25
13	32	31	49	38	49	48	48	48	27	20	54	22
14	50	31	49	38	49	48	48	48	26	20	54	23
15	39	31	e49	38	49	48	48	48	25	20	53	22
16	44	30	54	37	52	48	48	48	25	20	52	21
17	36	31	53	37	58	48	48	48	24	20	52	21
18	33	30	49	36	49	48	48	48	24	20	53	21
19	32	30	45	36	49	48	48	48	24	20	53	22
20	32	30	43	36	49	48	48	48	23	20	53	22
21	31	30	41	35	49	48	50	48	23	20	53	22
22	31	31	40	35	49	48	48	48	23	20	53	22
23	31	31	39	48	49	48	48	56	23	20	53	22
24	31	30	39	49	49	48	48	54	22	20	53	23
25	31	30	39	49	49	48	48	52	22	20	52	23
26	31	30	39	49	49	48	48	47	22	20	53	22
27	31	30	39	49	49	48	48	42	22	20	52	22
28	31	31	39	56	49	48	49	42	21	20	52	22
29	31	54	38	51	---	48	48	41	21	19	52	23
30	31	50	38	48	---	48	48	40	21	19	52	24
31	31	---	38	46	---	48	---	39	---	19	52	---
TOTAL	1125	962	---	1322	---	1488	1443	1470	789	630	1387	686
MEAN	36.3	32.1	---	42.6	---	48.0	48.1	47.4	26.3	20.3	44.7	22.9
MAX	50	54	---	56	---	48	50	56	37	22	54	47
MIN	31	30	---	35	---	48	48	39	21	19	19	20
AC-FT	2230	1910	---	2620	---	2950	2860	2920	1560	1250	2750	1360
a	278	204	1360	536	4800	5070	2490	2340	0	0	0	0

WTR YR 1994 AC-FT a 17070

e Estimated.
a Diversion, in acre-feet, to Forks of Butte Powerplant, provided by Energy Growth Partnership I.

C-042145

11389780 BUTTE CREEK BELOW CENTERVILLE DIVERSION DAM, NEAR PARADISE, CA

LOCATION.--Lat 39°52'01", long 121°37'58", in SW 1/4 NW 1/4 sec.10, T.23 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank 400 ft downstream from Centerville diversion dam, 0.2 mi downstream from De Sabla Powerplant, and 6.8 mi north of Paradise.

DRAINAGE AREA.--101 mi^2.

PERIOD OF RECORD.--November 1985 to February 1986, June 1986 to current year (low-flow records only).

GAGE.--Water-stage recorder. Elevation of gage is 1,130 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 60 ft^3/s. Flow regulated by several reservoirs and diversions upstream. Most of the water is diverted at Centerville Diversion Dam to the Centerville Powerplant (station 11389775).

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	---	33	43	43	---	---	---	45	44	44	43
2	45	---	33	43	43	---	---	---	45	45	44	42
3	45	---	33	42	43	---	---	---	45	45	44	43
4	45	---	33	47	43	---	---	---	45	45	55	43
5	45	---	33	51	43	---	---	---	45	45	57	43
6	45	---	33	42	---	---	---	---	45	45	51	43
7	45	---	33	42	---	---	---	---	45	45	51	43
8	44	---	---	42	---	---	---	---	45	45	47	43
9	44	---	---	42	---	---	---	---	45	45	44	43
10	45	---	---	42	---	---	---	---	45	45	45	43
11	44	34	---	42	---	---	---	---	45	45	44	43
12	44	33	---	43	---	---	---	---	45	45	44	43
13	44	33	58	43	---	---	---	---	45	45	44	42
14	44	33	---	43	56	---	---	---	45	44	44	42
15	44	34	---	43	41	---	---	---	45	55	44	42
16	58	32	42	43	42	---	---	---	45	---	44	42
17	42	32	42	43	---	---	---	---	45	---	50	32
18	---	33	42	43	---	---	---	---	45	---	43	26
19	---	33	42	43	---	---	---	---	45	---	44	26
20	---	34	42	43	---	---	---	---	45	---	44	35
21	---	34	42	42	---	---	---	---	45	---	44	40
22	---	34	43	43	---	---	---	---	45	---	44	39
23	---	33	43	---	---	---	---	---	45	---	44	36
24	---	33	43	---	---	---	---	---	45	---	44	36
25	---	33	43	---	---	---	---	---	45	---	43	39
26	---	33	43	---	---	---	---	---	45	50	43	40
27	---	33	43	44	---	---	---	56	45	44	43	40
28	---	34	43	42	---	---	---	47	45	44	42	40
29	---	---	43	42	---	---	---	43	45	44	42	39
30	---	---	43	43	---	---	---	46	45	44	42	39
31	---	---	43	43	---	---	---	46	---	44	43	---
TOTAL	---	---	---	---	---	---	---	---	1350	---	1401	1190
MEAN	---	---	---	---	---	---	---	---	45.0	---	45.2	39.7
MAX	---	---	---	---	---	---	---	---	45	---	57	43
MIN	---	---	---	---	---	---	---	---	45	---	42	26
AC-FT	---	---	---	---	---	---	---	---	2680	---	2780	2360
a	2770	3000	7170	7200	8670	9960	9830	10340	6750	3910	2520	2760

CAL YR 1993 AC-FT a 95610
WTR YR 1994 AC-FT a 74870

a Diversion, in acre-feet, to Centerville Powerplant, provided by Pacific Gas & Electric Co.

C-042146

11389800 TOADTOWN CANAL ABOVE BUTTE CANAL, NEAR STIRLING CITY, CA

LOCATION.--Lat 39°53'09", long 121°36'35", in NE 1/4 NW 1/4 sec.2, T.23 N., R.3 E., Butte County, Hydrologic Unit 18020120, on right bank 600 ft upstream from Butte Canal and 4.6 mi west of Stirling City.

PERIOD OF RECORD.--October 1986 to current year. Monthly discharges for water years 1931-86 are published as a line item to Butte Creek near Chico (station 11390000).

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 2,790 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Canal diverts from right bank of West Branch Feather River, in sec.16, T.24 N., R.4 E. at Hendricks Diversion Dam to Hendricks Canal, flows through tunnel down Long Ravine to Toadtown Canal, and discharges into Butte Canal. Butte Canal flows to De Sabla Powerplant (station 11389750) on Butte Creek.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 123 ft^3/s, June 2, 1993, no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	30	44	46	51	104	118	117	84	46	80	22
2	27	30	40	49	50	110	118	117	80	41	81	22
3	27	30	37	48	49	112	118	116	77	40	80	22
4	28	30	37	59	48	114	118	114	75	39	56	22
5	29	30	35	77	47	119	118	115	73	39	43	22
6	29	30	34	59	68	115	118	115	80	38	40	22
7	29	30	38	53	104	114	118	115	78	37	40	22
8	45	30	98	51	94	115	118	116	87	83	38	22
9	47	30	107	50	72	116	118	118	87	83	21	22
10	50	30	100	47	85	117	117	118	83	82	16	22
11	57	31	100	45	80	106	118	119	80	81	9.3	22
12	53	36	81	44	67	115	119	117	77	80	14	24
13	52	32	85	44	62	117	119	116	75	80	15	68
14	68	30	66	45	58	118	118	116	73	47	15	89
15	73	30	61	45	56	118	117	115	69	35	8.6	87
16	81	30	54	44	54	115	117	112	67	38	2.7	85
17	59	29	50	45	94	115	117	115	66	39	4.6	44
18	38	20	48	46	85	116	117	116	65	37	5.8	21
19	35	29	46	46	72	117	117	116	63	37	7.0	20
20	33	29	44	48	68	119	116	117	62	38	8.1	21
21	33	29	44	45	67	118	116	118	60	37	8.5	21
22	32	30	44	45	60	117	116	118	59	37	13	20
23	32	30	43	77	60	116	119	117	57	37	16	20
24	32	28	42	86	61	114	118	110	56	37	16	21
25	31	28	42	76	64	110	112	111	55	37	21	21
26	31	28	43	66	75	109	111	110	54	71	22	21
27	30	28	43	61	101	114	116	103	53	82	22	20
28	30	29	43	57	102	119	117	98	51	82	22	21
29	30	81	42	55	---	119	117	94	50	81	22	22
30	30	79	42	54	---	118	117	90	48	80	22	23
31	30	---	43	52	---	118	---	87	---	80	22	---
TOTAL	1228	986	1656	1665	1954	3564	3513	3476	2044	1701	791.6	911
MEAN	39.6	32.9	53.4	53.7	69.8	115	117	112	68.1	54.9	25.5	30.4
MAX	81	81	107	86	104	119	119	119	87	83	81	89
MIN	27	20	34	44	47	104	111	87	48	35	2.7	20
AC-FT	2440	1960	3280	3300	3880	7070	6970	6890	4050	3370	1570	1810
a	4170	3850	6600	6640	7180	10730	10430	10580	7060	5550	1650	3230

CAL YR 1993 TOTAL 30623.8 MEAN 83.9 MAX 123 MIN 9.8 AC-FT 60740 a 94950
WTR YR 1994 TOTAL 23489.6 MEAN 64.4 MAX 119 MIN 2.7 AC-FT 46590 a 77670

a Discharge, in acre-feet, at De Sabla Powerplant, provided by Pacific Gas & Electric Co.

11390000 BUTTE CREEK NEAR CHICO, CA

LOCATION.--Lat 39°43'34", long 121°42'28", in NW 1/4 NW 1/4 sec.36, T.22 N., R.2 E., Butte County, Hydrologic Unit 18020105, on right bank 0.7 mi downstream from Little Butte Creek and 7.5 mi east of Chico.
DRAINAGE AREA.--147 mi^2.
PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1953-79.
WATER TEMPERATURE: Water years 1962-79.
REVISED RECORDS.--WSP 1445: 1953(M). WSP 1931: Drainage area.
GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 320 ft above sea level, from topographic map. Prior to Aug. 13, 1944, water-stage recorder at site 0.4 mi upstream at different datum. Aug. 13, 1944, to June 5, 1986, at datum 3.00 ft higher.
REMARKS.--No estimated daily discharges. Records good. Flow slightly regulated by storage in Magalia Reservoir, usable capacity, 2,640 acre-ft, and since 1957 by Paradise Reservoir, usable capacity, 11,500 acre-ft. Diversions upstream from station for irrigation and domestic use of about 7,000 acre-ft annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal (11389800).
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft^3/s, Feb. 17, 1986, gage height, 17.52 ft, present datum, from rating curve extended above 6,100 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 10 ft^3/s, Nov. 29, 1952.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft^3/s and maximum (*) from rating curve extended above 5,100 ft^3/s on basis of step-backwater survey of channel:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 7	1030	*1,840	*4.53				

Minimum daily, 56 ft^3/s, Aug. 16, 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	110	168	159	190	424	291	286	203	119	144	78
2	96	108	144	171	183	420	291	278	196	113	143	66
3	96	109	133	167	180	416	293	275	190	110	143	64
4	101	109	132	179	174	406	292	280	182	109	119	68
5	106	110	127	241	170	480	290	312	180	106	94	70
6	108	108	124	198	303	471	287	348	191	103	85	69
7	106	108	134	181	1350	428	310	417	189	101	89	70
8	111	108	843	174	762	398	308	382	190	143	91	69
9	118	107	561	172	442	390	400	365	188	153	83	71
10	124	110	329	164	428	383	346	351	178	154	69	73
11	150	112	395	158	440	414	316	332	173	155	58	73
12	145	134	405	154	343	374	305	322	169	154	63	74
13	131	118	272	154	296	361	301	307	166	152	73	110
14	171	112	637	154	265	362	298	289	162	118	69	151
15	194	110	358	154	244	365	299	283	157	95	62	151
16	198	110	256	152	228	358	301	325	154	97	56	149
17	192	109	217	151	465	349	305	330	155	98	56	115
18	133	104	197	152	508	338	305	319	155	99	56	69
19	125	104	184	151	417	336	307	313	153	95	57	69
20	120	107	175	152	544	333	308	301	150	96	57	70
21	118	108	166	148	511	321	301	290	147	94	57	70
22	117	109	163	147	476	321	298	278	144	93	63	70
23	114	112	158	270	391	313	297	270	140	94	72	69
24	113	107	155	526	348	301	305	261	138	95	68	70
25	112	108	153	452	337	293	345	252	138	92	70	72
26	110	107	154	370	358	284	348	250	136	116	79	72
27	108	107	154	287	446	283	328	238	132	146	77	72
28	109	110	154	243	439	287	317	228	128	147	75	71
29	110	290	152	219	---	291	301	220	125	145	73	71
30	110	343	152	207	---	292	293	214	121	145	74	76
31	110	---	154	198	---	293	---	208	---	144	75	---
TOTAL	3853	3708	7506	6405	11238	11085	9287	9124	4830	3681	2450	2442
MEAN	124	124	242	207	401	358	310	294	161	119	79.0	81.4
MAX	198	343	843	526	1350	480	400	417	203	155	144	151
MIN	96	104	124	147	170	283	287	208	121	92	56	64
AC-FT	7640	7350	14890	12700	22290	21990	18420	18100	9580	7300	4860	4840

C—042148

C-042148

11390000 BUTTE CREEK NEAR CHICO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	139	228	447	637	780	736	671	485	275	161	130	117
MAX	775	1269	2061	2711	2925	2517	1848	1109	667	321	223	175
(WY)	1963	1974	1956	1970	1986	1983	1982	1967	1983	1983	1975	1967
MIN	65.8	77.8	89.5	91.0	114	123	114	134	79.4	54.4	46.1	51.9
(WY)	1992	1992	1991	1991	1977	1977	1977	1977	1977	1977	1931	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1931 - 1994	
ANNUAL TOTAL	183550		75609			
ANNUAL MEAN	503		207		398	
HIGHEST ANNUAL MEAN					824	1983
LOWEST ANNUAL MEAN					94.0	1977
HIGHEST DAILY MEAN	3780	Jan 20	1350	Feb 7	16600	Dec 22 1964
LOWEST DAILY MEAN	82	Sep 22	56	Aug 16	44	Aug 23 1931
ANNUAL SEVEN-DAY MINIMUM	94	Sep 21	57	Aug 15	44	Aug 23 1931
INSTANTANEOUS PEAK FLOW			1840	Feb 7	22000	Feb 17 1986
INSTANTANEOUS PEAK STAGE			4.53	Feb 7	17.52	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	364100		150000		288700	
10 PERCENT EXCEEDS	1010		372		824	
50 PERCENT EXCEEDS	300		154		205	
90 PERCENT EXCEEDS	110		73		100	

C-042149

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA

LOCATION.--Lat 39°00'36", long 121°49'25", in NW 1/4 NE 1/4 sec.2, T.13 N., R.1 E., Colusa County, Hydrologic Unit 18020104, on right bank 1,200 ft downstream from Wilkins Slough, 5.8 mi southeast of Grimes, and at mile 62.9 upstream from Sacramento.

DRAINAGE AREA.--12,926 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1931 to current year (prior to October 1938, low-water periods only). Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough."

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.00 ft below sea level.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas. When discharge exceeds about 23,000 ft^3/s, flow begins over Tisdale Weir, 1.0 mi upstream on left bank, into Sutter Bypass. Records tabulated below do not include flow over Tisdale Weir. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1939-94), 32,700 ft^3/s, Feb. 20, 1986, gage height, 52.50 ft; maximum gage height, 52.75 ft, Mar. 1, 1940; minimum daily, 645 ft^3/s, Aug. 9, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,600 ft^3/s, Feb. 21, gage height, 42.94 ft; minimum daily, 3,230 ft^3/s, Apr. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8590	5260	6790	6830	6790	11600	4330	4040	5850	5530	7280	9790
2	8630	5220	7010	6800	6520	10500	4420	4090	6050	5660	7340	10100
3	8550	5250	6470	6730	6360	9710	4540	4380	5620	5640	7280	10300
4	8550	5300	6160	6800	6160	9390	4530	4360	4940	5630	6910	10600
5	8490	5300	6000	6840	6050	9120	4410	3880	4290	5710	6620	10000
6	8510	5330	5940	6840	5990	8950	4380	4150	4090	5820	6530	9860
7	8350	5270	5880	6870	6600	9310	4260	4790	4330	5910	6510	9600
8	8100	5230	5970	6770	16200	8990	4300	5500	4360	5820	6230	9500
9	7780	5190	6250	6680	19600	8520	4400	6190	4370	6210	6080	9150
10	7400	5230	8490	6660	15400	7250	4550	6240	4570	6470	6150	8780
11	7190	5300	9330	6510	12300	7880	5200	6440	5000	6880	6570	8720
12	7260	5390	9380	6110	14500	7800	4840	6630	5070	7150	6720	8820
13	6980	5420	12500	5910	12400	7930	4410	6820	5080	7370	6500	8800
14	6760	5460	e9800	5820	10500	7530	3920	7280	5060	7460	6260	8770
15	6830	5450	e12000	5900	9350	7250	3470	6980	4680	7500	6340	8670
16	7130	5600	e15900	5940	8660	7010	3230	6510	4440	7440	6460	8780
17	7710	5620	e12000	5910	8270	6720	3370	5680	4700	7430	6590	8910
18	8780	5580	10000	5870	10000	7090	3400	5200	5050	7510	6620	8380
19	7340	5540	e9000	5860	14600	7390	3660	4930	5260	7600	6750	8000
20	6650	5480	e8500	5860	14100	6740	3620	4880	5260	7610	7610	7810
21	6360	5550	e8000	5860	19200	6360	3670	5130	5180	7650	8040	7580
22	6130	5560	e7700	5900	18600	5980	3790	5350	5260	7830	8280	7540
23	5790	5490	7550	5970	15600	5560	3860	5280	5340	7710	8430	7500
24	5640	5530	7390	6480	13400	5480	3860	5420	5390	7790	8560	7340
25	5620	5630	7320	10500	11800	5490	4130	5970	5430	7810	8850	7270
26	5620	5690	7240	13900	10900	5370	4560	6650	5560	7930	8980	7080
27	5630	5700	7160	12300	9960	5230	5210	6510	5630	7980	8950	6890
28	5480	5660	7070	10700	10400	5020	5230	5790	5710	7750	9150	6830
29	5310	5690	7000	8980	---	4790	4450	5140	5720	7610	9350	6800
30	5220	6120	6990	7970	---	4600	4030	4830	5640	7610	9490	6720
31	5290	---	6960	7350	---	4470	---	5280	---	7370	9600	---
TOTAL	217670	164040	253750	223420	320210	225030	126030	170330	152930	217390	231030	254890
MEAN	7022	5468	8185	7207	11440	7259	4201	5495	5098	7013	7453	8496
MAX	8780	6120	15900	13900	19600	11600	5230	7280	6050	7980	9600	10600
MIN	5220	5190	5880	5820	5990	4470	3230	3880	4090	5530	6080	6720
AC-FT	431700	325400	503300	443200	635100	446300	250000	337800	303300	431200	458200	505600

e Estimated.

C-042150

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6665	8701	12290	14550	16150	15040	11170	9032	7439	7122	7120	7086
MAX	11800	20510	27430	27280	28440	29490	24920	23110	17710	11980	10810	10620
(WY)	1958	1974	1984	1974	1983	1983	1982	1983	1983	1983	1983	1967
MIN	3330	3839	4103	5281	5012	5152	4201	3397	3451	3784	4086	4065
(WY)	1976	1993	1977	1991	1991	1977	1994	1992	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1946 - 1994	
ANNUAL TOTAL	4325940		2556720			
ANNUAL MEAN	11850		7005		10170	
HIGHEST ANNUAL MEAN					17980	1983
LOWEST ANNUAL MEAN					5109	1977
HIGHEST DAILY MEAN	29200	Jan 23	19600	Feb 9	32600	Feb 20 1986
LOWEST DAILY MEAN	5190	Nov 9	3230	Apr 16	2720	May 7 1992
ANNUAL SEVEN-DAY MINIMUM	5260	Oct 30	3490	Apr 15	2880	Oct 12 1977
INSTANTANEOUS PEAK FLOW			20600	Feb 21	32700	Feb 20 1986
INSTANTANEOUS PEAK STAGE			42.94	Feb 21	52.50	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	8581000		5071000		7367000	
10 PERCENT EXCEEDS	25300		9740		21500	
50 PERCENT EXCEEDS	8590		6530		7830	
90 PERCENT EXCEEDS	5640		4540		5000	

C-042151

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1967 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1966 to current year.

INSTRUMENTATION.--Temperature recorder since October 1966.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 25.5°C, Sept. 6-8, 1977, June 3-5, 1992; minimum recorded, 3.5°C, Dec. 23-25, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.5°C, July 10, 11; minimum recorded, 7.5°C, Dec. 23-27, Feb. 21-23.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.5	17.0	16.0	15.0	10.5	10.0	9.5	9.0	9.0	8.5	12.5	12.0
2	17.5	17.0	15.0	14.5	10.5	10.5	9.5	9.0	9.0	8.5	13.0	12.0
3	17.5	17.5	14.5	14.0	10.5	10.5	9.5	9.5	9.5	8.5	13.5	13.0
4	17.5	17.0	14.0	14.0	10.5	10.0	9.5	9.5	9.5	9.0	14.0	13.5
5	17.0	16.0	14.0	13.5	10.5	10.0	10.0	9.5	9.5	9.0	14.5	14.0
6	16.0	16.0	14.0	13.0	10.5	10.5	10.0	9.5	9.0	9.0	14.0	13.5
7	16.5	16.0	13.5	13.0	11.0	10.5	10.0	9.5	9.5	9.0	13.5	13.0
8	16.5	16.0	13.5	13.0	11.0	11.0	9.5	9.0	9.5	9.0	---	---
9	16.5	16.0	13.5	13.0	11.5	11.0	9.5	9.0	9.0	9.0	---	---
10	16.5	16.0	13.0	12.5	11.5	11.5	9.5	9.0	9.5	9.0	15.0	14.5
11	16.0	15.5	12.5	12.5	12.0	11.5	9.5	9.0	9.5	9.0	15.5	14.5
12	15.5	15.5	13.0	12.5	12.0	11.0	9.5	9.0	9.5	9.0	15.5	14.5
13	16.0	15.5	12.5	12.0	11.0	10.5	9.5	9.0	9.5	8.5	14.5	14.0
14	16.0	15.5	12.0	11.5	10.5	10.0	9.5	9.5	9.5	9.0	15.0	14.0
15	16.0	15.5	11.5	11.0	10.0	9.5	10.0	9.5	9.5	9.0	15.0	14.5
16	16.0	15.5	11.0	10.5	9.5	9.0	10.5	9.5	10.0	9.5	15.0	14.5
17	16.0	15.5	11.0	10.5	9.0	8.5	10.5	10.0	10.5	10.0	15.0	14.0
18	16.0	15.5	11.0	10.5	8.5	8.0	10.5	10.0	10.0	9.5	15.0	14.5
19	16.0	15.5	11.5	11.0	8.5	8.0	10.5	10.0	9.5	8.5	15.0	14.0
20	16.0	15.5	11.0	10.5	8.0	8.0	10.5	10.0	8.5	8.0	15.0	14.0
21	16.0	15.5	11.0	10.5	8.0	8.0	10.5	10.5	8.5	7.5	15.0	14.0
22	16.0	15.0	10.5	10.5	8.0	8.0	10.5	10.5	8.0	7.5	14.5	14.0
23	16.0	15.5	10.5	10.0	8.0	7.5	11.0	10.5	8.5	7.5	14.0	13.5
24	16.0	15.5	10.0	9.0	8.0	7.5	11.5	11.0	9.5	8.5	13.5	13.0
25	16.0	15.5	9.5	8.5	8.0	7.5	11.0	10.5	10.5	9.5	13.5	13.0
26	16.0	15.5	9.0	8.5	7.5	7.5	10.5	9.5	11.0	10.5	14.0	13.0
27	16.0	15.0	9.0	8.5	8.5	7.5	9.5	9.0	11.5	11.0	15.0	14.0
28	15.5	15.0	9.0	8.5	9.0	8.5	9.5	9.0	12.5	11.5	15.5	15.0
29	15.5	15.0	9.5	9.0	9.5	8.5	9.0	8.5	---	---	16.0	15.5
30	16.0	15.5	10.5	9.5	9.5	9.0	9.5	9.0	---	---	16.5	16.0
31	16.0	15.5	---	---	9.5	9.0	9.5	9.0	---	---	16.5	15.5
MONTH	17.5	15.0	16.0	8.5	12.0	7.5	11.5	8.5	12.5	7.5	---	---

C-042152

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	16.0	18.0	17.0	20.5	20.0	21.0	20.5	20.0	19.0	18.5	17.5
2	17.0	16.0	18.0	17.5	20.5	20.0	21.0	20.5	20.0	19.0	18.5	17.5
3	17.0	16.5	18.5	18.0	20.5	20.0	21.0	20.5	20.0	19.0	18.5	17.5
4	17.0	16.5	18.5	18.0	20.0	20.0	21.0	20.5	20.5	19.5	18.5	17.5
5	17.0	16.5	18.5	18.0	20.0	19.5	21.0	20.5	20.5	19.5	18.5	17.5
6	16.5	15.5	18.5	17.0	19.5	19.0	21.0	20.5	20.5	20.0	18.5	17.0
7	16.0	15.0	17.5	17.0	19.5	19.0	21.0	20.5	20.5	20.0	18.5	17.0
8	16.0	15.0	17.5	17.0	19.5	19.0	21.0	20.5	20.5	20.0	18.5	17.5
9	15.5	14.5	18.5	17.5	20.0	19.5	21.0	20.5	20.5	20.0	18.5	17.5
10	15.5	14.5	19.0	18.5	20.5	20.0	21.5	20.5	20.5	20.0	18.5	17.5
11	16.0	15.5	20.0	19.0	21.0	20.5	21.5	20.5	20.0	19.5	18.0	17.5
12	16.5	16.0	20.5	20.0	21.0	21.0	21.0	20.5	20.0	19.0	18.0	17.0
13	17.0	16.5	20.5	20.5	21.0	21.0	21.0	20.0	20.0	19.0	17.5	17.0
14	17.5	17.0	21.0	20.0	21.0	20.5	21.0	20.0	20.0	19.5	18.0	17.0
15	18.0	17.5	20.5	19.5	21.0	20.0	21.0	20.0	20.0	19.5	18.5	17.5
16	18.5	17.5	19.5	18.5	20.0	19.5	21.0	20.0	20.0	19.5	18.5	17.5
17	19.5	18.0	18.5	18.0	19.5	19.5	21.0	19.5	20.0	19.5	18.5	18.0
18	19.5	19.0	18.5	18.0	20.0	19.5	21.0	20.0	20.0	19.5	18.5	18.0
19	20.0	19.0	18.5	18.0	20.0	19.5	21.0	20.0	20.0	19.5	19.0	18.0
20	20.0	19.5	18.0	17.5	20.0	20.0	20.5	19.5	20.0	19.5	19.0	18.5
21	19.5	19.0	18.0	17.5	20.5	20.0	20.5	19.5	20.0	18.5	19.0	18.5
22	19.5	18.5	19.0	18.0	20.5	20.0	20.5	19.5	19.5	18.5	19.0	18.5
23	18.5	17.0	19.5	19.0	20.5	20.0	20.5	19.5	19.0	18.0	18.5	18.0
24	17.0	15.5	20.5	19.5	20.5	20.5	20.0	19.0	19.0	18.0	18.5	17.5
25	16.0	14.5	20.5	20.0	20.5	20.0	20.0	19.0	19.0	18.0	18.5	18.0
26	16.0	15.0	20.5	20.5	20.0	20.0	20.0	19.0	19.0	17.5	18.5	18.0
27	16.0	15.5	20.5	20.0	20.0	20.0	20.0	19.0	18.5	17.5	18.5	18.0
28	16.5	16.0	20.0	20.0	20.5	19.5	20.0	18.5	18.5	17.0	18.0	17.5
29	17.0	16.5	20.5	20.0	21.0	20.0	20.0	19.0	18.5	17.0	18.0	17.5
30	17.5	16.5	20.5	20.5	21.0	20.5	20.0	19.0	18.5	17.5	18.0	17.0
31	---	---	20.5	20.5	---	---	20.0	19.0	18.5	17.5	---	---
MONTH	20.0	14.5	21.0	17.0	21.0	19.0	21.5	18.5	20.5	17.0	19.0	17.0

C-042153

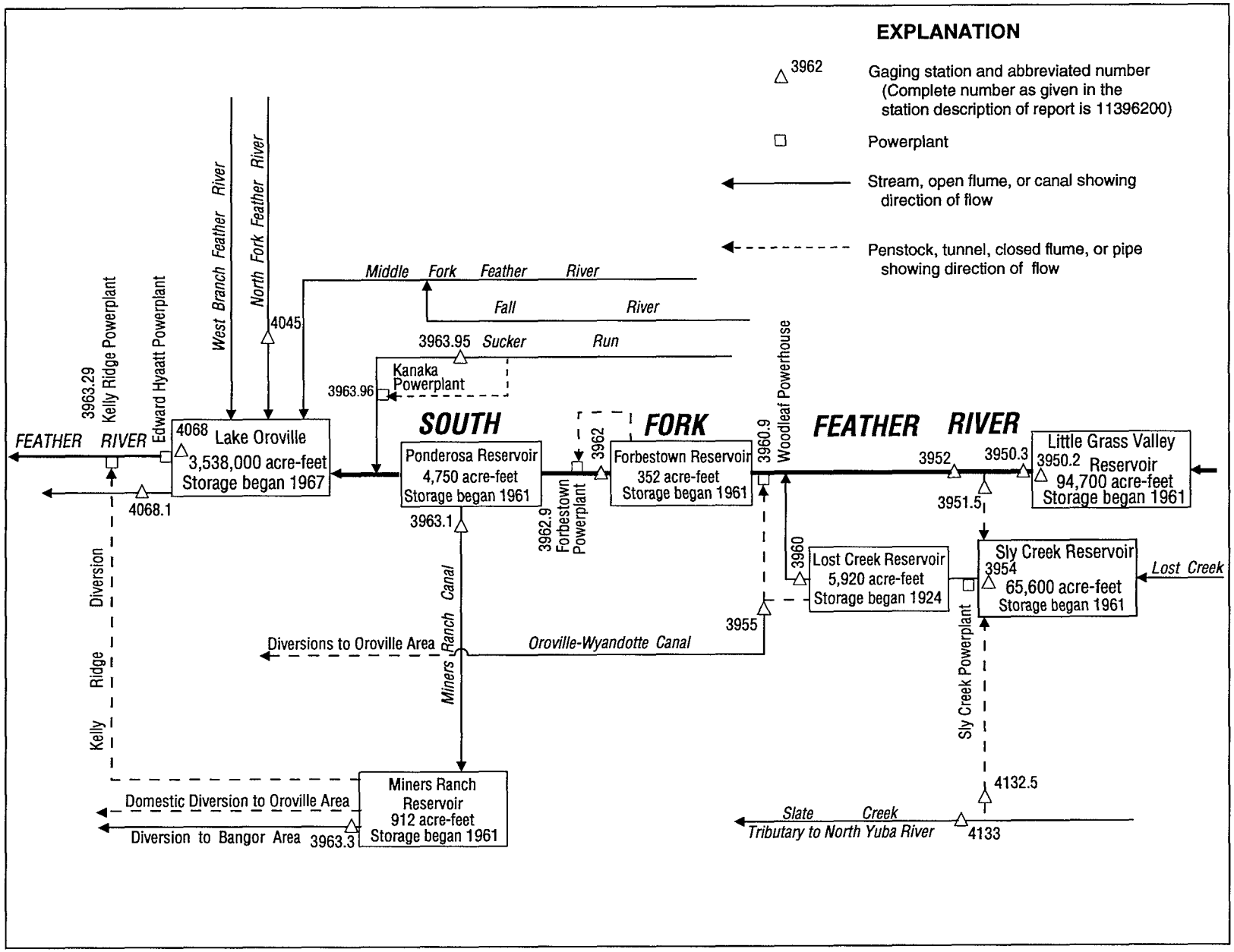

Figure 31. Diversions and storage in South Fork Feather River basin.

11395020 LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE, CA

LOCATION.--Lat 39°43'25", long 121°01'10", in SE 1/4 NW 1/4 sec.31, T.22 N., R.9 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 300 ft upstream from dam on South Fork Feather River, 3.3 mi northwest of La Porte.

DRAINAGE AREA.--25.8 mi^2.

PERIOD OF RECORD.--October 1961 to current year. Monthend elevation and contents only, October 1961 to October 1962.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Nov. 1, 1962, in valve chamber in dam at same datum.

REMARKS.--Reservoir is formed by rockfill dam. Storage began in October 1961. Total capacity, 94,700 acre-ft between elevations 4,876 ft, invert of release valve, and 5,047 ft, top of spillway gates, all of which is available for release. Water is released down South Fork Feather River for power development and irrigation. See schematic diagram of South Fork Feather River basin. Records represent total contents at 2400 hours.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 96,100 acre-ft, Apr. 29, 1965, elevation, 5,047.9 ft; minimum since reservoir first filled, 30,300 acre-ft, many days during 1977, elevation, 4,994.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 69,000 acre-ft, Oct. 1, elevation, 5,030.1 ft; minimum, 47,800 acre-ft, Jan. 22, 23, elevation, 5,012.9 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1963)

4,990	26,300	5,030	68,900
5,000	34,600	5,040	83,500
5,010	44,400	5,048	96,300
5,020	55,900		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68900	60400	50000	48100	48100	49100	53800	61900	67300	66800	65600	64100
2	68600	60000	49700	48100	48100	49100	54000	62100	67300	66800	65500	63900
3	68500	59700	49400	48100	48100	49100	54300	62300	67300	66800	65500	63900
4	68200	59300	49000	48100	48000	49200	54500	62600	67300	66800	65500	63900
5	68000	58900	48700	48200	48000	49500	54700	62900	67300	66700	65400	63900
6	67700	58500	48300	48200	48100	49600	55000	63400	67300	66700	65400	63800
7	67600	58100	48100	48100	48200	49700	55100	63700	67300	66700	65200	63700
8	67500	57700	48200	48100	48200	49800	55400	64100	67300	66700	65200	63400
9	67300	57300	48200	48100	48200	49900	55700	64500	67300	66500	65100	63200
10	67300	56900	48200	48100	48300	50200	55900	64700	67300	66500	65100	62900
11	67300	56500	48300	48100	48300	50400	56000	65000	67300	66500	65100	62600
12	67300	56300	48400	48100	48300	50500	56300	65400	67300	66500	65000	62400
13	67200	55800	48400	48100	48300	50600	56400	65500	67300	66400	65000	62300
14	66900	55400	48600	48000	48300	50800	56700	65800	67300	66400	65000	62000
15	66700	55200	48600	48000	48300	51100	56900	65900	67300	66400	64900	61700
16	66400	54700	48600	48000	48300	51200	57300	66000	67200	66300	64900	61500
17	66000	54500	48600	48000	48600	51400	57700	66300	67200	66300	64700	61300
18	65600	54000	48600	47900	48600	51600	58100	66400	67200	66300	64700	61100
19	65400	53800	48600	47900	48700	51800	58500	66500	67200	66200	64700	60800
20	65000	53400	48600	47900	48800	52000	58900	66500	67200	66200	64600	60600
21	64600	53000	48400	47900	48900	52100	59300	66700	67200	66000	64600	60300
22	64200	52700	48400	47800	48900	52200	59500	66800	67100	66000	64600	60000
23	63800	52300	48300	48000	48900	52400	59800	66900	67100	66000	64500	59800
24	63600	52000	48300	48100	48900	52600	60200	66900	67100	66000	64500	59500
25	63200	51600	48300	48100	48900	52700	60600	67100	67100	65900	64300	59400
26	62800	51300	48300	48100	48900	52800	60800	67100	66900	65900	64300	59100
27	62400	51000	48300	48200	49000	52900	61100	67200	66900	65900	64200	58900
28	62000	50600	48200	48100	49100	53100	61300	67200	66900	65800	64200	58700
29	61600	50700	48200	48100	---	53200	61500	67200	66900	65800	64200	58500
30	61200	50400	48200	48100	---	53400	61700	67300	66900	65600	64200	58200
31	60800	---	48100	48100	---	53600	---	67300	---	65600	64100	---
MAX	68900	60400	50000	48200	49100	53600	61700	67300	67300	66800	65600	64100
MIN	60800	50400	48100	47800	48000	49100	53800	61900	66900	65600	64100	58200
a	5023.8	5015.2	5013.2	5013.2	5014.1	5018.0	5024.5	5028.8	5028.5	5027.5	5026.3	5021.8
b	-8200	-10400	-2300	0	+1000	+4500	+8100	+5600	-400	-1300	-1500	-5900

CAL YR 1993 b -300
WTR YR 1994 b -10800

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

C-042155

11395030 SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CA

LOCATION.--Lat 39°43'26", long 121°01'16", in SW 1/4 NW 1/4 sec.31, T.22 N., R.9 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.1 mi downstream from Little Grass Valley Dam and 3.5 mi northwest of La Porte.

DRAINAGE AREA.--25.9 mi^2.

PERIOD OF RECORD.--October 1927 to September 1933 (published as "near La Porte"), October 1960 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,809.0 ft above sea level. Prior to Oct. 1, 1960, at site 0.4 mi upstream at different datum. Oct. 1, 1960, to Oct. 30, 1962, at present site and datum. Nov. 1, 1962, to May 31, 1966, at site on outlet works at base of Little Grass Valley Dam 0.1 mi upstream at datum 4,850.00 ft above sea level.

REMARKS.--No estimated daily discharges. Flow regulated by Little Grass Valley Reservoir (station 11395020) beginning in October 1961. No diversion upstream from station. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,780 ft^3/s, Feb. 18, 1986, gage height, 14.78 ft; minimum, 0.2 ft^3/s, Oct. 28-31, Nov. 2, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 188 ft^3/s, Oct. 16, gage height, 8.74 ft; minimum daily, 7.4 ft^3/s, Apr. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	181	176	22	22	22	23	12	11	11	12	12
2	99	181	175	22	22	22	23	12	11	11	12	12
3	99	180	175	22	22	22	24	12	11	11	12	12
4	99	180	175	22	22	22	24	12	11	11	12	12
5	99	180	175	22	22	23	24	13	11	11	12	12
6	99	180	175	22	22	23	24	14	11	11	12	12
7	98	180	175	22	22	23	24	13	11	11	12	63
8	55	179	176	22	22	23	23	13	11	11	12	102
9	12	179	82	22	22	23	23	13	11	11	12	102
10	12	179	23	22	22	23	23	13	11	11	12	102
11	12	179	22	22	22	23	23	13	11	11	12	102
12	60	179	22	22	22	23	23	12	11	11	12	102
13	104	179	22	22	22	23	24	12	11	11	12	102
14	147	178	22	22	22	23	24	12	11	11	12	102
15	183	178	22	22	22	23	24	12	11	11	12	102
16	184	178	22	22	22	23	25	11	11	11	12	102
17	183	178	22	22	22	23	25	11	11	11	12	102
18	183	178	22	22	22	23	25	11	11	16	12	102
19	183	178	22	22	22	23	16	11	11	15	12	102
20	183	178	22	22	22	23	8.9	11	11	12	12	102
21	182	178	22	22	22	23	8.5	11	11	12	12	102
22	182	178	22	22	22	23	8.3	11	11	12	12	102
23	182	177	22	22	22	23	8.0	11	11	12	12	101
24	182	177	22	22	22	23	7.6	11	11	12	12	101
25	182	177	22	22	22	23	7.5	11	11	12	12	101
26	182	176	22	22	22	23	7.4	11	11	12	12	101
27	182	176	22	22	22	23	7.6	11	11	12	12	101
28	182	176	22	22	22	23	9.7	11	11	12	12	101
29	181	178	22	22	---	23	12	11	11	12	12	101
30	181	176	22	22	---	23	12	11	11	12	12	101
31	181	---	22	22	---	23	---	11	---	12	12	---
TOTAL	4193	5351	1969	682	616	709	541.5	364	330	362	372	2473
MEAN	135	178	63.5	22.0	22.0	22.9	18.0	11.7	11.0	11.7	12.0	82.4
MAX	184	181	176	22	22	23	25	14	11	16	12	102
MIN	12	176	22	22	22	22	7.4	11	11	11	12	12
AC-FT	8320	10610	3910	1350	1220	1410	1070	722	655	718	738	4910

C—042156

C-042156

11395030 SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1933, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.56	19.5	47.6	26.3	45.2	134	181	201	78.8	7.70	1.74	1.35
MAX	6.62	94.5	206	51.3	94.7	386	301	384	169	13.7	2.54	1.72
(WY)	1932	1928	1930	1928	1930	1928	1930	1932	1933	1932	1932	1930
MIN	1.43	1.67	2.65	3.60	3.55	14.5	106	48.9	13.8	2.38	1.06	1.04
(WY)	1929	1930	1933	1933	1933	1933	1933	1931	1931	1931	1931	1931

SUMMARY STATISTICS	WATER YEARS 1928 - 1933	
ANNUAL MEAN	62.3	
HIGHEST ANNUAL MEAN	85.6	1932
LOWEST ANNUAL MEAN	28.0	1931
HIGHEST DAILY MEAN	1800	Mar 25 1928
LOWEST DAILY MEAN	.90	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	.90	Sep 1 1931
INSTANTANEOUS PEAK FLOW	2600	Mar 26 1928
INSTANTANEOUS PEAK STAGE	7.00	Mar 26 1928
ANNUAL RUNOFF (AC-FT)	45140	
10 PERCENT EXCEEDS	202	
50 PERCENT EXCEEDS	10	
90 PERCENT EXCEEDS	1.4	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	97.6	73.2	72.3	91.8	95.9	88.9	79.6	123	83.6	111	142	173
MAX	305	404	420	626	694	377	317	431	396	350	344	389
(WY)	1970	1982	1982	1970	1986	1986	1989	1993	1983	1983	1968	1984
MIN	13.0	2.94	4.01	2.36	2.25	3.70	4.31	4.38	3.99	3.71	7.43	10.0
(WY)	1986	1976	1979	1964	1976	1964	1964	1977	1977	1977	1976	1981

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	51015		17962.5			
ANNUAL MEAN	140		49.2		103	
HIGHEST ANNUAL MEAN					250	1982
LOWEST ANNUAL MEAN					29.5	1981
HIGHEST DAILY MEAN	757	May 4	184	Oct 16	5200	Feb 18 1986
LOWEST DAILY MEAN	12	Oct 9	7.4	Apr 26	1.4	Jan 27 1964
ANNUAL SEVEN-DAY MINIMUM	13	Jan 29	7.8	Apr 21	1.4	Jan 27 1964
INSTANTANEOUS PEAK FLOW			188	Oct 16	5780	Feb 18 1986
INSTANTANEOUS PEAK STAGE			8.74	Oct 16	14.78	Feb 18 1986
ANNUAL RUNOFF (AC-FT)	101200		35630		74420	
10 PERCENT EXCEEDS	347		178		251	
50 PERCENT EXCEEDS	101		22		24	
90 PERCENT EXCEEDS	14		11		5.1	

C-042157

11395150 SOUTH FORK TUNNEL NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°38'55", long 120°07'00", in NW 1/4 SW 1/4 sec.29, T.21 N., R.8 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, 3.2 mi upstream from Rock Creek, and 5.8 mi north of Strawberry Valley.

PERIOD OF RECORD.--October 1973 to current year. Records of daily discharge for November 1961 to September 1973 are in files of the U.S. Geological Survey. Monthly diversion used to adjust South Fork Feather River below diversion dam near Strawberry Valley (station 11395200) since October 1961.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--No estimated daily discharges. Tunnel diverts water from South Fork Feather River to Sly Creek Reservoir (station 11395400) for power development. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 570 ft^3/s, Mar. 13, May 25-29, June 3, 1983; no flow many days in 1980-82.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	172	171	27	30	73	64	29	12	7.1	6.2	5.6
2	94	175	170	27	29	78	64	28	12	7.1	6.2	5.4
3	94	176	170	25	29	81	66	28	12	7.1	6.1	5.4
4	94	176	171	38	29	85	63	27	11	7.1	6.1	5.4
5	94	176	170	47	29	133	58	31	11	7.0	6.1	5.3
6	93	175	170	37	34	132	56	43	12	6.8	6.0	5.3
7	93	175	170	28	47	117	57	43	11	6.6	6.0	30
8	80	175	215	31	42	105	58	37	11	6.6	6.0	92
9	15	175	135	30	37	101	61	35	11	6.4	6.0	90
10	7.9	174	42	29	43	108	57	32	10	6.3	6.0	89
11	11	175	42	28	37	128	55	30	10	6.2	6.0	90
12	30	175	34	28	35	107	54	28	9.8	6.2	6.1	91
13	91	174	31	28	34	100	54	25	9.8	6.1	6.1	90
14	126	172	34	27	32	104	55	23	9.5	6.1	6.1	91
15	184	174	29	27	32	111	57	22	8.2	6.0	6.1	92
16	179	174	27	27	31	107	58	23	6.6	5.9	6.1	92
17	174	172	26	27	51	98	58	24	8.0	5.8	6.1	92
18	173	173	26	27	42	91	57	23	8.6	6.5	5.5	91
19	172	172	25	27	38	88	51	21	8.5	13	5.3	90
20	172	172	25	27	39	82	35	19	8.4	6.8	5.5	90
21	172	172	25	27	36	78	32	19	8.3	6.6	5.5	91
22	172	173	25	27	34	76	30	18	8.1	6.6	5.5	89
23	172	172	24	42	33	71	29	17	7.9	6.5	5.5	90
24	172	171	24	43	33	67	29	16	7.8	6.5	5.5	90
25	171	171	24	36	35	62	31	16	7.8	6.4	5.5	90
26	167	171	24	34	47	59	31	15	7.7	6.4	5.5	91
27	167	171	25	33	66	58	35	15	7.7	6.3	5.4	90
28	168	173	25	30	68	61	33	14	7.6	6.3	5.4	91
29	169	204	25	31	---	63	34	14	7.3	6.3	5.4	89
30	169	186	25	31	---	65	31	13	7.2	6.3	5.4	88
31	169	---	25	30	---	65	---	13	---	6.2	5.4	---
TOTAL	3938.9	5246	2154	956	1072	2754	1453	741	277.8	207.2	179.6	2141.4
MEAN	127	175	69.5	30.8	38.3	88.8	48.4	23.9	9.26	6.68	5.79	71.4
MAX	184	204	215	47	68	133	66	43	12	13	6.2	92
MIN	7.9	171	24	25	29	58	29	13	6.6	5.9	5.3	5.3
AC-FT	7810	10410	4270	1900	2130	5460	2880	1470	551	411	356	4250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1994, BY WATER YEAR (WY)

MEAN	81.3	101	107	114	114	167	138	164	92.8	109	121	153
MAX	176	377	462	381	358	454	429	520	421	363	327	390
(WY)	1975	1982	1982	1974	1983	1983	1989	1993	1983	1983	1983	1978
MIN	6.21	4.14	3.36	5.99	8.49	9.71	8.68	16.4	7.22	4.43	4.03	.000
(WY)	1986	1977	1977	1977	1977	1977	1977	1977	1977	1977	1981	1981

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1974 - 1994	
ANNUAL TOTAL	71206.9		21120.9			
ANNUAL MEAN	195		57.9		122	
HIGHEST ANNUAL MEAN					294	1983
LOWEST ANNUAL MEAN					35.0	1977
HIGHEST DAILY MEAN	563	May 8	215	Dec 8	570	Mar 13 1983
LOWEST DAILY MEAN	7.9	Oct 10	5.3	Aug 19	.00	Jan 16 1980
ANNUAL SEVEN-DAY MINIMUM	24	Dec 20	5.4	Aug 31	.00	Jan 16 1980
ANNUAL RUNOFF (AC-FT)	141200		41890		88280	
10 PERCENT EXCEEDS	465		172		314	
50 PERCENT EXCEEDS	170		32		69	
90 PERCENT EXCEEDS	53		6.1		7.6	

C—0 4 2 1 5 8

C-042158

11395200 SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°38'51", long 121°07'04", in NE 1/4 SE 1/4 sec.30, T.21 N., R.8 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.1 mi downstream from diversion dam, 3.1 mi upstream from Rock Creek, and 5.8 mi north of Strawberry Valley.

DRAINAGE AREA.--37.7 mi^2.

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

REVISED RECORDS.--WDR CA-80-4: 1976(M).

GAGE.--Water-stage recorder and since May 8, 1987, sharp crested rectangular weir. Datum of gage is 3,535.02 ft above sea level (levels by Oroville-Wyandotte Irrigation District).

REMARKS.--No estimated daily discharges. Flow regulated by Little Grass Valley Reservoir (station 11395020) since October 1961. South Fork Diversion Tunnel, maximum capacity, about 600 ft^3/s 500 ft upstream, diverts to Sly Creek Reservoir (station 11395400); diversion began in November 1961. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,870 ft^3/s, Feb. 17, 1986, gage height, 14.92 ft, from rating curve extended above 40 ft^3/s on basis of computation of peak flow over diversion dam from floodmark; minimum daily, 0.3 ft^3/s, Dec. 25, 1962, to Jan. 2, 1963, Mar. 1-3, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 656 ft^3/s, Dec. 9, gage height, 7.65 ft; minimum daily, 5.5 ft^3/s, many days during November and December.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.0	5.5	6.0	6.0	6.2	6.2	12	10	11	11	11
2	11	5.8	5.5	6.0	6.0	6.2	6.2	11	10	11	11	11
3	11	5.8	5.5	9.4	6.0	6.2	6.2	11	10	11	10	11
4	11	5.8	5.5	6.0	6.0	6.2	6.2	11	10	11	10	11
5	11	5.8	5.5	6.0	6.0	6.2	6.2	11	10	11	10	11
6	11	5.8	5.5	6.0	6.1	6.2	6.2	11	10	11	10	11
7	11	5.8	5.5	6.7	6.2	6.2	6.2	11	10	11	10	11
8	11	5.8	32	5.8	6.1	6.2	6.2	11	10	11	10	11
9	10	5.8	36	5.8	6.0	6.2	6.2	11	10	11	10	11
10	10	5.8	12	5.8	6.2	6.2	6.2	11	10	11	10	11
11	10	5.8	7.4	5.8	6.1	6.2	6.2	11	10	11	10	11
12	10	5.8	7.3	5.8	6.0	6.2	6.2	11	10	11	10	11
13	11	5.8	6.5	5.8	6.0	6.2	6.2	10	10	11	10	11
14	11	5.8	6.1	5.8	6.0	6.2	6.2	10	10	11	10	12
15	11	5.8	6.0	5.8	6.0	6.2	6.2	10	12	11	10	12
16	11	5.6	6.0	5.8	6.0	6.2	6.2	10	14	11	10	12
17	11	5.5	6.0	5.8	6.2	6.2	6.2	10	12	11	10	12
18	11	5.5	6.0	5.8	6.2	6.2	6.2	10	11	11	11	12
19	11	5.5	6.0	5.8	6.2	6.2	6.2	10	11	11	11	12
20	11	5.5	6.0	5.8	6.2	6.2	6.2	10	11	11	11	12
21	11	5.5	6.0	5.8	6.2	6.2	6.2	10	11	11	11	12
22	11	5.5	6.0	5.8	6.1	6.2	6.0	10	11	11	11	12
23	11	5.5	6.0	5.9	6.0	6.2	6.1	10	11	11	11	12
24	11	5.5	6.0	6.0	6.0	6.2	6.1	10	11	11	11	12
25	11	5.5	6.0	5.9	6.0	6.2	6.2	10	11	11	11	12
26	11	5.5	6.0	5.9	6.1	6.2	6.1	10	11	11	11	12
27	11	5.5	6.0	5.8	6.2	6.2	6.2	10	11	11	11	12
28	11	5.5	6.0	5.9	6.2	6.2	6.2	10	11	11	11	12
29	11	6.0	6.0	5.9	---	6.2	9.2	10	11	11	11	12
30	11	5.5	6.0	5.9	---	6.2	12	10	11	11	11	12
31	11	---	6.0	6.0	---	6.2	---	10	---	11	11	---
TOTAL	337	172.3	247.8	186.3	170.3	192.2	194.3	323	321	341	326	347
MEAN	10.9	5.74	7.99	6.01	6.08	6.20	6.48	10.4	10.7	11.0	10.5	11.6
MAX	11	8.0	36	9.4	6.2	6.2	12	12	14	11	11	12
MIN	10	5.5	5.5	5.8	6.0	6.2	6.0	10	10	11	10	11
AC-FT	668	342	492	370	338	381	385	641	637	676	647	688

C-042159

11395200 SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.0	14.5	39.9	65.3	56.5	32.4	27.9	25.3	14.3	9.39	10.0	10.5
MAX	16.1	226	808	885	1113	311	317	155	82.5	13.3	18.5	18.8
(WY)	1982	1982	1965	1970	1986	1986	1982	1967	1983	1968	1973	1973
MIN	2.92	2.62	2.41	3.94	2.73	3.79	3.68	3.61	2.20	2.57	3.32	3.45
(WY)	1978	1978	1980	1976	1978	1980	1970	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1964 - 1994	
ANNUAL TOTAL	5361.2		3158.2			
ANNUAL MEAN	14.7		8.65		26.2	
HIGHEST ANNUAL MEAN					119	1986
LOWEST ANNUAL MEAN					3.72	1977
HIGHEST DAILY MEAN	602	May 4	36	Dec 9	7970	Feb 18 1986
LOWEST DAILY MEAN	5.5	Nov 17	5.5	Nov 17	.70	Jan 18 1968
ANNUAL SEVEN-DAY MINIMUM	5.5	Nov 17	5.5	Nov 17	1.1	Jan 18 1968
INSTANTANEOUS PEAK FLOW			656	Dec 9	8870	Feb 17 1986
INSTANTANEOUS PEAK STAGE			7.65	Dec 9	14.92	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	10630		6260		19000	
10 PERCENT EXCEEDS	11		11		12	
50 PERCENT EXCEEDS	11		10		7.6	
90 PERCENT EXCEEDS	5.8		5.8		4.3	

C-042160

11395400 SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°35'01", long 121°06'59", in NE 1/4 NE 1/4 sec.19, T.20 N., R.8 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 100 ft upstream from dam on Lost Creek, 1.4 mi northwest of Strawberry Valley.

DRAINAGE AREA.--24.0 mi^2.

PERIOD OF RECORD.--November 1961 to current year (fragmentary prior to Mar. 14, 1962).

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1966, water-stage recorder in valve chamber inside dam at same datum. Oct. 1, 1966, to December 1974, nonrecording gage read once daily.

REMARKS.--Reservoir is formed by earthfill dam. Storage began in November 1961. Total capacity, 65,600 acre-ft between elevations 3,285 ft, invert of outlet, and 3,531 ft, top of spillway gate, all of which is available for release. Water is diverted into reservoir from South Fork Feather River through South Fork Diversion Tunnel and from North Yuba River basin through Slate Creek Tunnel (station 11413250). See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 65,600 acre-ft, June 22, 1978, elevation, 3,530.9 ft; minimum observed under normal operating conditions since reservoir first filled, 860 acre-ft, Feb. 11, 1976, elevation, 3,320.0 ft. Reservoir completely drained for powerplant construction, Sept. 12 to Oct. 17, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 58,500 acre-ft, May 31, elevation, 3,518.0 ft; minimum, 17,300 acre-ft, Feb. 2, elevation, 3,422.5 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1946)

3,310	450	3,360	4,300	3,450	26,300
3,315	655	3,380	7,360	3,480	38,500
3,320	860	3,400	11,500	3,510	53,400
3,340	2,150	3,420	16,600	3,531	65,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38300	e28100	27600	18200	e18000	22000	36000	48800	58200	48000	37600	25000
2	38500	27900	27500	18400	17600	22100	36600	49200	58400	48000	36800	24800
3	38700	27800	27300	18500	17400	22800	37200	49500	57800	48000	36100	24800
4	38500	27700	27600	18500	17500	23200	37800	49900	57400	48000	35600	24900
5	38100	27700	27400	18800	17700	24100	38000	50400	57400	48000	34900	24900
6	37800	27400	27300	18800	17900	25100	38100	51000	57600	47400	34700	24900
7	37300	27300	27200	18900	18400	25800	38200	51600	57700	47400	34700	24900
8	36800	27200	28400	18700	18800	26300	38800	52100	57000	47000	34300	25100
9	36800	27500	28500	e18800	19100	26900	39400	52700	56500	46500	33800	25300
10	36500	27900	27800	e18700	19400	27500	39900	53100	56000	45800	33300	25500
11	35800	28300	27000	e18900	19700	28600	39700	53600	56100	45300	32800	25700
12	35100	28300	26100	e18500	19600	29000	40300	54100	56100	44700	32100	25200
13	e34800	e28000	25200	e18100	19600	29400	40700	54400	55800	44300	31800	25000
14	e34800	28000	24700	e17700	19300	30400	40700	54800	55800	43900	31800	25200
15	e34600	27900	24200	e17500	19500	31200	40900	55100	55900	43300	31300	25400
16	e34800	27900	23200	e17700	19400	31800	41500	55400	55200	43300	30800	25600
17	e35200	27800	22100	e17800	19700	32100	42100	55700	55100	43300	30500	25800
18	e35500	27800	21000	e17900	19800	33000	42800	56000	55100	42600	30100	25300
19	e34700	27400	19900	e18100	20200	33200	43400	56300	54700	42500	29900	24700
20	e33800	27400	19600	e18200	20500	33400	43900	56600	54000	42000	29900	24400
21	e33100	27700	19400	e18400	20700	33600	44400	56800	53600	41300	29900	24000
22	e32300	27400	19000	e18500	20500	34300	44900	57000	53000	40500	29300	23800
23	e31600	27800	18700	e18700	20500	34700	45400	57200	52000	40500	28800	23400
24	e31000	27400	18200	e19100	20500	34700	45800	57400	51500	40600	28000	23000
25	e30400	27700	18000	e19300	20200	34800	46300	57600	51100	39900	27300	22200
26	e29700	27300	17800	e19300	20500	34800	46700	57800	50800	39600	27300	22400
27	e28900	27300	17900	e19100	21100	34900	47100	58000	50000	39200	27300	22500
28	e27100	27100	18000	e19000	21700	35000	47500	58200	49500	38600	27300	22800
29	e27500	27400	18200	e18800	---	35000	48000	58300	48900	38100	26900	23000
30	e27500	27600	17900	e18500	---	35400	48400	58400	48400	38100	25900	22600
31	e27800	---	18000	e18400	---	35500	---	58100	---	38100	25100	---
MAX	38700	28300	28500	19300	21700	35500	48400	58400	58400	48000	37600	25800
MIN	27100	27100	17800	17500	17400	22000	36000	48800	48400	38100	25100	22200
a	3454.1	3453.4	3424.9	3426.0	3436.7	3473.1	3500.4	3518.3	3500.4	3479.1	3446.7	3439.6
b	-10300	-200	-9600	+400	+3300	+13800	+12900	+9700	-9700	-10300	-13000	-2500

CAL YR 1993 b -4400
WTR YR 1994 b -15500

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

C-042161

11395500 OROVILLE-WYANDOTTE CANAL NEAR CLIPPER MILLS, CA

LOCATION.--Lat 39°33'15", long 121°11'31", in NW 1/4 NE 1/4 sec.33, T.20 N., R.7 E., Butte County, Hydrologic Unit 18020123, in concrete valve house at head of canal and 2.5 mi north of Clipper Mills.
PERIOD OF RECORD.--October 1927 to September 1941 (published as Forbestown Ditch), October 1953 to current year. Monthly discharge only for October 1953 to September 1961, published with records for Lost Creek near Clipper Mills.
GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 3,166.0 ft above sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1941, nonrecording gages and Oct. 1, 1941, to Nov. 16, 1962, water-stage recorder at sites at different datums 4 mi upstream in abandoned part of canal, 0.3 mi downstream from Lost Creek Dam.
REMARKS.--No estimated daily discharges. Water is discharged to canal through valve in Woodleaf Penstock. Prior to Nov. 16, 1962, canal diverted from Lost Creek Dam. Water is used for irrigation and domestic supply. Demand for water reduced when a large lumber mill closed at Woodleaf in 1962. See schematic diagram of South Fork Feather River basin.
COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft^3/s, Aug. 9 to Sept. 9, 1937, Aug. 13-15, 1977; no flow at times in many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	5.8	.00	.00	.00	.00	.00	2.0	16	24	24	25
2	22	5.8	.00	.00	.00	.00	.00	2.0	16	24	24	26
3	22	5.8	.00	.00	.00	.00	.00	2.0	16	24	24	25
4	22	5.9	.00	.00	.00	.00	.00	2.0	16	24	24	25
5	22	5.9	.00	.00	.00	.00	.00	2.0	16	24	24	25
6	22	5.9	.00	.00	.00	.00	.00	2.0	16	24	24	25
7	21	5.9	.00	.00	.00	.00	.00	2.0	16	24	24	25
8	21	5.9	.00	.00	.00	.00	.00	2.0	18	24	24	26
9	21	5.9	.00	.00	.00	.00	.00	1.9	19	24	25	25
10	21	5.9	.00	.00	.00	.00	.00	1.9	19	24	27	25
11	21	5.9	.00	.00	.00	.00	.00	1.9	19	24	29	26
12	19	5.9	.00	.00	.00	.00	.00	1.9	19	24	29	25
13	18	6.0	5.1	3.4	.00	.00	.00	1.9	19	24	29	25
14	12	5.9	5.7	8.7	.00	.00	.00	2.0	19	24	29	23
15	5.9	5.9	.00	3.6	.00	.00	.00	2.0	19	24	29	22
16	5.9	5.9	.00	.00	.00	.00	.00	10	15	24	29	22
17	5.9	3.7	.00	.00	.00	.00	.00	5.3	17	24	29	22
18	5.9	.00	.00	.00	.00	.00	2.2	2.0	14	24	29	22
19	5.9	.00	.00	.00	.00	.00	4.5	7.3	14	24	27	22
20	5.8	.00	.00	.00	.00	.00	4.6	14	17	24	27	22
21	5.8	.00	.00	.00	.00	.00	4.6	14	18	24	27	22
22	5.8	.00	.00	.00	.00	.00	4.6	14	19	24	27	22
23	5.8	.00	.00	.00	.00	.00	4.6	14	19	24	26	22
24	5.8	.00	.00	.00	.00	.00	4.7	14	19	24	26	22
25	5.8	.00	.00	.00	.00	.00	3.2	15	19	24	25	22
26	5.7	.00	.00	.00	.00	.00	2.0	16	19	24	25	22
27	5.7	.00	.00	.00	.00	.00	2.0	16	22	24	25	24
28	5.8	.00	5.6	.00	.00	.00	2.0	16	24	24	25	23
29	5.8	.00	8.6	.00	---	.00	2.0	16	24	24	26	22
30	5.8	.00	2.8	.00	---	.00	2.0	16	24	24	26	22
31	5.7	---	.00	.00	---	.00	---	16	---	24	26	---
TOTAL	384.8	97.80	27.80	15.70	0.00	0.00	43.00	235.1	548	744	814	706
MEAN	12.4	3.26	.90	.51	.000	.000	1.43	7.58	18.3	24.0	26.3	23.5
MAX	22	6.0	8.6	8.7	.00	.00	4.7	16	24	24	29	26
MIN	5.7	.00	.00	.00	.00	.00	.00	1.9	14	24	24	22
AC-FT	763	194	55	31	.00	.00	85	466	1090	1480	1610	1400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

MEAN	12.7	5.97	2.40	1.51	.83	.98	2.01	5.73	12.7	17.7	20.7	19.6
MAX	20.2	16.5	8.64	6.89	5.34	6.70	11.4	20.2	29.3	26.4	37.4	30.9
(WY)	1967	1968	1977	1968	1977	1984	1977	1977	1983	1978	1977	1977
MIN	3.75	.84	.000	.000	.000	.000	.000	.000	2.31	8.79	9.47	9.29
(WY)	1990	1992	1982	1980	1963	1963	1963	1975	1967	1965	1965	1965

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	2755.20		3616.30			
ANNUAL MEAN	7.55		9.91		8.61	
HIGHEST ANNUAL MEAN					16.7	1977
LOWEST ANNUAL MEAN					4.92	1983
HIGHEST DAILY MEAN	22	Aug 16	29	Aug 11	43	Aug 13 1977
LOWEST DAILY MEAN	.00	Jan 1	.00	Nov 18	.00	Dec 12 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Nov 18	.00	Dec 15 1962
ANNUAL RUNOFF (AC-FT)	5460		7170		6240	
10 PERCENT EXCEEDS	22		24		22	
50 PERCENT EXCEEDS	2.0		5.7		5.8	
90 PERCENT EXCEEDS	.00		.00		.00	

C—042162

C-042162

11396000 LOST CREEK NEAR CLIPPER MILLS, CA

LOCATION.--Lat 39°34'25", long 121°08'26", in SE 1/4 SW 1/4 sec.24, T.20 N., R.7 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.3 mi downstream from Lost Creek Reservoir and 2.8 mi north of Clipper Mills.

DRAINAGE AREA.--30.0 mi^2.

PERIOD OF RECORD.--October 1927 to September 1941, October 1948 to current year. Records for Woodleaf Powerplant from February 1963 to September 1966 in files of the U.S. Geological Survey.

REVISED RECORDS.--WSP 1395: 1954. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Sharp crested weir for low-water control since June 20, 1987. Elevation of gage is 3,170 ft above sea level, from topographic map. Prior to June 20, 1987, at site 100 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Flow regulated by Sly Creek Reservoir (station 11395400) 1.5 mi upstream and Lost Creek Reservoir 0.3 mi upstream, usable capacity, 5,920 acre-ft with flashboards. Water is diverted into Sly Creek Reservoir through South Fork Diversion Tunnel from South Fork Feather River and through Slate Creek Tunnel (station 11413250) from North Yuba River basin. Woodleaf Tunnel diverts from Lost Creek Reservoir to Woodleaf Powerplant. Oroville-Wyandotte Canal (station 11395500) diverts from Woodleaf Penstock for irrigation and domestic use. Records represent seepage, release, and spill from Lost Creek Reservoir to Lost Creek. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft^3/s, Dec. 22, 1955, gage height, 6.90 ft, at site then in use; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12 ft^3/s, Apr. 11, gage height, 4.98 ft; minimum daily, 3.4 ft^3/s, Oct. 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	3.5	3.5	3.8	3.7	4.0	5.4	7.0	5.8	6.8	5.3	5.4
2	5.2	3.5	3.5	3.7	3.7	4.0	5.4	7.1	5.5	6.9	5.4	5.4
3	5.2	3.5	3.5	3.7	3.7	4.0	5.5	6.6	5.4	6.5	5.4	5.4
4	5.2	3.5	3.5	3.7	3.7	4.0	5.4	6.6	5.4	6.2	5.4	5.3
5	4.4	3.5	3.5	3.7	3.7	4.3	5.4	6.0	5.6	5.8	5.4	5.2
6	3.5	3.5	3.5	3.7	4.0	4.3	5.5	6.0	5.6	5.4	5.4	5.2
7	3.7	3.5	3.6	3.7	5.1	4.1	5.6	6.1	5.6	5.4	5.4	5.2
8	4.8	3.5	4.8	3.7	4.2	4.0	5.7	6.0	5.8	5.4	5.4	5.2
9	4.4	3.5	3.8	3.7	3.9	4.0	6.1	6.2	5.9	5.4	5.4	5.2
10	3.5	3.5	3.7	3.7	4.1	4.0	8.2	6.2	5.7	5.4	5.4	5.2
11	3.6	3.6	4.0	3.7	4.0	4.0	9.8	6.2	5.7	5.4	5.4	5.2
12	3.9	3.6	3.8	3.7	4.0	3.9	11	6.3	5.6	5.4	5.4	5.3
13	4.0	3.5	3.7	3.6	3.9	3.9	5.9	6.4	5.5	5.4	5.4	7.2
14	3.8	3.5	4.0	3.5	3.9	3.9	5.8	6.6	5.4	5.4	5.4	6.4
15	4.0	3.5	3.9	3.5	3.9	3.9	7.0	6.8	5.4	5.4	5.4	5.9
16	4.2	3.5	3.8	3.5	3.7	3.9	7.5	7.0	5.4	5.4	5.4	5.7
17	3.6	3.5	3.7	3.5	4.3	3.7	7.4	7.0	5.4	5.4	5.4	5.6
18	3.5	3.5	3.7	3.5	4.1	3.7	7.3	6.8	5.4	5.4	5.4	5.6
19	3.4	3.5	3.7	3.5	4.0	3.7	7.3	6.2	5.5	5.4	5.4	5.5
20	3.4	3.5	3.7	3.5	3.9	3.7	7.1	6.1	5.6	5.4	5.4	5.6
21	3.6	3.5	3.7	3.5	3.9	3.7	7.0	6.0	5.6	5.4	5.3	5.6
22	3.8	3.6	3.7	3.5	3.9	3.7	7.0	6.0	5.6	5.4	5.2	5.6
23	3.8	3.5	3.7	3.7	3.9	3.7	7.0	6.0	5.7	5.4	5.3	5.6
24	3.6	3.5	3.9	4.1	3.9	3.7	6.8	6.0	5.8	5.4	5.3	5.6
25	3.5	3.5	3.9	4.0	3.9	3.7	6.9	6.0	5.8	5.4	5.4	5.6
26	3.5	3.5	3.9	3.9	4.0	3.7	6.8	5.9	5.8	5.4	5.4	5.7
27	3.5	3.5	3.9	3.9	4.2	3.7	6.8	5.8	5.9	5.4	5.4	5.6
28	3.5	3.6	3.9	3.9	4.1	3.7	6.8	5.8	6.0	5.4	5.3	5.6
29	3.5	4.0	3.9	3.8	---	3.7	6.9	5.8	6.2	5.4	5.3	5.5
30	3.5	3.7	3.8	3.7	---	3.7	7.0	5.8	6.5	5.4	5.3	5.4
31	3.5	---	3.7	3.7	---	4.6	---	5.8	---	5.3	5.4	---
TOTAL	121.8	106.1	116.9	114.3	111.3	120.6	203.3	194.1	170.1	172.5	166.5	166.5
MEAN	3.93	3.54	3.77	3.69	3.97	3.89	6.78	6.26	5.67	5.56	5.37	5.55
MAX	5.2	4.0	4.8	4.1	5.1	4.6	11	7.1	6.5	6.9	5.4	7.2
MIN	3.4	3.5	3.5	3.5	3.7	3.7	5.4	5.8	5.4	5.3	5.2	5.2
AC-FT	242	210	232	227	221	239	403	385	337	342	330	330
a	19210	12000	19920	5890	6690	10600	3630	591	11690	11530	11470	5680

a Diversion, in acre-feet, through Woodleaf Powerplant (station 11396080), provided by Oroville-Wyandotte Irrigation District.

C—042163

C-042163

11396000 LOST CREEK NEAR CLIPPER MILLS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1961, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.78	8.61	66.0	93.4	170	175	191	129	29.9	6.42	4.23	5.13
MAX	13.4	121	544	485	562	467	423	441	153	34.7	10.2	15.3
(WY)	1928	1951	1956	1956	1958	1938	1938	1952	1952	1952	1961	1960
MIN	.20	.000	.000	.15	.50	25.7	4.68	1.21	1.33	.20	.10	.10
(WY)	1935	1960	1960	1960	1937	1933	1931	1931	1934	1939	1934	1934

SUMMARY STATISTICS	WATER YEARS 1928 - 1961	
ANNUAL MEAN	73.0	
HIGHEST ANNUAL MEAN	167	1938
LOWEST ANNUAL MEAN	6.78	1931
HIGHEST DAILY MEAN	3840	Dec 22 1955
LOWEST DAILY MEAN	.00	Jul 30 1940
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 1 1959
INSTANTANEOUS PEAK FLOW	5000	Dec 22 1955
INSTANTANEOUS PEAK STAGE	a6.90	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	52890	
10 PERCENT EXCEEDS	212	
50 PERCENT EXCEEDS	8.4	
90 PERCENT EXCEEDS	.30	

a Site then in use.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.7	7.01	28.7	38.5	40.4	53.5	50.5	24.1	12.5	3.49	2.87	2.43
MAX	392	179	355	411	512	573	410	208	172	16.0	22.2	6.28
(WY)	1963	1963	1982	1970	1986	1983	1993	1965	1965	1962	1966	1969
MIN	.006	.029	.094	.10	.35	.33	.22	.13	.097	.10	.000	.000
(WY)	1965	1975	1975	1962	1964	1964	1968	1968	1966	1963	1964	1963

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1962 - 1994	
ANNUAL TOTAL	22922.2		1764.0			
ANNUAL MEAN	62.8		4.83		23.1	
HIGHEST ANNUAL MEAN					84.7	1963
LOWEST ANNUAL MEAN					.49	1964
HIGHEST DAILY MEAN	757	Apr 10	11	Apr 12	3900	Oct 13 1962
LOWEST DAILY MEAN	3.4	Oct 19	3.4	Oct 19	.00	Oct 21 1961
ANNUAL SEVEN-DAY MINIMUM	3.5	Oct 25	3.5	Oct 25	.00	Oct 21 1961
INSTANTANEOUS PEAK FLOW			12	Apr 11	5000	Dec 22 1955
INSTANTANEOUS PEAK STAGE			4.98	Apr 11	6.90	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	45470		3500		16720	
10 PERCENT EXCEEDS	322		6.2		7.0	
50 PERCENT EXCEEDS	5.4		5.2		1.2	
90 PERCENT EXCEEDS	3.5		3.5		.12	

C-042164

11396200 SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CA

LOCATION.--Lat 39°33'05", long 121°12'30", in SE 1/4 NE 1/4 sec.32, T.20 N., R.7 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 500 ft downstream from Forbestown Dam, 0.4 mi upstream from Oroleve Creek, and 4.0 mi northeast of Forbestown.

DRAINAGE AREA.--87.5 mi^2.

PERIOD OF RECORD.--July 1962 to current year. Records for Forbestown Powerplant from February 1963 to September 1966 in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 1,690 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Little Grass Valley Reservoir (station 11395020), Sly Creek Reservoir (station 11395400), and smaller reservoirs. Water from North Yuba River basin is imported through Slate Creek Tunnel (station 11413250) to Sly Creek Reservoir. Oroville-Wyandotte Canal (station 11395500) diverts upstream from station. Tunnel 600 ft upstream from station diverts most flow through Forbestown Powerplant (station 11396290) except fishwater releases and uncontrolled spill over Forbestown Dam. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft^3/s, Feb. 17, 1986, gage height, 16.07 ft, from rating curve extended above 5,400 ft^3/s on basis of flow-over-dam measurement of peak flow; minimum daily, 0.6 ft^3/s, Apr. 4, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 106 ft^3/s, Nov. 8, gage height, 5.66 ft; minimum daily, 5.3 ft^3/s, many days during year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.4	5.3	5.5	5.3	5.4	5.5	11	11	11	11	11
2	11	5.5	5.3	5.5	5.3	5.4	5.5	11	11	11	11	11
3	11	5.4	5.3	5.5	5.3	5.4	5.4	11	11	11	11	11
4	11	5.5	5.4	5.6	5.3	5.4	5.5	11	11	11	11	11
5	11	5.5	5.4	5.3	5.3	5.4	5.4	11	11	11	11	11
6	11	5.5	5.3	5.4	5.6	5.4	5.5	11	11	11	11	11
7	11	5.4	5.4	5.5	5.7	5.4	5.3	11	11	11	11	11
8	11	5.7	5.7	5.4	5.6	5.5	5.4	11	11	11	11	11
9	11	5.4	5.3	5.4	5.4	5.4	5.6	10	11	11	11	11
10	11	5.3	5.3	5.3	5.5	5.4	5.5	11	11	11	11	11
11	11	5.5	5.5	5.4	5.4	5.4	5.4	11	11	11	11	11
12	11	5.4	5.3	5.3	5.4	5.4	5.4	11	11	11	11	11
13	11	5.3	5.4	5.5	5.4	5.4	5.4	11	11	11	11	11
14	11	5.3	5.5	5.5	5.4	5.5	5.3	11	11	11	11	11
15	11	5.4	9.2	5.5	5.3	5.4	5.4	11	11	11	11	11
16	11	5.4	5.5	5.5	5.3	5.4	5.3	11	11	11	11	11
17	11	5.3	5.5	5.4	5.5	5.5	5.5	11	11	11	11	11
18	11	5.3	5.5	5.3	5.4	5.4	5.3	10	11	11	11	11
19	11	5.3	5.5	5.3	5.4	5.4	5.5	11	11	11	11	11
20	11	5.3	5.5	5.3	5.6	5.4	5.3	11	11	11	11	11
21	11	5.3	5.5	5.3	5.6	5.3	5.4	11	11	11	11	11
22	11	5.5	5.5	5.3	8.7	5.3	5.4	11	11	11	11	11
23	11	5.4	5.5	5.5	5.5	5.3	5.4	11	11	11	11	11
24	11	5.3	5.5	5.7	5.4	5.4	5.3	11	11	11	11	11
25	11	5.3	5.5	5.4	5.4	5.4	5.5	11	11	11	11	11
26	11	5.3	5.4	5.4	5.4	5.3	5.3	11	11	11	11	11
27	11	5.3	5.5	5.4	5.4	5.4	5.4	11	11	11	11	11
28	11	5.4	5.5	5.3	5.4	5.3	5.5	11	11	11	11	11
29	11	5.6	5.5	5.5	---	5.4	9.2	11	11	11	11	11
30	11	5.5	5.5	5.5	---	5.5	11	11	11	11	11	13
31	11	---	5.3	5.4	---	5.4	---	11	---	11	11	---
TOTAL	341	164.0	172.3	168.1	155.2	167.3	171.8	339	330	341	341	332
MEAN	11.0	5.47	5.56	5.42	5.54	5.40	5.73	10.9	11.0	11.0	11.0	11.1
MAX	11	7.4	9.2	5.7	8.7	5.5	11	11	11	11	11	13
MIN	11	5.3	5.3	5.3	5.3	5.3	5.3	10	11	11	11	11
AC-FT	676	325	342	333	308	332	341	672	655	676	676	659
a	20140	12630	21900	7060	8740	13170	4720	1190	12230	11730	11660	5910

a Diversion, in acre-feet, to Forbestown Powerplant, provided by Oroville-Wyandotte Irrigation District.

11396200 SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.9	23.0	73.5	125	153	120	96.2	50.8	21.6	12.8	11.1	11.0
MAX	520	240	677	1369	2000	1064	718	252	182	37.1	27.3	22.9
(WY)	1963	1982	1982	1970	1986	1983	1982	1967	1983	1962	1986	1962
MIN	4.21	3.68	3.37	4.06	4.46	4.47	4.06	4.02	2.90	4.04	3.37	3.84
(WY)	1978	1976	1976	1976	1972	1972	1964	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1962 - 1994	
ANNUAL TOTAL	31775.2		3022.7			
ANNUAL MEAN	87.1		8.28		60.0	
HIGHEST ANNUAL MEAN					223	1986
LOWEST ANNUAL MEAN					4.36	1977
HIGHEST DAILY MEAN	945	May 4	13	Sep 30	13900	Feb 18 1986
LOWEST DAILY MEAN	5.3	Nov 10	5.3	Nov 10	.60	Apr 4 1963
ANNUAL SEVEN-DAY MINIMUM	5.3	Nov 13	5.3	Nov 13	1.7	Mar 25 1980
INSTANTANEOUS PEAK FLOW			106	Nov 8	15400	Feb 17 1986
INSTANTANEOUS PEAK STAGE			5.66	Nov 8	16.07	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	63030		6000		43500	
10 PERCENT EXCEEDS	322		11		80	
50 PERCENT EXCEEDS	11		11		10	
90 PERCENT EXCEEDS	5.5		5.3		4.9	

11396310 MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN, CA

LOCATION.--Lat 39°33'00", long 121°18'20", in SE 1/4 NW 1/4 sec.33, T.20 N., R.6 E., Butte County, Hydrologic Unit 18020123, on right bank 800 ft downstream from Ponderosa Dam and 3 mi northwest of Forbestown.
PERIOD OF RECORD.--October 1962 to current year.
REVISED RECORDS.--WDR CA-88-4: diversion only.
GAGE.--Water-stage recorder and concrete control. Elevation of gage is 975 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Canal diverts from South Fork Feather River at Ponderosa Dam. Water is used for power development and irrigation. See schematic diagram of South Fork Feather River basin.
COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 314 ft^3/s, May 13, 1984; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	271	256	.00	272	257	192	39	272	285	235	272
2	.00	270	256	45	241	257	.00	120	272	157	284	272
3	147	275	264	63	268	258	.00	2.5	272	46	284	82
4	94	249	269	135	138	256	176	172	3.3	45	284	.00
5	265	274	266	153	.00	259	249	71	.00	184	272	.00
6	271	275	262	151	39	259	249	40	179	286	172	.00
7	278	279	263	152	245	256	169	.00	264	286	90	.00
8	278	279	228	152	251	255	.00	138	275	286	234	.00
9	278	80	253	150	233	256	.00	71	277	155	282	131
10	277	.00	266	149	225	232	.00	.00	277	286	281	63
11	278	85	269	217	239	106	184	.00	220	286	275	.00
12	278	268	266	275	249	258	250	140	.00	286	270	.00
13	279	263	263	266	250	257	271	.00	186	286	138	.00
14	279	268	261	191	256	254	271	.00	277	286	100	.00
15	255	235	259	91	253	232	221	.00	277	286	272	.00
16	278	274	261	92	233	249	.00	131	277	144	272	.00
17	277	265	261	100	229	264	.00	.00	277	96	269	162
18	275	251	261	41	252	273	.00	186	277	256	261	273
19	277	270	261	.00	257	266	.00	270	256	285	242	273
20	246	274	263	.00	255	260	52	122	268	285	114	272
21	262	270	255	99	240	261	60	.00	277	285	100	272
22	266	265	268	77	233	260	42	.00	278	286	218	281
23	276	273	275	36	257	260	.00	.00	280	90	272	287
24	276	277	271	170	251	259	175	.00	281	82	272	288
25	276	275	268	265	255	260	49	.00	280	233	272	288
26	279	259	252	268	258	260	.00	121	280	286	149	172
27	283	274	173	268	258	262	52	.00	280	284	90	111
28	283	275	109	265	258	267	.71	.00	280	282	84	110
29	261	275	112	265	---	272	31	120	280	237	224	103
30	271	266	116	264	---	272	152	.00	283	94	272	169
31	273	---	50	266	---	270	---	159	---	96	272	---
TOTAL	7616.00	7414.00	7357	4666.00	6395.00	7867	2845.71	1902.50	7205.30	6767	6856	3881.00
MEAN	246	247	237	151	228	254	94.9	61.4	240	218	221	129
MAX	283	279	275	275	272	273	271	270	283	286	284	288
MIN	.00	.00	50	.00	.00	106	.00	.00	.00	45	84	.00
AC-FT	15110	14710	14590	9260	12680	15600	5640	3770	14290	13420	13600	7700
a	13460	13870	14310	8430	12490	14950	4880	2710	12530	11660	11160	6820

a Discharge, in acre-ft, through Kelly Ridge Powerplant (station 11396329), provided by Oroville-Wyandotte Irrigation District.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

MEAN	171	190	192	189	205	206	202	210	228	239	240	187
MAX	263	269	254	257	259	262	276	276	283	284	289	270
(WY)	1980	1992	1981	1986	1968	1992	1987	1992	1992	1992	1986	1980
MIN	26.6	20.9	18.1	16.6	10.5	16.8	14.5	22.2	51.9	49.3	43.0	25.0
(WY)	1987	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	89486.90		70772.51			
ANNUAL MEAN	245		194		205	
HIGHEST ANNUAL MEAN					239	1968
LOWEST ANNUAL MEAN					52.2	1977
HIGHEST DAILY MEAN	291	Jul 16	288	Sep 24	314	May 13 1984
LOWEST DAILY MEAN	.00	Sep 11	.00	Oct 1	.00	Nov 21 1962
ANNUAL SEVEN-DAY MINIMUM	16	Sep 9	9.0	Sep 10	.00	Dec 6 1976
ANNUAL RUNOFF (AC-FT)	177500		140400		148800	
10 PERCENT EXCEEDS	285		279		274	
50 PERCENT EXCEEDS	263		256		243	
90 PERCENT EXCEEDS	161		.00		42	

C—042167

C-042167

11396330 BANGOR CANAL BELOW MINERS RANCH RESERVOIR, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'15", long 121°27'16", in NE 1/4 SW 1/4 sec.18, T.19 N., R.5 E., Butte County, Hydrologic Unit 18020124, on left bank 400 ft downstream from outlet at Miners Ranch Dam and 5 mi east of Oroville.

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 815 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Miners Ranch Reservoir, capacity, 912 acre-ft. Canal completed in November 1962. Water is used for irrigation. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 65 ft^3/s, Aug. 17-20, 1963; no flow for several days in 1965, 1969.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	12	5.2	5.7	3.6	2.7	6.4	9.3	13	17	18	17
2	19	12	5.5	5.6	3.6	2.7	6.0	9.2	13	17	18	17
3	19	12	6.3	5.6	3.6	2.5	6.0	9.2	13	17	18	16
4	19	10	6.4	5.5	3.6	2.6	6.6	8.8	13	17	17	16
5	19	9.1	6.0	5.5	3.6	2.7	7.1	9.0	13	17	17	16
6	18	9.1	6.0	5.5	3.6	2.7	7.0	9.1	13	17	17	16
7	17	9.1	6.0	5.6	3.2	2.6	6.9	9.2	14	17	17	16
8	16	9.4	6.0	5.6	3.0	2.5	7.0	9.1	13	18	17	16
9	16	9.6	6.0	5.6	3.0	2.5	6.7	9.2	13	17	17	16
10	16	8.7	5.8	4.7	3.0	2.5	7.3	9.0	13	18	17	16
11	14	7.7	5.8	4.1	2.9	2.4	8.8	8.8	13	18	17	16
12	13	7.7	5.8	4.1	2.7	2.2	9.2	9.0	13	18	17	16
13	13	7.7	6.0	4.1	3.0	2.2	9.1	9.0	13	18	17	16
14	13	7.7	6.0	4.1	3.0	3.0	9.1	8.6	13	18	17	16
15	13	7.5	5.8	4.0	3.0	4.2	9.1	9.3	13	18	18	16
16	13	7.4	5.8	4.0	3.0	4.1	9.2	9.2	13	17	17	16
17	13	7.2	5.8	4.0	2.7	4.1	8.9	9.3	13	17	17	16
18	13	7.3	5.8	3.9	2.7	4.1	8.5	9.4	13	18	17	16
19	13	7.2	5.8	3.9	2.7	4.2	9.0	9.2	13	18	17	16
20	13	7.3	5.6	3.9	2.7	4.3	9.5	9.1	14	17	18	16
21	11	7.4	5.8	3.9	2.6	4.2	9.4	9.1	15	17	18	16
22	11	7.4	5.8	4.1	2.7	4.1	9.1	8.9	15	17	18	16
23	11	8.1	5.8	4.1	2.7	4.3	9.2	9.8	15	17	18	16
24	11	8.8	5.8	3.9	2.7	4.3	9.2	11	15	18	17	16
25	11	8.8	5.7	3.7	2.7	4.3	9.4	12	15	18	17	16
26	11	8.8	5.7	3.6	2.7	4.3	9.3	13	15	18	17	16
27	11	8.8	5.5	3.9	2.7	4.3	9.1	13	15	18	17	16
28	12	9.0	5.5	3.7	2.7	4.3	9.4	13	16	18	17	16
29	12	6.8	5.5	3.6	---	4.3	9.2	14	16	17	17	16
30	12	5.0	5.5	3.6	---	5.6	9.1	13	17	17	17	16
31	12	---	5.7	3.4	---	6.7	---	13	---	17	17	---
TOTAL	433	254.6	179.7	136.5	83.7	111.5	249.8	311.8	416	541	535	482
MEAN	14.0	8.49	5.80	4.40	2.99	3.60	8.33	10.1	13.9	17.5	17.3	16.1
MAX	19	12	6.4	5.7	3.6	6.7	9.5	14	17	18	18	17
MIN	11	5.0	5.2	3.4	2.6	2.2	6.0	8.6	13	17	17	16
AC-FT	859	505	356	271	166	221	495	618	825	1070	1060	956

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

MEAN	17.2	7.77	5.36	4.50	4.03	4.27	8.73	16.8	22.7	25.1	25.3	22.7
MAX	29.7	14.3	11.2	12.0	7.68	8.27	20.3	27.8	42.0	56.4	53.4	36.2
(WY)	1965	1972	1975	1963	1980	1988	1970	1970	1963	1963	1963	1963
MIN	5.42	1.47	.035	.30	.25	.20	2.65	7.17	11.7	16.0	17.1	14.4
(WY)	1985	1969	1966	1966	1966	1966	1983	1983	1993	1982	1992	1993

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	3310.6		3734.6			
ANNUAL MEAN	9.07		10.2		13.5	
HIGHEST ANNUAL MEAN					18.0	1977
LOWEST ANNUAL MEAN					8.95	1993
HIGHEST DAILY MEAN	19	Oct 2	19	Oct 2	85	Aug 17 1963
LOWEST DAILY MEAN	1.7	Jan 7	2.2	Mar 12	.00	Jan 7 1965
ANNUAL SEVEN-DAY MINIMUM	1.8	Jan 25	2.4	Mar 7	.00	Jan 7 1965
ANNUAL RUNOFF (AC-FT)	6570		7410		9790	
10 PERCENT EXCEEDS	18		17		28	
50 PERCENT EXCEEDS	8.2		9.2		11	
90 PERCENT EXCEEDS	2.0		3.3		2.8	

C—042168

C-042168

11396395 SUCKER RUN AT KANAKA DIVERSION, NEAR FEATHER FALLS, CA

LOCATION.--Lat 39°33'44", long 121°16'46", in SE 1/4 NE 1/4 sec.27, T.20 N., R.6 E., Butte County, Hydrologic Unit 18020123, on left bank at Kanaka Diversion Measuring Weir, 2.5 mi upstream from confluence with South Fork Feather River, and 2.5 mi southwest of Feather Falls.
DRAINAGE AREA.--15.5 mi^2.
PERIOD OF RECORD.--March 1989 to current year.
GAGE.--Water-stage recorder and 120 degree V-notch weir. Elevation of gage is 1,660 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Water from creek is diverted upstream from gage to Kanaka Powerplant (station 11396396). See schematic diagram of South Fork Feather River basin. See following page for records of combined discharge of creek and powerplant.
COOPERATION.--Records provided by STS Hydro Power Ltd., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Creek only, maximum discharge, 500 ft^3/s, Jan. 20, 1993, gage height, 3.47 ft; minimum daily, 1.2 ft^3/s, Aug. 21, 22, 27, 1992, Aug. 13, 1994.
Combined flow: Maximum discharge, 517 ft^3/s, Jan. 20, 1993; minimum daily, 1.2 ft^3/s, Aug. 21, 22, 27, 1992, Aug. 13, 1994.
EXTREMES FOR CURRENT YEAR.--Creek only, maximum discharge, 64 ft^3/s, Feb. 7, gage height, 2.25 ft; minimum daily, 1.2 ft^3/s, Aug. 13.
Combined flow: Maximum discharge, 100 ft^3/s, Feb. 7; minimum daily, 1.4 ft^3/s, Aug. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.6	6.7	6.8	8.5	13	9.0	8.5	5.6	3.4	2.1	1.4
2	3.3	4.5	6.0	6.5	8.5	13	9.0	8.2	5.5	3.5	2.1	1.4
3	3.4	4.5	5.8	7.2	8.4	13	9.0	8.1	5.5	3.5	2.1	1.4
4	3.4	4.6	5.6	6.9	8.4	13	9.1	8.2	5.4	3.7	2.1	1.4
5	3.9	4.5	5.5	5.1	8.2	13	9.0	8.7	5.4	3.7	1.9	1.5
6	4.2	4.5	5.5	5.7	12	13	9.0	9.3	5.6	3.4	1.7	1.5
7	4.1	4.5	5.8	7.5	36	13	11	8.2	5.6	3.3	1.7	1.4
8	4.0	4.5	19	7.3	13	14	11	9.4	5.4	3.3	1.7	1.3
9	3.9	4.5	6.2	7.3	13	15	14	8.8	5.1	3.3	1.8	1.4
10	4.0	4.6	5.1	7.2	13	15	13	8.3	5.0	3.2	1.7	1.5
11	6.4	4.8	5.2	7.3	13	15	11	8.0	4.9	3.2	1.4	1.6
12	5.4	5.6	5.3	7.1	13	14	10	7.8	4.8	3.1	1.3	1.6
13	5.0	4.9	5.1	6.8	14	13	10	7.6	4.8	3.0	1.2	1.7
14	5.9	4.8	8.1	6.7	14	13	9.6	7.4	4.8	2.9	1.3	1.7
15	9.6	4.8	5.3	6.5	13	13	9.2	7.4	4.7	2.9	1.3	1.7
16	11	4.7	5.1	6.4	12	12	8.9	8.2	4.7	2.8	1.3	1.5
17	7.8	4.8	5.0	6.3	15	12	8.7	8.6	4.7	2.8	1.3	1.5
18	5.8	4.8	5.0	6.0	13	12	8.6	8.2	4.6	2.6	1.3	1.6
19	5.4	4.8	5.7	6.0	13	12	8.4	8.0	4.5	2.5	1.3	1.5
20	5.3	4.7	7.7	5.9	16	11	8.2	7.8	4.4	2.5	1.3	1.5
21	5.2	4.7	7.6	5.9	13	11	8.1	7.5	4.4	2.5	1.4	1.4
22	5.1	4.8	7.5	5.9	13	11	8.1	7.2	4.3	2.6	1.5	1.4
23	5.0	4.8	7.4	5.9	13	11	8.5	7.0	4.2	2.5	1.5	1.4
24	4.9	4.9	7.3	5.9	13	11	9.9	6.8	4.1	2.5	1.5	1.5
25	4.9	4.8	7.3	5.5	13	11	13	6.4	4.1	2.4	1.5	1.5
26	4.7	4.8	7.1	5.5	13	11	13	5.9	4.1	2.3	1.6	1.6
27	4.6	4.8	7.1	5.3	13	10	11	5.8	4.0	2.1	1.6	1.5
28	4.7	5.0	7.1	5.1	13	10	9.9	5.8	3.8	2.2	1.5	1.7
29	4.7	5.7	7.1	5.1	---	9.8	9.1	5.7	3.7	2.2	1.3	2.1
30	4.7	5.9	7.0	5.1	---	9.6	8.7	5.7	3.6	2.2	1.3	2.0
31	4.7	---	7.0	5.1	---	9.2	---	5.6	---	2.1	1.4	---
TOTAL	158.3	144.2	208.2	192.8	369.0	376.6	295.0	234.1	141.3	88.2	48.0	46.2
MEAN	5.11	4.81	6.72	6.22	13.2	12.1	9.83	7.55	4.71	2.85	1.55	1.54
MAX	11	5.9	19	7.5	36	15	14	9.4	5.6	3.7	2.1	2.1
MIN	3.3	4.5	5.0	5.1	8.2	9.2	8.1	5.6	3.6	2.1	1.2	1.3
AC-FT	314	286	413	382	732	747	585	464	280	175	95	92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

MEAN	4.06	4.60	5.96	13.9	16.7	16.8	12.5	8.29	6.85	4.38	2.82	2.49
MAX	7.19	7.32	8.30	43.8	31.2	23.2	14.8	10.2	8.61	7.31	5.12	3.90
(WY)	1990	1990	1993	1993	1993	1991	1993	1991	1993	1993	1993	1989
MIN	2.62	3.44	4.34	4.44	5.11	12.1	9.83	6.40	4.24	2.85	1.55	1.33
(WY)	1992	1993	1991	1991	1991	1994	1994	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1989 - 1994	
ANNUAL TOTAL	4761.2		2301.9			
ANNUAL MEAN	13.0		6.31		8.14	
HIGHEST ANNUAL MEAN					12.9	1993
LOWEST ANNUAL MEAN					6.29	1992
HIGHEST DAILY MEAN	312	Jan 20	36	Feb 7	312	Jan 20 1993
LOWEST DAILY MEAN	3.3	Sep 27	1.2	Aug 13	1.2	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 26	1.3	Aug 12	1.3	Aug 21 1992
INSTANTANEOUS PEAK FLOW			64	Feb 7	500	Jan 20 1993
INSTANTANEOUS PEAK STAGE			2.25	Feb 7	3.47	Jan 20 1993
ANNUAL RUNOFF (AC-FT)	9440		4570		5900	
10 PERCENT EXCEEDS	17		13		14	
50 PERCENT EXCEEDS	7.7		5.4		5.5	
90 PERCENT EXCEEDS	4.2		1.5		2.2	

C-042169

11396397 SUCKER RUN AT KANAKA DIVERSION, NEAR FEATHER FALLS, CA--Continued

SUCKER RUN AND KANAKA HYDROELECTRIC PROJECT POWERPLANT,
COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.6	6.7	7.3	8.5	24	9.0	8.5	5.6	3.4	2.1	1.4
2	3.3	4.5	6.0	7.4	8.5	23	9.0	8.2	5.5	3.5	2.1	1.4
3	3.4	4.5	5.8	7.2	8.4	21	9.0	8.1	5.5	3.5	2.1	1.4
4	3.4	4.6	5.6	8.6	8.4	19	9.1	8.2	5.4	3.7	2.1	1.4
5	3.9	4.5	5.5	9.6	8.2	25	9.0	8.7	5.4	3.7	1.9	1.5
6	4.2	4.5	5.5	7.6	18	23	9.0	9.8	5.6	3.4	1.7	1.5
7	4.1	4.5	5.8	7.5	72	18	11	11	5.6	3.3	1.7	1.4
8	4.0	4.5	38	7.3	31	16	11	9.6	5.4	3.3	1.7	1.3
9	3.9	4.5	21	7.3	20	15	21	8.8	5.1	3.3	1.8	1.4
10	4.0	4.6	10	7.2	25	15	14	8.3	5.0	3.2	1.7	1.5
11	6.4	4.8	19	7.3	24	17	11	8.0	4.9	3.2	1.4	1.6
12	5.4	5.6	19	7.1	18	14	10	7.8	4.8	3.1	1.3	1.6
13	5.0	4.9	11	6.8	15	13	10	7.6	4.8	3.0	1.2	1.7
14	5.9	4.8	24	6.7	14	13	9.6	7.4	4.8	2.9	1.3	1.7
15	9.6	4.8	16	6.5	13	13	9.2	7.4	4.7	2.9	1.3	1.7
16	11	4.7	12	6.4	12	12	8.9	8.2	4.7	2.8	1.3	1.5
17	7.8	4.8	9.2	6.3	34	12	8.7	8.6	4.7	2.8	1.3	1.5
18	5.8	4.8	7.9	6.0	30	12	8.6	8.2	4.6	2.6	1.3	1.6
19	5.4	4.8	7.7	6.0	23	12	8.4	8.0	4.5	2.5	1.3	1.5
20	5.3	4.7	7.7	5.9	26	11	8.2	7.8	4.4	2.5	1.3	1.5
21	5.2	4.7	7.6	5.9	30	11	8.1	7.5	4.4	2.5	1.4	1.4
22	5.1	4.8	7.5	5.9	31	11	8.1	7.2	4.3	2.6	1.5	1.4
23	5.0	4.8	7.4	11	26	11	8.5	7.0	4.2	2.5	1.5	1.4
24	4.9	4.9	7.3	24	23	11	9.9	6.8	4.1	2.5	1.5	1.5
25	4.9	4.8	7.3	20	22	11	13	6.4	4.1	2.4	1.5	1.5
26	4.7	4.8	7.1	20	28	11	13	5.9	4.1	2.3	1.6	1.6
27	4.6	4.8	7.1	16	30	10	11	5.8	4.0	2.1	1.6	1.5
28	4.7	5.0	7.1	13	26	10	9.9	5.8	3.8	2.2	1.5	1.7
29	4.7	15	7.1	11	---	9.8	9.1	5.7	3.7	2.2	1.3	2.1
30	4.7	13	7.0	10	---	9.6	8.7	5.7	3.6	2.2	1.3	2.0
31	4.7	---	7.0	9.5	---	9.2	---	5.6	---	2.1	1.4	---
TOTAL	158.3	160.6	322.9	288.3	633.0	442.6	303.0	237.6	141.3	88.2	48.0	46.2
MEAN	5.11	5.35	10.4	9.30	22.6	14.3	10.1	7.66	4.71	2.85	1.55	1.54
MAX	11	15	38	24	72	25	21	11	5.6	3.7	2.1	2.1
MIN	3.3	4.5	5.5	5.9	8.2	9.2	8.1	5.6	3.6	2.1	1.2	1.3
AC-FT	314	319	640	572	1260	878	601	471	280	175	95	92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.06	4.72	8.12	21.3	25.8	26.3	18.0	11.1	7.99	4.38	2.82	2.49
MAX	7.19	7.32	14.5	68.1	52.5	38.2	28.9	16.5	14.6	7.31	5.12	3.90
(WY)	1990	1990	1993	1993	1993	1993	1993	1993	1993	1993	1993	1989
MIN	2.62	3.44	4.34	4.52	5.22	14.3	10.1	6.40	4.27	2.85	1.55	1.33
(WY)	1992	1993	1991	1991	1991	1994	1994	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1989 - 1994	
ANNUAL TOTAL	7725.5		2870.0			
ANNUAL MEAN	21.2		7.86		11.2	
HIGHEST ANNUAL MEAN					21.2	1993
LOWEST ANNUAL MEAN					7.86	1994
HIGHEST DAILY MEAN	332	Jan 20	72	Feb 7	332	Jan 20 1993
LOWEST DAILY MEAN	3.3	Sep 27	1.2	Aug 13	1.2	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 26	1.3	Aug 12	1.3	Aug 21 1992
INSTANTANEOUS PEAK FLOW					517	Jan 20 1993
ANNUAL RUNOFF (AC-FT)	15320		5690		8090	
10 PERCENT EXCEEDS	44		16		26	
50 PERCENT EXCEEDS	11		5.8		5.7	
90 PERCENT EXCEEDS	4.2		1.5		2.2	

C-042170

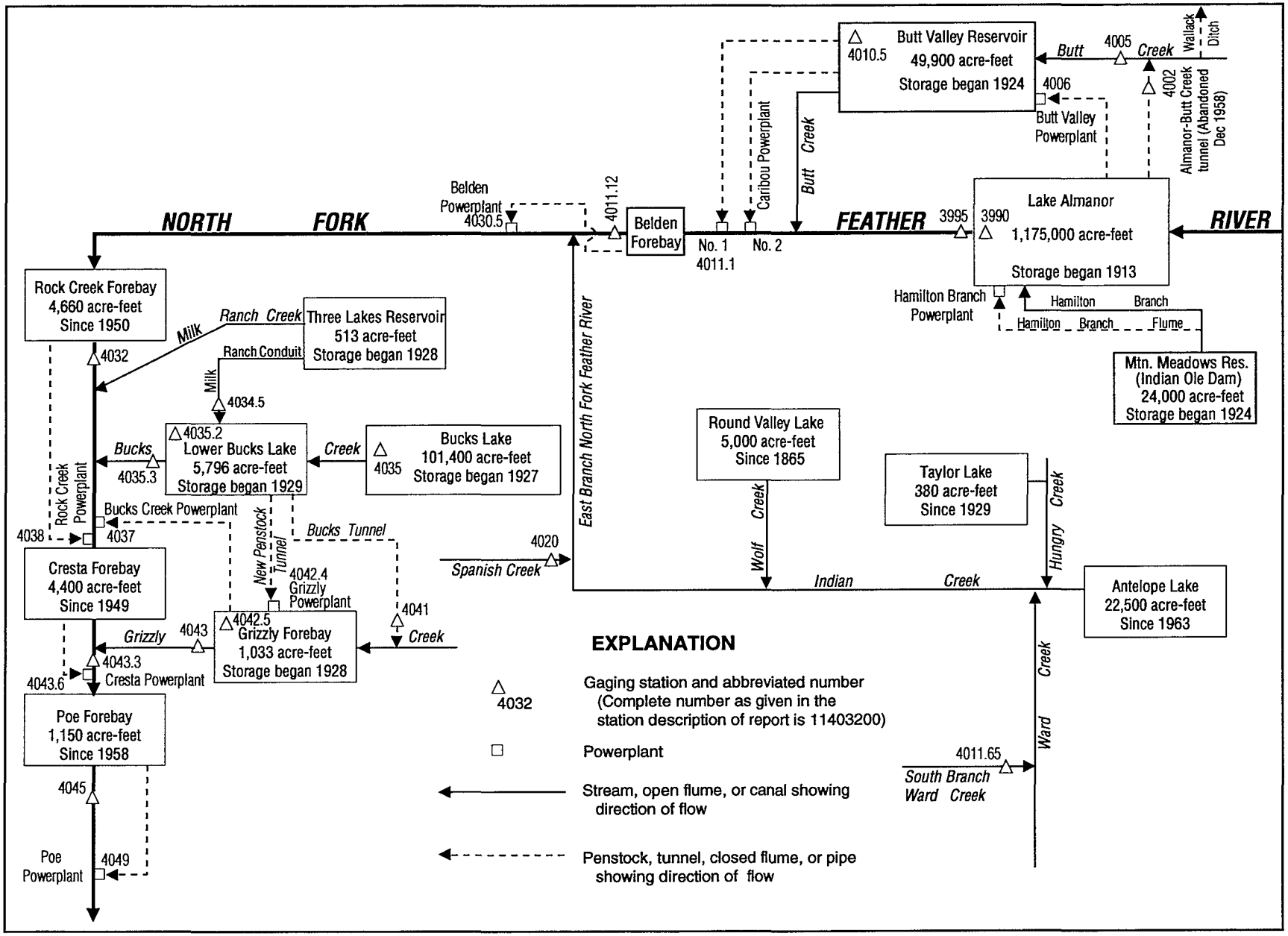

Figure 32. Diversions and storage in North Fork Feather River basin.

11399000 LAKE ALMANOR AT PRATTVILLE, CA

LOCATION.--Lat 40°12'46", long 121°09'43", in SW 1/4 NE 1/4 sec.11, T.27 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Lassen National Forest, at intake tower to Butt Valley Tunnel at Prattville, 4.7 mi northwest of Lake Almanor Dam, and 5.6 mi northwest of Canyondam.
DRAINAGE AREA.--491 mi^2.
PERIOD OF RECORD.--July 1913 to current year. Monthly contents only for some periods, published in WSP 1315-A. Published as "near Prattville" 1937-60. Prior to October 1964, records published as usable contents.
REVISED RECORDS.--WSP 1931: Drainage area.
GAGE.--Nonrecording gage read once daily. Datum of gage is 10.23 ft below sea level (levels by Pacific Gas & Electric Co.). Prior to June 1, 1965, nonrecording gage at site 4.7 mi southeast at same datum.
REMARKS.--Lake is formed by earthfill dam; storage began in July 1913; dam raised to gage height 4,455 ft in 1917 and 4,515 ft in 1927. Usable capacity, 1,174,887 acre-ft between gage heights 4,422 ft, invert of outlet, and 4,495.5 ft, maximum storage limit. Dead storage, 8,948 acre-ft. Water is diverted by tunnel and penstock to Butt Valley Powerplant (station 11400600) and then is used for power development in the North Fork Feather River. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 1,142,960 acre-ft, June 8, 1982, gage height, 4,494.00 ft; minimum, 5,230 acre-ft, Feb. 5, 1918, gage height, 4,416.1 ft.
EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 887,894 acre-ft, June 19, gage height, 4,484.17 ft; minimum, 693,703 acre-ft, Dec. 31, gage height, 4,475.94 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on surveys by Pacific Gas & Electric Co. in 1924 and 1926)

4,422	8,948	4,434	49,510	4,460	376,686
4,424	10,067	4,437	74,189	4,470	565,519
4,426	11,260	4,440	101,869	4,480	787,304
4,428	13,480	4,445	156,414	4,490	1,036,269
4,430	21,200	4,450	220,848	4,495.5	1,183,835
4,432	34,173	4,455	294,531		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	844181	787304	731665	695279	731665	764997	809605	844181	879771	881000	848539	806271
2	842247	785180	729830	696181	732583	766165	811274	845391	880262	880262	846844	804843
3	839590	783058	730977	697083	732583	767567	811990	846602	880754	880016	844665	803416
4	837418	780938	728455	699114	733732	770140	812945	847813	881491	879279	841764	803654
5	835249	778586	726851	700243	734881	772483	814138	849509	881983	878788	839349	801990
6	832600	776471	724334	700921	736721	774124	815572	851935	883459	877069	837660	800802
7	830194	774593	723420	702729	739253	776236	816528	855821	884690	875842	836454	799615
8	827791	772483	725021	703634	739714	777881	817245	858496	884937	874126	835490	797717
9	825630	770140	724792	704992	740867	779762	818920	860687	885183	873636	834526	795109
10	823471	767801	722277	705672	742943	781645	819877	862637	884444	872656	832359	793215
11	821553	767333	721364	707031	743635	783529	821314	864588	884444	871432	830915	791795
12	819877	765464	719538	707938	744790	784472	822033	865809	884937	869964	829473	789903
13	818441	762897	718170	709073	745715	785888	823231	866786	885922	868741	827791	788248
14	816528	760333	718170	709526	746177	787540	824430	866786	885676	867274	826590	786596
15	815094	758238	715664	710662	747333	788721	824910	868252	886169	865809	825870	784472
16	818441	755912	713616	711570	749417	790139	826830	868985	886415	864588	824670	783058
17	817006	753358	711570	712479	751966	791558	827550	870208	886662	862881	822512	780938
18	814616	751270	710662	713389	752894	792741	828992	870698	886908	863125	823231	779056
19	812467	748722	710662	714298	754286	793688	829953	871677	887894	863368	820595	777176
20	810321	746177	706351	714981	755912	795346	831637	871921	887401	862393	818680	775767
21	808176	743405	704540	716119	757307	796531	832840	871921	887401	860444	818920	773655
22	805795	742943	703182	717714	758238	797954	834044	873146	887155	859470	817723	771780
23	803654	742020	701599	719310	759401	799140	835249	872901	886662	858496	815811	769906
24	803654	739484	700017	723649	759867	801040	835731	873146	885676	857280	814377	768502
25	802941	737641	698888	724563	760799	801990	837901	873636	886169	856307	812706	765931
26	800327	736031	697308	726165	761964	803178	838866	873391	886908	854849	812467	764063
27	798429	734651	696632	727309	763363	804129	839832	874371	886169	853634	812706	761964
28	796057	732813	696181	728226	764063	804843	841281	875352	885183	852663	812467	760333
29	793215	734881	695730	729142	---	806033	842489	876578	883706	851207	811274	758470
30	791795	733502	694604	730747	---	807461	843698	877315	882229	851207	810082	756610
31	789430	---	693703	730747	---	808890	---	878297	---	850236	807937	---
MAX	844181	787304	731665	730747	764063	808890	843698	878297	887894	881000	848539	806271
MIN	789430	732813	693703	695279	731665	764997	809605	844181	879771	850236	807937	756610
a	4480.09	4477.69	4475.94	4477.57	4479.01	4480.91	4482.36	4483.78	4483.94	4482.63	4480.87	4478.69
b	-57650	-55928	-39799	+37044	+33316	+44827	+34808	+34599	+3932	-31993	-42299	-51327

CAL YR 1993 MAX 1073750 MIN 669320 b +5853
WTR YR 1994 MAX 887894 MIN 693703 b -90470

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

C-042172

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA

LOCATION.--Lat 40°10'06", long 121°05'31", in NE 1/4 SW 1/4 sec.28, T.27 N., R.8 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.4 mi downstream from Almanor Dam, 4.5 mi southeast of Prattville, and 9 mi upstream from Butt Creek.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--June 1905 to current year. Published as "below Prattville" prior to 1911. No record for January, February, or March 1911. Estimated mean discharge for water year 1911 published in WSP 1315-A.

REVISED RECORDS.--WSP 1245: 1951 (yearly summaries). WSP 1285: 1952 (yearly summaries). WDR CA-88-4: 1987 (monthly and yearly totals for Butt Valley Powerplant).

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 4,379.86 ft above sea level. Prior to Oct. 1, 1936, nonrecording gages or water-stage recorders at several sites within 0.5 mi of present site at various datums.

REMARKS.--No estimated daily discharges. Flow regulated since 1913 by Lake Almanor (station 11399000) 0.5 mi upstream and since 1924 by Mountain Meadows Reservoir, capacity, 24,000 acre-ft, 12 mi upstream on Hamilton Branch. Water diverted from Lake Almanor to Butt Valley Reservoir (station 11401050) through old Almanor-Butt Creek Tunnel from May 1921 to December 1958, for use at Caribou Powerplant. Old tunnel closed Dec. 30, 1958, and diversion began Dec. 31, 1958, to Butt Valley Powerplant (station 11400600) at upstream end of Butt Valley Reservoir. See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft^3/s, Mar. 19, 1907, before construction of dam, gage height, 16.2 ft, at former site, from rating curve extended above 3,700 ft^3/s; no flow at times during 1914, 1919, 1923.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38 ft^3/s, Mar. 22, gage height, 2.52 ft; minimum daily, 33 ft^3/s, Apr. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	35	36	36	36	36	35	35	35	36	36	35
2	36	36	36	36	36	36	36	35	35	36	36	35
3	36	36	36	36	36	36	36	35	35	36	36	35
4	36	36	36	36	36	36	35	35	35	36	36	35
5	35	36	36	36	36	37	36	35	35	36	36	35
6	35	37	36	36	36	37	36	35	35	36	36	35
7	35	37	36	36	36	37	36	35	35	36	36	35
8	35	37	36	36	36	37	36	35	35	36	36	35
9	35	37	36	36	36	37	36	35	35	36	36	35
10	35	37	36	36	36	37	36	35	35	36	36	35
11	35	37	36	36	36	37	36	36	35	36	36	35
12	35	37	36	36	36	37	36	36	35	36	36	35
13	35	37	36	36	36	37	36	36	36	36	36	35
14	35	37	36	36	36	37	36	36	36	36	36	35
15	35	37	36	36	36	37	36	36	36	36	36	35
16	35	36	36	36	36	37	36	36	36	36	36	35
17	35	36	36	36	36	37	36	36	36	36	36	35
18	35	35	36	36	36	37	36	36	36	36	36	35
19	35	36	36	36	36	37	36	35	36	36	35	35
20	35	36	36	36	36	37	36	35	36	36	35	35
21	35	36	35	36	36	37	35	35	36	36	35	35
22	35	36	35	36	36	38	35	35	36	36	35	35
23	35	36	35	36	36	36	35	35	36	36	35	35
24	35	36	35	36	36	35	35	35	36	36	35	35
25	35	36	35	36	36	35	35	35	36	36	35	35
26	35	36	35	36	36	35	34	35	36	36	35	35
27	34	36	36	36	37	35	33	35	36	36	35	35
28	35	36	36	36	37	35	34	35	36	36	35	35
29	34	36	36	36	---	35	35	35	36	36	35	35
30	34	36	36	36	---	35	35	35	36	36	35	35
31	34	---	36	37	---	35	---	35	---	36	35	---
TOTAL	1085	1088	1110	1117	1010	1127	1064	1093	1068	1116	1103	1050
MEAN	35.0	36.3	35.8	36.0	36.1	36.4	35.5	35.3	35.6	36.0	35.6	35.0
MAX	36	37	36	37	37	38	36	36	36	36	36	35
MIN	34	35	35	36	36	35	33	35	35	36	35	35
AC-FT	2150	2160	2200	2220	2000	2240	2110	2170	2120	2210	2190	2080
a	88800	85920	76580	0	264	0	563	8530	10830	41470	49650	63930

a Diversion, in acre-feet, to Butt Valley Powerplant, provided by Pacific Gas & Electric Co.

C-042173

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1958, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	498	393	371	282	349	272	318	327	349	479	602	569
MAX	1607	1414	1418	1489	2124	1609	1852	2206	1065	1280	1755	1762
(WY)	1931	1931	1938	1946	1938	1929	1938	1938	1935	1929	1929	1929
MIN	3.80	3.32	3.41	3.20	3.20	3.61	2.63	2.02	2.11	8.02	3.72	3.16
(WY)	1942	1940	1937	1944	1944	1944	1939	1939	1939	1943	1937	1937

SUMMARY STATISTICS	WATER YEARS 1925 - 1958		
ANNUAL TOTAL			
ANNUAL MEAN	401		
HIGHEST ANNUAL MEAN	1061		1929
LOWEST ANNUAL MEAN	27.1		1937
HIGHEST DAILY MEAN	2670	May 17	1942
LOWEST DAILY MEAN	.50	Apr 28	1949
ANNUAL SEVEN-DAY MINIMUM	.87	Apr 25	1949
INSTANTANEOUS PEAK FLOW	2710	May 22	1941
INSTANTANEOUS PEAK STAGE	6.95	May 22	1941
ANNUAL RUNOFF (AC-FT)	290600		
10 PERCENT EXCEEDS	1060		
50 PERCENT EXCEEDS	60		
90 PERCENT EXCEEDS	4.4		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.2	31.5	32.0	33.0	34.6	33.8	42.7	38.8	49.5	48.4	35.6	35.0
MAX	50.3	40.6	40.4	48.1	64.6	53.7	293	126	516	484	41.8	39.5
(WY)	1982	1969	1979	1974	1978	1978	1983	1974	1984	1984	1984	1986
MIN	17.3	8.65	7.47	8.67	10.0	9.90	10.1	15.7	16.0	15.4	14.9	15.0
(WY)	1978	1960	1960	1960	1962	1964	1964	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1960 - 1994	
ANNUAL TOTAL	13170		13031			
ANNUAL MEAN	36.1		35.7		37.5	
HIGHEST ANNUAL MEAN					112	1984
LOWEST ANNUAL MEAN					22.3	1962
HIGHEST DAILY MEAN	52	Mar 16	38	Mar 22	803	Apr 2 1983
LOWEST DAILY MEAN	34	Oct 27	33	Apr 27	2.9	Jan 9 1960
ANNUAL SEVEN-DAY MINIMUM	34	Oct 25	34	Oct 25	4.7	Oct 26 1966
INSTANTANEOUS PEAK FLOW			38	Apr 15	10000	Mar 19 1907
INSTANTANEOUS PEAK STAGE			2.52	Apr 15	16.20	Mar 19 1907
ANNUAL RUNOFF (AC-FT)	26120		25850		27170	
ANNUAL TOTAL, DIVERSION (AC-FT) a	706100		426500			
10 PERCENT EXCEEDS	37		36		39	
50 PERCENT EXCEEDS	36		36		36	
90 PERCENT EXCEEDS	35		35		29	

a Diversion, in acre-feet, to Butt Valley Powerplant, provided by Pacific Gas & Electric Co.

11400500 BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CA

LOCATION.--Lat 40°11'14", long 121°11'13", in NE 1/4 NW 1/4 sec.22, T.27 N., R.7 E., Plumas County, Hydrologic Unit 18020121, on right bank 500 ft downstream from outlet of old Almanor-Butt Creek Tunnel, and 2.2 mi southwest of Prattville.
DRAINAGE AREA.--69.3 mi^2.

PERIOD OF RECORD.--October 1936 to September 1959, October 1964 to current year. Published as "below tunnel No. 1" 1938-40. Records for water years 1937-38 published in WSP 1515. Records prior to 1964 not equivalent owing to inflow from Almanor-Butt Creek Tunnel.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,300 ft above sea level, from topographic map. Prior to Oct. 5, 1937, at site 200 ft downstream at datum 4 ft lower.

REMARKS.--No estimated daily discharges. No regulation upstream from station. Howell-Bunger valve in conduit from Lake Almanor (station 11399000) to Butt Valley Powerplant (station 11400600) is opened for short periods several times a year, causing sharp peaks. Wallack Ditch upstream from station diverts about 3 ft^3/s during each irrigation season into Yellow Creek basin. Some inflow 500 ft upstream that is the leakage from the abandoned Almanor-Butt Creek Tunnel at Outlet (station 11400200) is included in the table below. See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,870 ft^3/s, Feb. 17, 1986, gage height, 5.90 ft, from rating curve extended above 1,400 ft^3/s; minimum daily, 26 ft^3/s, several days during May and June 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 164 ft^3/s, Dec. 8, gage height, 1.36 ft; minimum daily, 33 ft^3/s, on several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	46	52	47	46	62	85	68	52	38	36	34
2	47	46	52	49	48	63	85	67	50	38	35	34
3	47	46	50	49	49	65	87	66	48	39	35	34
4	47	46	52	53	49	69	85	68	47	39	36	33
5	48	46	49	59	49	101	81	74	47	39	36	33
6	49	46	48	52	51	93	82	91	49	39	35	34
7	48	46	50	51	51	86	85	113	49	39	35	34
8	47	46	92	52	50	82	81	91	47	39	34	34
9	47	46	84	50	49	84	84	90	44	38	34	34
10	49	46	66	48	51	89	76	86	44	39	33	34
11	53	48	71	49	48	98	74	82	44	39	33	35
12	50	52	62	48	47	92	75	80	43	39	33	34
13	49	50	57	48	49	91	78	75	43	38	33	35
14	58	48	52	48	48	95	80	70	43	38	33	35
15	62	47	54	48	49	100	83	69	43	38	33	35
16	71	48	50	48	49	98	86	73	43	38	33	35
17	56	49	48	47	51	95	87	74	42	38	33	34
18	50	49	48	48	50	95	88	70	41	38	33	35
19	49	48	47	47	49	96	89	71	40	38	33	35
20	48	48	47	46	49	92	88	66	40	37	33	34
21	47	48	47	47	49	91	85	64	39	37	33	34
22	47	49	46	47	47	86	82	61	39	37	33	34
23	47	48	47	64	48	78	79	61	39	37	33	34
24	47	44	46	58	49	74	75	60	39	37	33	34
25	46	44	47	54	51	75	78	60	39	36	33	35
26	46	45	48	51	54	77	78	59	39	36	34	34
27	46	46	49	49	62	79	75	57	39	36	34	34
28	46	48	48	49	63	82	71	56	38	36	34	35
29	46	68	48	47	---	83	69	55	38	36	34	35
30	46	59	48	49	---	84	68	52	38	36	34	36
31	46	---	48	47	---	86	---	52	---	36	34	---
TOTAL	1532	1446	1653	1549	1405	2641	2420	2181	1286	1168	1048	1030
MEAN	49.4	48.2	53.3	50.0	50.2	85.2	80.7	70.4	42.9	37.7	33.8	34.3
MAX	71	68	92	64	63	101	89	113	52	39	36	36
MIN	46	44	46	46	46	62	68	52	38	36	33	33
AC-FT	3040	2870	3280	3070	2790	5240	4800	4330	2550	2320	2080	2040
a	442	424	435	450	407	447	430	440	426	430	410	382

a Inflow, in acre-feet, from Almanor-Butt Creek Tunnel at Outlet, provided by Pacific Gas & Electric Co.

C-042175

11400500 BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	403	372	381	316	315	344	352	389	391	420	412	408
MAX	995	1073	1419	1098	1025	1050	1178	1176	1092	1038	1019	990
(WY)	1943	1938	1959	1953	1941	1953	1952	1956	1958	1953	1953	1953
MIN	32.3	39.2	39.3	39.4	38.0	47.8	47.5	42.7	32.9	28.7	27.8	29.4
(WY)	1989	1992	1991	1992	1937	1977	1977	1976	1976	1977	1977	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1937 - 1994	
ANNUAL TOTAL	40107		19359			
ANNUAL MEAN	110		53.0		376	
HIGHEST ANNUAL MEAN					974	1953
LOWEST ANNUAL MEAN					40.1	1977
HIGHEST DAILY MEAN	503	Mar 24	113	May 7	2830	Feb 17 1986
LOWEST DAILY MEAN	41	Jan 2	33	Aug 10	26	May 26 1976
ANNUAL SEVEN-DAY MINIMUM	45	Jan 6	33	Aug 10	26	May 30 1976
INSTANTANEOUS PEAK FLOW			164	Dec 8	3870	Feb 17 1986
INSTANTANEOUS PEAK STAGE			1.36	Dec 8	5.90	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	79550		38400		272200	
ANNUAL TOTAL, INFLOW (AC-FT) a	5250		5120			
10 PERCENT EXCEEDS	262		84		994	
50 PERCENT EXCEEDS	57		48		105	
90 PERCENT EXCEEDS	46		34		42	

a Inflow, in acre-feet, from Almanor-Butt Creek Tunnel at Outlet, provided by Pacific Gas & Electric Co.

C-042176

11401050 BUTT VALLEY RESERVOIR NEAR CARIBOU, CA

LOCATION.--Lat 40°06'59", long 121°08'42", in SE 1/4 SW 1/4 sec.12, T.26 N., R.7 E., Plumas County, Hydrologic Unit 18020121, on center intake tower in Butt Valley Reservoir, 2.5 mi north of Caribou, and 5.4 mi southwest of Canyon Dam.
DRAINAGE AREA.--83.5 mi^2.
PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1983-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 10.23 ft below sea level (levels by Great Western Power Co.).

REMARKS.--Lake is formed by earthfill dam. Storage began in 1924. Usable capacity, 49,930 acre-ft between elevations 4,075.9 ft, invert of outlet tunnel, and 4,132.1 ft, crest of spillway. Water is diverted by tunnel and penstock to Caribou powerplants (station 11401110). Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 52,667 acre-ft, Feb. 18, 19, 1986, elevation, 4,133.80 ft; minimum, 24,457 acre-ft, Sept. 28, 29, 1991, elevation, 4,114.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 46,513 acre-ft, Sept. 13, elevation, 4,129.85 ft; minimum, 30,183 acre-ft, Mar. 4, elevation, 4,119.00 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on surveys by Great Western Power Co. in 1923 and 1924)

4,100	8,024	4,130	46,581
4,110	18,395	4,137	57,891
4,120	31,592		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40781	33955	33090	33378	30888	30465	34316	38516	44632	46355	44788	45335
2	40705	33667	33378	32946	30747	30465	34460	38292	44632	46041	45728	45414
3	39493	33378	30887	31877	30675	30606	34606	38068	44321	46120	45727	45727
4	38965	33089	31592	32020	30747	30183	34825	37994	44243	46198	45099	45492
5	38741	32590	32233	32020	30675	30535	34971	37844	44165	45884	45021	45727
6	39342	32020	32233	32091	30675	30747	35190	37919	44010	46042	44632	45649
7	39569	31735	32519	31948	30605	30958	35336	37919	44087	46356	44477	45728
8	39644	31240	33739	32091	30465	31169	35555	38143	43932	46277	44788	45963
9	39644	31522	32305	32162	30535	31381	35701	38218	43465	45649	44010	45571
10	39644	31310	32020	32233	30747	31169	35847	37994	43932	45021	44165	45806
11	40097	31310	32447	31948	30817	30465	35993	37844	44010	44943	44399	46120
12	39569	30887	32804	32020	30887	30675	36141	37919	43854	44865	44787	46199
13	39871	31381	32804	32091	30817	30888	36288	37695	43777	44943	45256	46513
14	39795	31877	32305	32020	30888	31099	36805	37695	43543	45257	45021	46120
15	40857	32091	31948	32020	30888	31310	36953	37695	43388	45099	45021	46041
16	40552	31735	32519	32091	30887	31522	37101	38442	43234	45335	44787	45727
17	40248	31877	32732	32020	31240	31735	37248	38965	42849	45727	44554	45570
18	40781	32020	31522	32091	30253	31948	37844	39644	42618	45257	44321	45570
19	41086	31522	31381	31948	30394	32162	37994	40552	42541	44710	45099	45570
20	41315	32376	32732	31877	30605	32376	38143	41010	42695	44865	45963	44865
21	41467	32875	32661	32020	30817	32519	38292	41925	43157	44865	46041	44865
22	41849	33017	31806	31948	30958	32732	38367	41925	43311	44399	45727	44554
23	42079	33739	32091	31948	30324	32875	38516	42310	43621	45099	45492	44710
24	39795	33378	32162	32233	30465	33017	38741	43234	44165	45178	45257	44321
25	38741	33811	32376	32162	30324	33161	38965	43932	43854	44787	45335	45727
26	38591	33739	32803	32091	30394	33306	38815	45492	43621	45021	45256	45649
27	38292	34244	33017	32162	30535	33450	38965	45178	42695	45178	45021	45727
28	37770	33450	33090	31663	30747	33666	38890	45178	43080	44710	44788	45649
29	36510	33883	32732	31735	---	33811	38666	44943	44399	44476	45414	45571
30	35262	33450	32946	31806	---	33955	38441	44865	45885	44787	45178	44476
31	34244	---	33306	31663	---	34099	---	44710	---	45021	45178	---
MAX	42079	34244	33739	33378	31240	34099	38965	45492	45885	46356	46041	46513
MIN	34244	30887	30887	31663	30253	30183	34316	37695	42541	44399	44010	44321
a	4121.85	4121.30	4121.20	4120.05	4119.40	4121.75	4124.70	4128.80	4129.55	4129.00	4129.10	4128.85
b	-6155	-794	-144	-1643	-916	+3352	+4342	+6269	+1175	-864	+157	-702
c	98520	89040	80450	4290	4660	2710	1140	6730	12140	43920	49810	67530

CAL YR 1993 MAX 46042 MIN 26005 b -4239 c 775800
WTR YR 1994 MAX 46513 MIN 30183 b +4077 c 461000

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Discharge, in acre-feet, through Caribou powerplants, provided by Pacific Gas & Electric Co.

C—0 4 2 1 7 7

C-042177

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA

LOCATION.--Lat 40°04'17", long 121°09'49", in NE 1/4 NW 1/4 sec.35, T.26 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.4 mi downstream from Belden Dam, 0.5 mi upstream from Deadwood Canyon, and 6.4 mi northeast of Belden.

DRAINAGE AREA.--612 mi^2.

PERIOD OF RECORD.--October 1969 to current year. July 1959 to September 1969 in files of Pacific Gas & Electric Co.

REVISED RECORDS.--WDR CA-78-4: 1977 (monthly and yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 2,800.77 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--No estimated daily discharges. Flow regulated by Butt Valley Reservoir (station 11401050), Lake Almanor (station 11399000), Belden Reservoir, and Mountain Meadows Reservoir, combined capacity, 1,267,000 acre-ft. Diversion to Belden Powerplant (station 11403050) began on Aug. 27, 1969. See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,230 ft^3/s, Sept. 30, 1987, gage height, 8.96 ft; minimum daily, 2.3 ft^3/s, Oct. 25, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 159 ft^3/s, July 28, gage height, 3.63 ft; minimum daily, 61 ft^3/s, on several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	63	64	63	62	62	82	146	139	141	141	141
2	64	63	64	63	63	62	81	145	140	141	140	142
3	67	62	64	64	63	61	81	143	140	141	141	142
4	67	63	64	65	63	62	68	140	139	141	141	142
5	67	63	63	64	63	63	62	141	139	141	140	121
6	67	64	63	64	63	62	62	140	139	141	140	65
7	66	64	64	64	62	64	62	141	139	141	141	63
8	66	64	64	65	62	63	62	141	140	141	141	61
9	67	64	63	64	62	62	63	141	142	141	142	65
10	65	63	63	64	63	62	63	141	141	141	141	65
11	66	64	64	64	62	68	63	144	141	141	142	65
12	66	64	64	65	62	97	63	140	141	141	141	64
13	66	64	64	63	63	91	63	141	141	141	142	65
14	66	64	64	62	61	92	63	141	141	141	141	65
15	66	64	64	62	62	90	63	141	141	141	142	64
16	66	62	64	62	62	90	63	141	140	140	142	62
17	66	61	64	62	63	90	64	140	141	141	142	62
18	66	63	64	62	62	90	68	140	141	141	141	62
19	66	62	64	62	62	88	69	139	141	141	142	61
20	65	62	63	62	63	85	63	140	141	141	141	62
21	65	63	64	62	64	81	64	139	141	141	141	62
22	66	64	64	62	62	82	62	139	141	141	141	62
23	66	63	64	63	63	82	62	140	141	141	141	62
24	65	64	64	62	64	81	62	140	141	141	141	62
25	65	65	64	62	62	78	62	140	142	140	141	62
26	65	64	64	62	63	77	62	139	141	141	142	62
27	65	63	64	62	64	78	62	140	141	140	141	61
28	63	64	64	62	61	78	95	139	141	142	142	62
29	62	64	65	62	---	79	146	140	141	141	141	61
30	63	64	64	62	---	82	145	139	141	140	141	62
31	63	---	63	62	---	83	---	139	---	141	142	---
TOTAL	2028	1901	1979	1949	1751	2385	2150	4360	4218	4368	4378	2257
MEAN	65.4	63.4	63.8	62.9	62.5	76.9	71.7	141	141	141	141	75.2
MAX	67	65	65	65	64	97	146	146	142	142	142	142
MIN	62	61	63	62	61	61	62	139	139	140	140	61
AC-FT	4020	3770	3930	3870	3470	4730	4260	8650	8370	8660	8680	4480
a	100100	91810	81880	2920	3870	3070	0	0	5750	37430	43900	66130

a Diversion, in acre-feet, to Belden Powerplant, provided by Pacific Gas & Electric Co.

C-042178

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	146	159	134	107	98.9	100	173	159	138	138	134	134
MAX	1414	2487	1664	861	605	591	743	419	166	199	173	1134
(WY)	1975	1975	1975	1975	1975	1975	1983	1983	1970	1970	1970	1987
MIN	57.8	38.4	45.2	51.6	51.2	50.0	63.1	62.2	56.5	64.2	89.0	61.9
(WY)	1985	1981	1976	1976	1976	1976	1972	1971	1971	1971	1972	1976

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1970 - 1994	
ANNUAL TOTAL	36146		33724			
ANNUAL MEAN	99.0		92.4		135	
HIGHEST ANNUAL MEAN					745	1975
LOWEST ANNUAL MEAN					76.3	1977
HIGHEST DAILY MEAN	258	Apr 9	146	Apr 29	2800	Nov 20 1974
LOWEST DAILY MEAN	61	Jan 1	61	Nov 17	2.3	Oct 25 1981
ANNUAL SEVEN-DAY MINIMUM	61	Jan 25	62	Sep 23	3.5	Oct 25 1981
INSTANTANEOUS PEAK FLOW			159	Jul 28	3230	Sep 30 1987
INSTANTANEOUS PEAK STAGE			3.63	Jul 28	8.96	Sep 30 1987
ANNUAL RUNOFF (AC-FT)	71700		66890		98090	
ANNUAL TOTAL, DIVERSION (AC-FT) a	811800		436900			
10 PERCENT EXCEEDS	142		141		148	
50 PERCENT EXCEEDS	65		65		69	
90 PERCENT EXCEEDS	62		62		60	

a Diversion, in acre-feet, to Belden Powerplant, provided by Pacific Gas & Electric Co.

C-042179

11401165 SOUTH BRANCH WARD CREEK BELOW DIVERSION DAM, NEAR GENESEE, CA

LOCATION.--Lat 40°00'07", long 120°42'07", in SE 1/4 NE 1/4 sec.26, T.25 N., R.11 E., Plumas County, Hydrologic Unit 18020122, on left bank 20 ft downstream from diversion dam, 30 ft downstream from Nye Creek, 3.5 mi upstream from Indian Creek, and 3.8 mi southeast of Genesee.

DRAINAGE AREA.--6.74 mi^2.

PERIOD OF RECORD.--October 1990 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir in concrete control. Elevation of gage is 5,300 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated at diversion dam 20 ft upstream. Some water is diverted to Five Bears Powerplant and bypasses this gage.

COOPERATION.--Records were collected by International Energy Services Inc., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26 ft^3/s, Mar. 4, 1991, May 3, 1993, gage height, 1.90 ft; minimum daily, 1.9 ft^3/s, Nov. 9-16, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11 ft^3/s, Apr. 18, 1994, gage height, 1.43 ft; minimum daily, 2.7 ft^3/s, several days in September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.2	3.5	3.6	3.5	4.1	7.2	5.8	3.8	3.1	2.9	2.8
2	3.0	3.2	3.5	3.6	3.5	4.2	7.4	5.8	3.7	3.1	2.9	2.8
3	3.0	3.2	3.5	3.6	3.6	4.3	7.7	5.8	3.7	3.1	2.9	2.8
4	3.2	3.2	3.5	3.9	3.5	4.6	7.2	5.9	3.6	3.1	2.9	2.8
5	3.5	3.2	3.4	3.8	3.6	5.5	6.9	6.0	3.6	3.1	2.9	2.8
6	3.2	3.2	3.4	3.6	3.6	5.6	6.8	6.8	3.7	3.1	2.9	2.8
7	3.1	3.2	3.4	3.6	3.7	5.5	6.7	7.8	3.6	3.1	2.9	2.8
8	3.1	3.2	4.2	3.6	3.6	5.6	6.5	7.1	3.6	3.1	2.9	2.8
9	3.1	3.2	4.4	3.6	3.6	5.7	6.3	7.1	3.5	3.0	2.9	2.8
10	3.1	3.2	4.0	3.6	3.7	6.2	6.0	6.7	3.5	3.0	2.9	2.8
11	3.3	3.3	3.9	3.6	3.6	6.3	6.1	6.4	3.5	3.0	2.9	2.8
12	3.2	3.3	3.7	3.5	3.5	6.0	6.4	6.2	3.4	3.0	2.9	2.8
13	3.2	3.3	3.6	3.5	3.6	6.0	6.8	5.8	3.4	3.0	2.9	2.8
14	3.5	3.2	3.7	3.6	3.6	6.4	7.2	5.5	3.4	3.0	2.9	2.8
15	4.1	3.3	3.6	3.6	3.6	7.1	7.7	5.5	3.4	3.0	2.8	2.8
16	3.6	3.3	3.5	3.5	3.6	7.4	8.3	5.4	3.4	3.0	2.8	2.8
17	3.5	3.3	3.5	3.5	3.9	7.0	9.0	5.4	3.4	3.0	2.8	2.7
18	3.4	3.3	3.5	3.5	3.7	6.7	9.4	5.3	3.3	3.0	2.8	2.8
19	3.3	3.3	3.5	3.5	3.6	6.5	9.5	5.1	3.3	3.0	2.8	2.7
20	3.3	3.3	3.5	3.5	3.6	6.2	9.1	5.0	3.3	2.9	2.8	2.7
21	3.3	3.3	3.5	3.6	3.6	6.2	8.5	4.8	3.3	2.9	2.8	2.7
22	3.2	3.4	3.5	3.6	3.6	6.1	7.9	4.7	3.3	3.0	2.8	2.7
23	3.2	3.3	3.5	3.7	3.6	5.8	7.3	4.4	3.2	2.9	2.8	2.7
24	3.2	3.2	3.5	3.7	3.7	5.7	6.8	4.2	3.2	2.9	2.8	2.8
25	3.2	3.3	3.5	3.6	3.8	5.5	6.6	4.2	3.2	2.9	2.8	2.8
26	3.2	3.3	3.6	3.6	3.9	5.5	6.4	4.1	3.2	2.9	2.8	2.7
27	3.2	3.4	3.6	3.6	4.0	5.7	6.2	4.0	3.2	2.9	2.8	2.7
28	3.2	3.5	3.5	3.6	4.0	6.0	5.9	3.9	3.2	2.9	2.8	2.9
29	3.2	3.9	3.5	3.5	---	6.4	5.8	3.9	3.1	2.9	2.8	2.8
30	3.2	3.6	3.5	3.5	---	6.9	5.7	3.9	3.1	2.9	2.8	2.8
31	3.2	---	3.5	3.5	---	7.2	---	3.8	---	2.9	2.8	---
TOTAL	101.0	99.1	111.5	111.3	102.4	183.9	215.3	166.3	102.1	92.7	88.2	83.3
MEAN	3.26	3.30	3.60	3.59	3.66	5.93	7.18	5.36	3.40	2.99	2.85	2.78
MAX	4.1	3.9	4.4	3.9	4.0	7.4	9.5	7.8	3.8	3.1	2.9	2.9
MIN	3.0	3.2	3.4	3.5	3.5	4.1	5.7	3.8	3.1	2.9	2.8	2.7
AC-FT	200	197	221	221	203	365	427	330	203	184	175	165

C-042180

11401165 SOUTH BRANCH WARD CREEK BELOW DIVERSION DAM, NEAR GENESEE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.50	2.58	2.73	2.99	3.12	6.13	7.63	8.25	4.43	2.84	2.65	2.52
MAX	3.26	3.30	3.60	3.59	3.66	10.2	11.6	17.1	8.03	3.54	3.30	3.03
(WY)	1994	1994	1994	1994	1994	1993	1993	1993	1993	1993	1993	1993
MIN	2.09	2.02	2.28	2.35	2.74	3.74	4.25	2.75	2.38	2.23	2.03	2.00
(WY)	1993	1993	1993	1992	1991	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1991 - 1994	
ANNUAL TOTAL	2242.8		1457.1			
ANNUAL MEAN	6.14		3.99		4.03	
HIGHEST ANNUAL MEAN					5.83	1993
LOWEST ANNUAL MEAN					2.63	1992
HIGHEST DAILY MEAN	21	Mar 17	9.5	Apr 19	21	Mar 17 1993
LOWEST DAILY MEAN	2.1	Jan 2	2.7	Sep 17	1.9	Nov 9 1992
ANNUAL SEVEN-DAY MINIMUM	2.1	Jan 1	2.7	Sep 17	1.9	Nov 9 1992
INSTANTANEOUS PEAK FLOW			11	Apr 18	26	Mar 4 1991
INSTANTANEOUS PEAK STAGE			1.43	Apr 18	1.90	Mar 4 1991
ANNUAL RUNOFF (AC-FT)	4450		2890		2920	
10 PERCENT EXCEEDS	15		6.4		7.2	
50 PERCENT EXCEEDS	3.5		3.5		3.0	
90 PERCENT EXCEEDS	3.0		2.8		2.2	

C-042181

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA

LOCATION.--Lat 40°00'11", long 120°57'12", in SE 1/4 NE 1/4 sec.27, T.25 N., R.9 E., Plumas County, Hydrologic Unit 18020122, on right bank 200 ft upstream from Blackhawk Creek and 0.9 mi southeast of Keddie.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 1041: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 3,129.86 ft above sea level.

REMARKS.--Records good except for estimated daily discharges, which are fair. Low flow regulated by five small reservoirs having a combined capacity of 800 acre-ft. Approximately 4,600 acres irrigated upstream from station (from information provided by U.S. Forest Service). City of Quincy diverts about 450 acre-ft annually for municipal supply. See schematic diagram of North Fork Feather River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,600 ft^3/s, Feb. 17, 1986, gage height, 14.88 ft, from rating curve extended above 5,200 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 3.0 ft^3/s, Sept. 4, 5, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 5	1715	*851	*4.12				

Minimum daily, 6.0 ft^3/s, Aug. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	48	87	e73	83	308	199	122	55	25	16	8.8
2	29	51	71	e75	82	298	196	120	46	23	8.9	8.1
3	32	49	65	e77	82	300	204	117	43	22	8.7	8.6
4	37	49	65	e82	78	296	198	120	40	20	7.9	12
5	39	48	61	e150	77	702	179	132	47	25	7.6	8.6
6	44	48	59	115	82	595	173	168	46	18	12	10
7	41	48	58	97	122	426	194	206	37	20	9.2	11
8	41	48	216	89	146	351	174	179	32	18	12	11
9	41	48	315	86	128	318	186	171	31	18	8.6	15
10	43	48	151	81	160	332	179	163	31	17	6.5	13
11	47	48	150	77	173	419	164	154	28	19	6.0	10
12	52	54	162	74	137	343	162	144	28	18	8.2	16
13	47	50	120	72	128	305	166	113	28	14	7.7	15
14	58	47	148	71	118	300	172	116	25	12	8.4	11
15	103	49	130	70	112	325	182	113	25	10	7.3	15
16	86	48	110	68	109	327	196	110	26	12	8.0	16
17	83	48	96	67	357	295	209	121	28	11	8.6	7.6
18	64	48	89	66	300	267	210	119	34	12	8.7	9.3
19	60	47	83	66	213	252	212	111	31	11	11	12
20	57	47	78	65	196	232	203	100	31	10	8.6	15
21	54	47	74	65	188	224	184	92	30	8.8	8.8	14
22	52	51	72	65	174	221	170	88	28	9.9	9.6	9.3
23	51	54	70	97	162	204	159	83	26	11	9.7	8.4
24	50	49	70	192	165	186	151	77	25	10	7.3	13
25	49	47	68	172	187	174	158	76	26	10	7.4	12
26	48	47	e69	140	213	168	152	73	27	10	8.3	17
27	46	49	e71	122	308	169	143	70	26	11	9.0	17
28	43	50	e71	109	328	179	136	67	23	11	8.2	18
29	46	98	e70	99	---	192	128	62	26	11	8.4	20
30	48	170	e70	94	---	193	125	59	24	11	9.3	20
31	47	---	e72	89	---	205	---	58	---	16	8.2	---
TOTAL	1567	1633	3091	2865	4608	9106	5264	3504	953	454.7	274.1	381.7
MEAN	50.5	54.4	99.7	92.4	165	294	175	113	31.8	14.7	8.84	12.7
MAX	103	170	315	192	357	702	212	206	55	25	16	20
MIN	29	47	58	65	77	168	125	58	23	8.8	6.0	7.6
AC-FT	3110	3240	6130	5680	9140	18060	10440	6950	1890	902	544	757

e Estimated.

C-042182

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	59.6	134	280	389	500	541	559	415	164	49.8	27.9	30.0
MAX	702	1015	1498	2150	2843	1679	1715	1301	755	187	74.6	63.8
(WY)	1963	1982	1956	1970	1986	1983	1952	1938	1983	1983	1983	1983
MIN	18.4	34.9	35.3	37.5	50.5	56.1	44.3	50.6	18.6	10.8	5.10	7.57
(WY)	1989	1991	1977	1937	1991	1977	1977	1977	1977	1934	1934	1934

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1934 - 1994	
ANNUAL TOTAL	142396		33701.5			
ANNUAL MEAN	390		92.3		261	
HIGHEST ANNUAL MEAN					629	1983
LOWEST ANNUAL MEAN					34.1	1977
HIGHEST DAILY MEAN	3690	Mar 17	702	Mar 5	14200	Feb 18 1986
LOWEST DAILY MEAN	28	Sep 8	6.0	Aug 11	3.0	Sep 4 1988
ANNUAL SEVEN-DAY MINIMUM	30	Sep 25	7.4	Aug 10	4.4	Aug 18 1934
INSTANTANEOUS PEAK FLOW			851	Mar 5	19600	Feb 17 1986
INSTANTANEOUS PEAK STAGE			4.12	Mar 5	14.88	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	282400		66850		189000	
10 PERCENT EXCEEDS	1020		204		628	
50 PERCENT EXCEEDS	111		62		87	
90 PERCENT EXCEEDS	35		9.8		23	

11403200 NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM, CA

LOCATION.--Lat 39°58'49", long 121°16'33", in SW 1/4 NW 1/4 sec.35, T.25 N., R.6 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.7 mi downstream from Rock Creek Diversion Dam and 5.0 mi northeast of Storrie.

DRAINAGE AREA.--1,773 mi^2.

PERIOD OF RECORD.--October 1985 to February 1986, October 1986 to current year. Unpublished records for water years 1982-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 2,120 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Low and medium flow regulated by Rock Creek Forebay 0.7 mi upstream. Most of the flow is diverted to Rock Creek powerplant (station 11403800). Diversion to Rock Creek Powerplant began Feb. 28, 1950. See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,400 ft^3/s, Feb. 19, 1986, gage height, unknown, on basis of slope-area measurement of peak flow; minimum daily, 50 ft^3/s, Feb. 7, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,520 ft^3/s, May 10, gage height, 9.30 ft; minimum daily, 51 ft^3/s, Dec. 22 to Jan. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	99	65	51	53	53	53	115	111	113	112	112
2	111	60	55	51	53	53	53	115	111	113	112	112
3	110	62	55	52	53	53	53	113	111	113	112	112
4	111	55	55	53	53	53	53	112	110	114	113	112
5	111	55	55	54	53	53	53	112	110	114	113	112
6	111	55	55	53	53	53	53	112	110	114	112	112
7	111	55	55	53	52	53	53	111	110	114	112	112
8	111	55	65	53	53	53	53	111	111	114	112	112
9	111	55	57	54	53	53	53	112	111	114	113	112
10	111	56	55	53	53	53	53	138	111	114	113	112
11	111	57	55	54	53	52	53	105	111	114	113	112
12	111	56	55	54	53	52	53	111	111	113	113	112
13	111	56	55	53	53	53	53	111	110	113	113	112
14	111	56	55	53	53	53	53	112	110	112	113	113
15	112	56	54	53	53	53	53	112	111	112	113	113
16	112	56	54	53	53	53	53	112	110	112	113	113
17	111	55	53	53	53	53	53	111	110	112	113	113
18	111	55	56	53	53	53	53	111	111	112	113	112
19	111	64	56	53	53	52	53	111	112	113	113	112
20	111	55	56	53	53	53	53	110	111	113	114	112
21	111	55	55	53	53	53	53	111	112	113	114	112
22	111	55	51	53	53	53	53	110	112	113	113	112
23	111	55	51	54	53	53	53	111	112	112	113	113
24	111	55	51	53	53	53	53	109	111	112	114	112
25	111	55	51	53	52	53	53	109	111	112	113	113
26	111	55	51	53	53	53	53	111	112	112	113	112
27	110	55	51	53	53	53	53	110	112	112	114	112
28	128	55	51	53	53	53	53	111	112	112	113	113
29	156	56	51	53	---	53	53	110	112	112	113	113
30	161	52	51	53	---	53	90	111	112	112	113	112
31	153	---	51	56	---	53	---	110	---	112	113	---
TOTAL	3595	1721	1686	1646	1482	1640	1627	3470	3331	3497	3501	3368
MEAN	116	57.4	54.4	53.1	52.9	52.9	54.2	112	111	113	113	112
MAX	161	99	65	56	53	53	90	138	112	114	114	113
MIN	110	52	51	51	52	52	53	105	110	112	112	112
AC-FT	7130	3410	3340	3260	2940	3250	3230	6880	6610	6940	6940	6680
a	117700	112600	115000	35050	48550	80080	49150	46840	22660	49280	60020	77510

a Diversion, in acre-feet, to Rock Creek Powerplant, provided by Pacific Gas & Electric Co.

11403200 NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	110	73.1	55.6	90.2	90.0	786	225	159	106	104	102	101
MAX	175	171	61.6	337	207	3262	1282	561	132	123	113	112
(WY)	1987	1989	1987	1993	1993	1993	1993	1993	1993	1989	1994	1994
MIN	52.7	53.2	52.6	52.0	52.9	52.9	54.2	55.3	55.7	55.3	53.0	53.0
(WY)	1988	1988	1992	1992	1994	1994	1990	1987	1987	1987	1987	1987

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1987 - 1994	
ANNUAL TOTAL	194400		30564			
ANNUAL MEAN	533		83.7		168	
HIGHEST ANNUAL MEAN					533	1993
LOWEST ANNUAL MEAN					77.7	1988
HIGHEST DAILY MEAN	9730	Mar 18	161	Oct 30	12700	Mar 10 1989
LOWEST DAILY MEAN	51	Dec 22	51	Dec 22	50	Feb 7 1989
ANNUAL SEVEN-DAY MINIMUM	51	Dec 22	51	Dec 22	51	Dec 22 1993
INSTANTANEOUS PEAK FLOW			2520	May 10	79400	Feb 19 1986
INSTANTANEOUS PEAK STAGE			9.30	May 10		
ANNUAL RUNOFF (AC-FT)	385600		60620		121600	
ANNUAL TOTAL, DIV (AC-FT) a	1674000		814400			
10 PERCENT EXCEEDS	1530		113		113	
50 PERCENT EXCEEDS	111		109		71	
90 PERCENT EXCEEDS	54		53		53	

a Diversion, in acre-feet, to Rock Creek Powerplant, provided by Pacific Gas & Electric Co.

C-042185

11403450 MILK RANCH CONDUIT AT OUTLET, NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°54'09", long 121°13'36", in SW 1/4 SW 1/4 sec.29, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 150 ft upstream from right abutment of Lower Bucks Lake Dam, 200 ft upstream from outlet, and 3.4 mi northwest of Bucks Lodge.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-84 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder in 3-ft steel pipe. Elevation of gage is 5,050 ft above sea level.

REMARKS.--Conduit diverts from channel below Three Lakes Reservoir, capacity, 513 acre-ft, and from 12 additional diversions along the conduit. Water is used for power at Bucks Creek Powerplant (station 11403700) and Grizzly Powerplant (station 11404240). See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 69 ft^3/s, May 16-18, 20, 1993; minimum daily, 0.25 ft^3/s, Sept. 6, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e4.0	8.7	5.5	e4.3	4.5	8.0	17	22	14	2.2	.78	.42
2	e4.0	8.5	5.2	e4.6	4.4	8.7	18	23	13	2.2	.76	.36
3	e4.0	8.3	4.1	e4.8	4.2	9.2	20	23	12	2.1	.71	.36
4	e4.0	8.1	3.8	e7.2	4.1	9.2	20	31	12	2.1	.71	.35
5	e4.0	8.1	3.4	e7.2	4.0	10	20	38	11	2.0	.71	.32
6	e4.1	8.1	3.1	e5.9	4.3	16	19	49	12	1.9	.71	.25
7	e4.0	8.1	3.0	e5.3	5.2	13	18	37	12	1.7	.71	2.0
8	e4.0	7.9	9.4	e4.9	5.1	12	17	46	10	1.6	.70	5.6
9	e4.0	7.7	10	e4.8	4.6	12	14	60	8.9	1.5	.64	5.6
10	e4.1	7.7	9.8	e4.5	4.6	12	13	64	8.1	1.4	.64	5.6
11	e5.1	7.5	9.1	e4.4	4.3	12	13	63	7.6	1.4	.64	5.6
12	e4.3	7.5	7.4	e4.3	4.7	16	15	57	7.4	1.3	.64	5.6
13	e4.3	7.0	6.7	e4.3	4.4	13	17	47	7.0	1.3	.56	5.6
14	e6.0	6.6	6.5	e4.4	4.2	12	21	39	6.7	1.2	.51	5.6
15	10	6.1	6.4	4.3	4.0	12	29	34	6.2	1.2	.52	5.6
16	9.4	5.7	6.2	4.3	4.0	12	33	36	6.1	1.2	.52	5.5
17	7.6	5.3	6.0	4.5	4.1	12	30	e34	5.8	1.2	.52	5.4
18	8.1	4.7	6.0	4.7	3.8	13	29	e32	5.5	1.1	.52	5.4
19	10	2.9	5.9	4.6	3.7	12	28	e30	5.0	1.0	.52	5.4
20	9.8	2.0	5.6	4.5	3.8	12	23	e28	4.8	1.0	.52	5.2
21	9.7	1.8	5.5	4.5	4.0	11	26	e26	4.6	.98	.52	5.2
22	9.6	1.7	5.4	4.6	4.5	11	29	e24	4.2	1.0	.51	5.2
23	9.5	1.5	5.2	6.9	5.3	10	24	e23	3.9	.93	.46	5.2
24	9.3	1.4	4.5	6.1	5.6	9.9	20	e21	3.8	.93	.48	5.2
25	9.2	1.5	4.3	5.9	5.8	9.5	19	e19	3.4	.93	.46	5.2
26	9.1	1.5	4.3	5.7	6.1	10	18	17	3.2	.91	.46	5.1
27	9.1	1.5	4.2	5.6	7.4	12	18	16	3.0	.85	.46	5.0
28	9.0	1.6	4.0	5.0	7.4	13	19	15	2.9	.85	.46	2.5
29	8.9	9.0	4.0	4.9	---	14	20	15	2.6	.85	.46	3.5
30	8.9	6.6	3.8	4.8	---	15	21	14	2.4	.84	.46	9.0
31	8.7	---	3.8	4.5	---	17	---	14	---	.78	.46	---
TOTAL	215.8	164.6	172.1	156.3	132.1	368.5	628	997	209.1	40.45	17.73	126.86
MEAN	6.96	5.49	5.55	5.04	4.72	11.9	20.9	32.2	6.97	1.30	.57	4.23
MAX	10	9.0	10	7.2	7.4	17	33	64	14	2.2	.78	9.0
MIN	4.0	1.4	3.0	4.3	3.7	8.0	13	14	2.4	.78	.46	.25
AC-FT	428	326	341	310	262	731	1250	1980	415	80	35	252

e Estimated.

C-042186

11403450 MILK RANCH CONDUIT AT OUTLET, NEAR BUCKS LODGE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.90	3.74	5.15	5.07	6.68	18.4	32.3	32.7	16.8	5.69	4.16	3.37
MAX	6.96	8.15	8.05	14.1	12.8	42.7	59.6	66.6	57.3	10.2	7.35	6.82
(WY)	1994	1990	1988	1993	1993	1989	1989	1993	1993	1993	1992	1990
MIN	.35	.65	1.19	1.23	2.39	7.93	15.5	21.1	5.31	1.30	.49	.32
(WY)	1989	1988	1991	1991	1991	1991	1991	1987	1992	1994	1987	1987

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1987 - 1994	
ANNUAL TOTAL	7974.4		3228.54			
ANNUAL MEAN	21.8		8.85		11.4	
HIGHEST ANNUAL MEAN					21.6	1993
LOWEST ANNUAL MEAN					8.32	1987
HIGHEST DAILY MEAN	69	May 16	64	May 10	69	May 16 1993
LOWEST DAILY MEAN	1.4	Nov 24	.25	Sep 6	.25	Sep 6 1994
ANNUAL SEVEN-DAY MINIMUM	1.5	Nov 22	.36	Aug 31	.28	Sep 29 1988
ANNUAL RUNOFF (AC-FT)	15820		6400		8280	
10 PERCENT EXCEEDS	67		20		32	
50 PERCENT EXCEEDS	10		5.5		5.7	
90 PERCENT EXCEEDS	3.8		.77		.93	

C-042187

11403500 BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°53'45", long 121°12'08", in SE 1/4 NW 1/4 sec.33, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, in outlet structure 100 ft upstream from dam on Bucks Creek, 2.0 mi northwest of Bucks Lodge, and 15 mi west of Quincy.
DRAINAGE AREA.--28.6 mi^2.
PERIOD OF RECORD.--1927-28 (year-end contents only, published in WSP 1315-A), October 1928 to current year. Prior to October 1954, published as Bucks Creek Reservoir near Bucks Ranch.
GAGE.--Water-stage recorder. Datum of gage is 3.50 ft below sea level (levels by Feather River Power Co.).
REMARKS.--Reservoir is formed by concrete-faced, rockfill dam, completed in 1927; storage began in May 1927. Capacity, 101,400 acre-ft between elevations 5,064.75 ft, sill of outlet gate, and 5,154.85 ft, spillway crest. Storage of 274 acre-ft is not available for release. Released water flows down Bucks Creek to Lower Bucks Lake (station 11403520), where most of the water is diverted to Bucks Creek Tunnel (station 11404100), or Grizzly Powerplant (station 11304240) which discharges into Grizzly Creek. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 106,720 acre-ft, June 8-10, 1982, elevation, 5,157.6 ft; minimum, 12,330 acre-ft, Feb. 27, 1929, elevation, 5,090.7 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 91,191 acre-ft, June 24 to July 1, elevation, 5,149.0 ft; minimum, 63,701 acre-ft, Jan. 1, 2, elevation, 5,132.4 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1927)

5,090	11,742	5,130	59,897
5,095	16,183	5,140	75,894
5,100	21,180	5,150	92,950
5,110	32,519	5,160	111,220
5,120	45,472		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85133	73273	66369	63701	64794	69073	73113	81058	89794	91191	85304	79047
2	84962	73273	65895	63701	65266	69073	73277	81395	89794	90842	85133	79047
3	84619	73110	65424	63857	65266	69232	73770	81564	89969	90667	84791	78714
4	84107	73110	65266	64013	65266	69232	73770	82071	89969	90493	84448	78381
5	83427	73442	65266	64169	65424	69553	74098	82747	90143	89794	84107	77881
6	82917	73110	65266	64325	65738	69714	74425	83257	90318	89969	83767	77715
7	82747	73273	64794	64013	65895	69714	74588	83767	90318	89969	83597	77383
8	82239	73273	65266	64013	66053	69875	75078	84107	90667	89969	83427	77050
9	81902	73273	65424	64013	66053	69875	75241	84448	90668	89969	83087	76556
10	81395	73273	65581	64169	e66053	70197	75404	84962	90668	89969	82917	76225
11	81227	73437	66053	64169	66369	70357	75404	85304	90668	89969	82577	75894
12	80721	73437	66053	64169	66369	70518	75568	85818	90843	89969	82239	75731
13	80386	73110	66369	64169	66527	70518	75731	85989	90842	89969	82071	75241
14	80051	73110	66686	64169	66527	70679	75894	86334	90842	89969	82071	74915
15	79883	72459	66844	64325	66527	70840	76058	87023	90842	89969	81902	74425
16	79548	71811	67003	64325	66686	71163	76390	87023	90842	89969	81733	73934
17	79047	71487	67161	64481	67003	71163	76886	87367	90842	89969	81395	73442
18	78714	71001	67161	64169	67161	71325	77217	87540	91016	89969	81227	73113
19	78214	70518	67161	64169	67320	71487	77715	87712	91016	89794	81058	72949
20	77715	70036	67320	64169	67637	71649	78048	87712	91016	89273	80721	72459
21	77217	69714	67161	64169	67955	71811	78381	88059	91016	88752	80721	71973
22	76886	69553	67320	64169	67955	72135	78714	88232	91016	88579	80554	71487
23	76390	68913	67003	64637	67955	72297	79381	88405	91016	88232	80386	71163
24	76059	68434	66686	64952	68434	72459	79548	88579	91191	88059	80386	71001
25	75566	68114	66369	65109	68594	72459	80219	88752	91191	87712	80219	71001
26	74909	67637	65895	65109	68753	72621	80386	88925	91191	87023	80219	71001
27	74416	67003	65581	65266	68913	72621	80386	89098	91191	86851	80219	71001
28	73926	66686	64952	65266	68913	72785	80554	89272	91191	86334	80219	71001
29	73437	66844	64637	65266	---	72949	80889	89445	91191	85818	80219	70840
30	73437	66844	64325	65266	---	72949	81058	89620	91191	85647	80219	70357
31	73437	---	63857	64794	---	72949	---	89620	---	85647	80051	---
MAX	85133	73442	67320	65266	68913	72949	81058	89620	91191	91191	85304	79047
MIN	73437	66686	63857	63701	64794	69073	73113	81058	89794	85647	80051	70357
a	5138.5	5134.4	5132.5	5133.1	5135.7	5138.2	5143.1	5148.1	5149.0	5145.8	5142.5	5136.6
b	-12038	-6593	-2987	+937	+4119	+4036	+8109	+8562	+1571	-5544	-5596	-9694

CAL YR 1993 MAX 105420 MIN 42751 b +11166
WTR YR 1994 MAX 91191 MIN 63701 b -15118
e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

C-042188

11403520 LOWER BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°53'59", long 121°13'32", in NE 1/4 NW 1/4 sec.32, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, in outlet tower for Bucks Creek Tunnel 900 ft upstream from Buck Diversion Dam, 1.3 mi downstream from Bucks Lake Dam, and 3.2 mi northwest of Bucks Lodge.
DRAINAGE AREA.--31.3 mi^2.
PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Datum of gage is 3.50 ft below sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Lake is formed by concrete dam. Storage began in October 1929. Usable capacity, 5,796 acre-ft between elevations 4,952 ft, point of lowest drawdown, and 5,021.95 ft, crest of spillway. Water is received from Bucks Lake (station 11403500) and from Milk Ranch Conduit (station 11403450). Most of the water is diverted through Bucks Creek Tunnel (station 11404100) or Grizzly Powerplant (station 11404240) and discharges into Grizzly Creek for power development downstream. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 6,091 acre-ft, Mar. 8, 1986, elevation, 5,023.8 ft; minimum, 99 acre-ft, Sept. 9, 1993, elevation, 4,956.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 5,789 acre-ft, Nov. 3, elevation, 5,021.6 ft; minimum, 1,074 acre-ft, Oct. 2, 3, elevation, 4976.8 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1928)

4,950	24		
4,960	194	5,000	3,175
4,970	624	5,010	4,307
4,980	1,314	5,020	5,573
4,990	2,171	5,030	6,981

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1096	5694	3862	4295	4476	4501	4392	5192	5587	4095	5453	5231
2	1074	5735	3771	4307	4476	4513	4428	5231	5587	4343	5361	5244
3	1074	5789	3943	4319	4464	4537	4464	5256	5587	4586	5348	5401
4	1222	5735	4272	4343	4452	4549	4489	5322	5600	4822	5480	5388
5	1409	5735	4118	4355	4452	4611	4513	5401	5587	5076	5507	5361
6	1621	5748	3839	4106	4452	4636	4537	5507	5600	5192	5467	5401
7	1844	5762	4012	4307	4476	4368	4476	5587	5153	5192	5573	5388
8	2042	5467	4307	4307	4476	4036	4525	5641	4404	5192	5440	5295
9	2246	5166	4319	4307	4464	4036	4549	5573	3805	5192	5480	5348
10	2419	4898	4355	4307	e4476	4048	4549	5668	3817	5192	5414	5427
11	2656	4379	4404	4319	4489	4130	4549	5762	3828	5192	5414	5427
12	2891	3920	4416	4295	4501	4118	4501	5587	3839	5192	5507	5361
13	3111	3828	4452	4272	4501	4118	4513	5520	3862	5192	5587	5427
14	3370	3782	4489	4272	4513	4130	4501	5614	3874	5192	5560	5348
15	3613	3749	4513	4248	4489	4154	4537	5668	3885	5192	5507	5322
16	3839	4001	4525	4248	4343	4189	4599	5600	3897	5192	5480	5453
17	4071	3692	4537	4236	4368	4201	4648	5520	3908	5192	5493	5641
18	4094	3613	4561	4464	4343	4213	4698	5546	3909	5166	5467	5361
19	4130	3591	4574	4599	4331	4224	4747	5573	3920	4986	5480	5192
20	4106	3546	4586	4599	4331	4224	4797	5573	3932	5192	5654	5309
21	4130	3491	4586	4574	4343	4236	4835	5641	3932	5454	5627	5375
22	4118	3458	4404	4561	4343	4260	4898	5668	3943	5361	5587	5427
23	4141	3502	4036	4586	4355	4272	4948	5695	3943	5361	5560	5493
24	4141	3839	3989	4599	4404	4272	4986	5493	3955	5348	5546	5388
25	4343	3874	3943	4599	4428	4283	5050	5507	3932	5322	5546	5375
26	4735	3805	3885	4599	4452	4331	5063	5520	3932	5414	5533	5102
27	5076	3771	3839	4586	4476	4331	5076	5546	3932	5282	5546	4797
28	5467	3805	3783	4574	4489	4343	5115	5546	3932	5375	5533	4501
29	5560	4260	3737	4561	---	4343	5153	5560	3932	5322	5533	4428
30	5775	3932	3703	4549	---	4379	5166	5573	3943	5520	5533	4452
31	5775	---	3989	4476	---	4380	---	5587	---	5493	5295	---
MAX	5775	5789	4586	4599	4513	4636	5166	5762	5600	5520	5654	5641
MIN	1074	3458	3703	4106	4331	4036	4392	5192	3805	4095	5295	4428
a	5021.5	5006.8	5007.3	5011.4	5011.5	5010.6	5016.9	5020.1	5006.9	5019.4	5017.9	5011.2
b	+4628	-1843	+57	+487	+13	-109	+786	+421	-1644	+1550	-198	-843

CAL YR 1993 MAX 5953 MIN 99 b +2759
WTR YR 1994 MAX 5789 MIN 1074 b +3305

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

C-042189

11403530 BUCKS CREEK BELOW DIVERSION DAM, NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°54'16", long 121°13'47", in NW 1/4 SW 1/4 sec.29, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 20 ft upstream from unnamed tributary, 0.2 mi downstream from diversion dam, and 3.6 mi northwest of Bucks Lodge.

DRAINAGE AREA.--31.5 mi^2.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records for water years 1981-90 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir since Sept. 19, 1990. Elevation of gage is 4,850 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records not computed for winter months. Flow regulated by diversion dam at lower Bucks Lake 0.2 mi upstream, where most of the flow is diverted to Grizzly Creek via Bucks Creek Tunnel outlet (station 11404100) or Grizzly Powerplant (station 11404240). Discharges for June 7-21, based on computation of flow over spillway at diversion dam at lower Bucks Lake (station 11403520). Prior to Sept. 19, 1990, low flows regulated by fixed-plate orifice at outlet of diversion dam. See schematic diagram of North Fork Feather River basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	4.0	---	---	---	---	---	1.8	1.6	1.4	1.5	1.5
2	4.0	3.2	---	---	---	---	---	1.8	1.6	1.4	1.5	1.5
3	4.0	3.2	---	---	---	---	---	1.9	1.6	1.4	1.5	1.5
4	4.0	3.2	---	---	---	---	---	1.9	1.6	1.5	1.5	1.5
5	4.0	3.2	---	---	---	---	---	2.0	1.7	1.5	1.5	1.5
6	4.1	3.2	---	---	---	---	---	2.0	1.6	1.5	1.5	1.5
7	4.0	3.2	---	---	---	---	---	1.9	1.6	1.5	1.5	1.5
8	4.0	3.2	---	---	---	---	---	1.9	1.5	1.5	1.5	1.5
9	4.0	3.1	---	---	---	---	---	1.9	1.4	1.4	1.5	1.5
10	4.1	3.1	---	---	---	---	---	1.9	1.4	1.4	1.4	1.5
11	5.1	3.0	---	---	---	---	---	1.9	1.4	1.4	1.4	1.6
12	4.3	3.0	---	---	---	---	---	1.8	1.4	1.4	1.4	1.6
13	4.3	2.9	---	---	---	---	---	1.8	1.5	1.4	1.4	1.5
14	4.6	2.9	---	---	---	---	---	1.8	1.5	1.4	1.4	1.5
15	4.3	2.9	---	---	---	---	1.8	1.9	1.5	1.4	1.4	1.5
16	4.3	2.9	---	---	---	---	1.8	1.9	1.5	1.4	1.4	1.5
17	4.4	2.5	---	---	---	---	1.8	1.8	1.4	1.4	1.4	1.5
18	4.4	2.1	---	---	---	---	1.8	1.8	1.4	1.4	1.4	1.5
19	4.3	2.1	---	---	---	---	1.8	1.8	1.4	1.4	1.4	1.5
20	4.3	2.1	---	---	---	---	1.9	1.7	1.4	1.5	1.4	1.5
21	4.3	2.1	---	---	---	---	1.9	1.7	1.4	1.5	1.5	1.5
22	4.4	1.9	---	---	---	---	1.9	1.7	1.4	1.5	1.5	1.5
23	4.3	---	---	---	---	---	1.9	1.7	1.4	1.5	1.4	1.5
24	4.4	---	---	---	---	---	2.0	1.6	1.4	1.5	1.5	1.5
25	4.3	---	---	---	---	---	2.0	1.7	1.4	1.5	1.4	1.5
26	4.4	---	---	---	---	---	2.0	1.6	1.4	1.5	1.4	1.5
27	4.4	---	---	---	---	---	1.9	1.6	1.4	1.5	1.4	1.5
28	4.5	---	---	---	---	---	1.9	1.6	1.4	1.4	1.5	1.5
29	4.5	---	---	---	---	---	1.9	1.6	1.4	1.4	1.5	1.5
30	4.6	---	---	---	---	---	1.9	1.6	1.4	1.5	1.5	1.5
31	4.6	---	---	---	---	---	---	1.6	---	1.5	1.5	---
TOTAL	133.2	---	---	---	---	---	---	55.2	44.0	44.9	45.0	45.2
MEAN	4.30	---	---	---	---	---	---	1.78	1.47	1.45	1.45	1.51
MAX	5.1	---	---	---	---	---	---	2.0	1.7	1.5	1.5	1.6
MIN	4.0	---	---	---	---	---	---	1.6	1.4	1.4	1.4	1.5
AC-FT	264	---	---	---	---	---	---	109	87	89	89	90
a	460	7860	2000	536	135	587	89	1190	1840	3330	4690	9850

a Diversion, in acre-feet, to Grizzly Powerplant, provided by Pacific Gas & Electric Co.

C-042190

11404100 BUCKS CREEK TUNNEL OUTLET NEAR STORRIE, CA

LOCATION.--Lat 39°53'03", long 121°13'42", in NW 1/4 NW 1/4 sec.5, T.23 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on right bank near outlet of Bucks Creek Tunnel 0.3 mi upstream from Grizzly Creek, 1.1 mi south of Lower Bucks Lake, and 5.5 mi southeast of Storrie.

PERIOD OF RECORD.--October 1985 to September 1994 (discontinued). Unpublished records for water years 1977-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 4,900 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Tunnel diverts from Lower Bucks Lake (station 11403520). In October 1993, diversion began to Grizzly Powerplant (station 11404240). Water will no longer be diverted through the Bucks Creek Tunnel. Water is used for power at Bucks Creek Powerplant (station 11403700). See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 472 ft^3/s, Mar. 9, 10, 1986; minimum daily, 0.10 ft^3/s, Sept. 30, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	.42	.42	.56	.56	.56	.48	.56	.64	.56	.56	.56
2	128	.42	.42	.56	.56	.56	.49	.56	.64	.56	.56	.56
3	140	.42	.42	.56	.56	.56	.48	.56	.64	.56	.56	.56
4	137	.42	.42	.56	.56	.56	.49	.56	.64	.56	.56	.56
5	142	.42	.42	.56	.56	.56	.49	.56	.64	.56	.56	.56
6	144	.42	.42	.56	.57	.56	.50	.56	.64	.56	.56	.56
7	131	.42	.42	.56	.57	.56	.53	.56	.64	.56	.56	.56
8	131	.42	.47	.56	.56	.56	.54	.56	.64	.56	.56	.56
9	146	.42	.48	.56	.56	.56	.56	.56	.56	.56	.56	.56
10	151	102	.48	.56	.56	.56	.54	.56	.56	.56	.56	.56
11	130	236	.48	.56	.56	.56	.49	.56	.56	.56	.56	.56
12	118	235	.48	.56	.56	.56	.49	.56	.56	.56	.56	.56
13	122	221	.48	.56	.56	.56	.48	.56	.56	.56	.56	.56
14	126	241	.48	.56	.56	.54	.48	.56	.56	.56	.56	.56
15	128	195	.51	.56	.56	.52	.48	.56	.56	.56	.56	.56
16	132	.49	.56	.56	.60	.52	.48	.56	.56	.56	.56	.56
17	134	.48	.56	.56	.61	.53	.48	6.3	.56	.56	.56	.56
18	214	.48	.56	.56	.56	.51	.48	13	.56	.56	.56	.57
19	239	.48	.56	.56	.56	.48	.48	1.6	.56	.56	.56	.56
20	248	.47	.56	.56	.56	.48	.48	1.5	.56	.56	.56	.56
21	239	.42	.56	.56	.56	.48	.48	1.4	.56	.56	.56	.56
22	235	.42	.56	.56	.56	.49	.48	1.4	.56	.56	.56	.56
23	233	.42	.56	.56	.59	.49	.48	1.4	.56	.56	.56	.56
24	252	.42	.56	.56	.65	.50	.48	1.4	.56	.56	.56	.56
25	157	.42	.56	.56	.59	.49	.48	1.1	.56	.56	.56	.56
26	.42	.42	.56	.56	.59	.48	.48	.64	.56	.56	.56	.56
27	.42	.42	.56	.56	.62	.48	.53	.64	.56	.56	.56	.56
28	.42	.42	.56	.56	.56	.48	.56	.64	.56	.56	.56	.56
29	.42	.42	.56	.56	---	.48	.56	.64	.56	.56	.56	.56
30	.42	.42	.56	.56	---	.48	.56	.64	.56	.56	.56	.56
31	.42	---	.56	.56	---	.48	---	.64	---	.56	.56	---
TOTAL	4113.52	1240.38	15.76	17.36	16.03	16.19	15.01	41.90	17.44	17.36	17.36	16.83
MEAN	133	41.3	.51	.56	.57	.52	.50	1.35	.58	.56	.56	.56
MAX	252	241	.56	.56	.65	.56	.56	13	.64	.56	.56	.58
MIN	.42	.42	.42	.56	.56	.48	.48	.56	.56	.56	.56	.56
AC-FT	8160	2460	31	34	32	32	30	83	35	34	34	33

C-042191

11404100 BUCKS CREEK TUNNEL OUTLET NEAR STORRIE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	105	109	135	56.2	36.8	70.7	73.2	61.5	69.5	82.2	89.8	94.2
MAX	162	205	215	160	229	376	319	287	235	246	167	228
(WY)	1989	1987	1990	1993	1993	1986	1986	1986	1993	1993	1987	1986
MIN	1.56	5.29	.51	.55	.50	.48	.50	1.35	.58	.56	.27	.14
(WY)	1991	1986	1994	1987	1988	1988	1994	1994	1994	1994	1991	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1986 - 1994	
ANNUAL TOTAL	47889.74		5545.14			
ANNUAL MEAN	131		15.2		82.2	
HIGHEST ANNUAL MEAN					156	1986
LOWEST ANNUAL MEAN					15.2	1994
HIGHEST DAILY MEAN	333	Jun 29	252	Oct 24	472	Mar 9 1986
LOWEST DAILY MEAN	.42	May 20	.42	Oct 26	.10	Sep 30 1991
ANNUAL SEVEN-DAY MINIMUM	.42	Oct 26	.42	Oct 26	.11	Sep 24 1991
ANNUAL RUNOFF (AC-FT)	94990		11000		59560	
10 PERCENT EXCEEDS	260		1.4		235	
50 PERCENT EXCEEDS	140		.56		20	
90 PERCENT EXCEEDS	.47		.48		.55	

C-042192

11404250 GRIZZLY FOREBAY NEAR STORRIE, CA

LOCATION.--Lat 39°53'32", long 121°17'25", in SW 1/4 NE 1/4 sec.34, T.24 N., R.6 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, in outlet tower for Bucks Creek Powerplant 100 ft upstream from Grizzly Diversion Dam, 2.4 mi southeast of Storrie, and 6.2 mi west of Bucks Lodge.

DRAINAGE AREA.--14.4 mi^2.
PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Datum of gage is 3.50 ft below sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Lake is formed by concrete dam. Storage began in July 1928. Usable capacity, 1,033 acre-ft between elevations 4,271 ft, bottom of diversion tunnel, and 4,316.0 ft, crest of spillway. Water is received from Bucks Creek via Bucks Creek Tunnel (station 11404100) and Grizzly Powerplant (station 11404240) which enter Grizzly Creek upstream. Most of the water is diverted through tunnel to Bucks Creek Powerplant (station 11403700) for power development downstream on North Fork Feather River. Figures given, including extremes, represent total contents. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,251 acre-ft, Mar. 4, 1991, elevation, 4,319.57 ft; minimum, 216 acre-ft, Sept. 20, 1991, elevation, 4,282.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,120 acre-ft, Jul. 1-13, elevation, 4,316.2 ft; minimum, 694 acre-ft, June 11, elevation, 4,303.6 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1928)

4,290	350	4,305	736
4,295	464	4,310	898
4,300	592	4,320	1,268

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	739	1079	844	964	834	841	942	908	796	1120	854	834
2	730	967	891	995	821	918	1013	877	861	1120	1020	834
3	764	967	706	742	874	999	950	834	925	1120	939	1045
4	755	1035	739	799	925	834	894	805	981	1120	805	939
5	844	957	821	874	978	974	818	736	1034	1120	780	999
6	925	970	812	936	857	871	950	818	841	1120	844	861
7	805	981	745	715	755	971	949	828	767	1120	867	783
8	733	1006	828	777	821	812	796	861	884	1120	901	901
9	749	715	770	834	874	946	818	1031	901	1120	861	915
10	841	821	802	877	e864	939	957	912	697	1120	925	874
11	761	956	745	767	844	871	733	802	694	1120	854	871
12	755	867	742	767	884	851	925	887	706	1120	748	939
13	770	871	767	802	915	851	912	851	742	1120	777	946
14	780	739	821	854	964	831	894	789	773	1090	802	967
15	821	736	871	905	848	851	957	943	805	898	802	838
16	881	861	912	950	745	857	1064	874	834	912	881	871
17	773	936	946	974	831	838	932	884	864	918	925	932
18	967	881	981	1016	745	988	894	736	891	821	999	936
19	946	758	1013	943	805	988	964	864	915	912	1013	971
20	1009	848	908	831	834	946	971	864	939	884	1034	812
21	918	894	929	841	891	922	946	877	964	939	1057	841
22	915	815	821	894	789	995	932	981	985	861	1049	894
23	898	773	978	908	831	805	898	736	1006	918	932	848
24	963	767	921	844	877	894	1057	831	1027	918	881	848
25	928	967	901	922	780	946	851	932	1045	864	891	871
26	988	1006	815	877	838	915	802	898	1068	901	894	871
27	1042	838	721	943	929	943	818	724	1082	988	901	887
28	999	748	742	796	881	867	971	812	1101	871	905	857
29	967	818	861	857	---	936	950	891	1097	884	912	767
30	967	884	964	912	---	877	742	960	1112	908	780	793
31	988	---	932	780	---	960	---	818	---	936	915	---
MAX	1042	1079	1013	1016	978	999	1064	1031	1112	1120	1057	1045
MIN	730	715	706	715	745	805	733	724	694	821	748	767
a	4312.6	4309.6	4311.0	4306.4	4309.5	4311.8	4305.2	4307.6	4316.0	4311.1	4310.5	4306.8
b	+127	-104	+48	-152	+101	+79	-218	+76	+294	-176	-21	-122

CAL YR 1993 MAX 1162 MIN 665 b +51
WTR YR 1994 MAX 1120 MIN 694 b -68

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

C-042193

11404300 GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE, CA

LOCATION.--Lat 39°53'29", long 121°17'35", in SW 1/4 NE 1/4 sec.34, T.24 N., R.6 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on right bank 0.2 mi downstream from diversion dam, and 2.4 mi southeast of Storrie.

DRAINAGE AREA.--14.4 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1976-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir, since Oct. 8, 1987. Elevation of gage is 4,320 ft above sea level, from topographic map. Prior to Oct. 8, 1987, at datum 1.79 ft higher.

REMARKS.--No estimated daily discharges. Flow regulated by diversion dam 0.2 mi upstream. There is considerable inflow upstream from the diversion dam from Bucks Creek Tunnel outlet (station 11404100) and Grizzly Powerplant (station 11404230). Most of the flow is diverted to Bucks Creek Powerplant (station 11403700) on North Fork Feather River. See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,870 ft^3/s, Feb. 17, 1986, gage height, 9.54 ft, datum then in use, from rating curve extended above 260 ft^3/s on basis of computation of spill over dam of peak flow; minimum daily, 1.9 ft^3/s, June 14, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10 ft^3/s, July 3, gage height, 1.45 ft; minimum daily, 2.0 ft^3/s, on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	3.9	2.0	2.2	2.1	2.3	2.1	2.1	2.1	8.0	2.1	2.0
2	4.2	3.2	2.0	2.1	2.1	2.3	2.1	2.1	2.1	9.5	2.1	2.0
3	4.1	3.2	2.0	2.1	2.1	2.3	2.1	2.1	2.1	9.8	2.1	2.0
4	4.3	2.9	2.0	2.1	2.1	2.3	2.1	2.1	2.1	10	2.1	2.1
5	4.3	2.1	2.0	2.1	2.1	2.4	2.0	2.1	2.1	10	2.0	2.1
6	4.4	2.1	2.0	2.1	2.2	2.4	2.1	2.2	2.2	9.6	2.0	2.1
7	4.4	2.1	2.0	2.1	2.2	2.4	2.1	2.2	2.0	9.5	2.0	2.0
8	4.3	2.1	2.6	2.0	2.1	2.4	2.2	2.1	2.0	8.4	2.0	2.0
9	4.3	2.0	2.2	2.1	2.1	2.4	2.2	2.2	2.1	8.6	2.1	2.0
10	4.4	2.0	2.1	2.1	2.2	2.5	2.2	2.2	2.1	9.3	2.1	2.0
11	4.5	2.0	2.1	2.1	2.2	2.5	2.2	2.1	2.0	9.5	2.0	2.0
12	4.3	2.1	2.0	2.0	2.2	2.4	2.2	2.1	2.0	9.5	2.0	2.0
13	4.3	2.0	2.0	2.0	2.2	2.4	2.2	2.1	2.0	8.8	2.0	2.0
14	4.4	2.0	2.1	2.1	2.2	2.4	2.2	2.1	2.0	6.3	2.0	2.0
15	4.5	2.0	2.1	2.1	2.2	2.4	2.2	2.1	2.0	2.2	2.0	2.0
16	4.4	2.0	2.1	2.1	2.1	2.4	2.2	2.2	2.0	2.1	2.0	2.0
17	4.4	2.0	2.1	2.1	2.3	2.3	2.2	2.2	2.0	2.1	2.0	2.0
18	4.4	2.0	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1
19	4.5	2.0	2.1	2.1	2.2	2.3	2.2	2.1	2.1	2.0	2.1	2.1
20	4.5	2.0	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0
21	4.5	2.0	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0
22	4.4	2.0	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0
23	4.4	2.0	2.1	2.3	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.0
24	4.5	2.0	2.1	2.3	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.0
25	4.5	2.0	2.1	2.2	2.1	2.1	2.3	2.1	2.1	2.0	2.0	2.0
26	4.4	2.0	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0
27	4.5	2.0	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.0	2.0
28	4.5	2.0	2.0	2.1	2.3	2.1	2.2	2.0	2.1	2.0	2.0	2.0
29	4.5	2.2	2.1	2.1	---	2.1	2.2	2.1	2.1	2.0	2.0	2.0
30	4.4	2.0	2.1	2.1	---	2.1	2.1	2.1	2.2	2.1	2.0	2.0
31	4.4	---	2.1	2.1	---	2.1	---	2.1	---	2.1	2.0	---
TOTAL	136.1	65.9	64.7	65.5	60.8	70.6	65.0	65.6	62.3	162.1	63.3	60.5
MEAN	4.39	2.20	2.09	2.11	2.17	2.28	2.17	2.12	2.08	5.23	2.04	2.02
MAX	4.5	3.9	2.6	2.3	2.3	2.5	2.3	2.2	2.2	10	2.1	2.1
MIN	4.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0
AC-FT	270	131	128	130	121	140	129	130	124	322	126	120
a	8630	10830	8260	2520	1780	5290	6640	6380	2650	4260	5400	10840

a Diversion, in acre-feet, to Bucks Creek Powerplant, provided by Pacific Gas & Electric Co.

C-042194

11404300 GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.10	4.16	2.97	4.59	46.8	38.4	6.49	4.60	3.56	3.92	3.35	3.15
MAX	8.15	19.2	8.26	20.3	392	156	36.2	14.3	7.35	8.15	5.49	4.96
(WY)	1990	1989	1988	1986	1986	1986	1986	1989	1991	1991	1991	1991
MIN	2.04	2.01	2.09	2.11	2.17	2.20	2.10	2.03	2.01	2.08	2.03	2.00
(WY)	1988	1988	1994	1994	1994	1988	1987	1987	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1986 - 1994	
ANNUAL TOTAL	2570.0		942.4			
ANNUAL MEAN	7.04		2.58		10.3	
HIGHEST ANNUAL MEAN					50.6	1986
LOWEST ANNUAL MEAN					2.58	1994
HIGHEST DAILY MEAN	396	Mar 18	10	Jul 4	3250	Feb 17 1986
LOWEST DAILY MEAN	2.0	Nov 9	2.0	Nov 9	1.9	Jun 14 1988
ANNUAL SEVEN-DAY MINIMUM	2.0	Nov 13	2.0	Nov 13	2.0	May 2 1987
INSTANTANEOUS PEAK FLOW			10	Jul 3	5870	Feb 17 1986
INSTANTANEOUS PEAK STAGE			1.45	Jul 3	9.54	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	5100		1870		7460	
ANNUAL TOTAL, DIVERSION (AC-FT) a	183200		73470			
10 PERCENT EXCEEDS	4.7		4.3		4.6	
50 PERCENT EXCEEDS	4.3		2.1		2.3	
90 PERCENT EXCEEDS	2.1		2.0		2.1	

a Diversion, in acre-feet, to Bucks Creek Powerplant, provided by Pacific Gas & Electric Co.

11404330 NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK, CA

LOCATION.--Lat 39°51'09", long 121°23'29", in NE 1/4 NW 1/4 sec.14, T.23 N., R.5 E., Butte County, Hydrologic Unit 18020121, Lassen National Forest, on left bank 0.7 mi upstream from Bear Ranch Creek, 1.6 mi downstream from Grizzly Creek, and 2.1 mi downstream from Cresta Dam.

DRAINAGE AREA.--1,914 mi^2.

PERIOD OF RECORD.--October 1985 to February 1986, October 1986 to current year. Unpublished records for water years 1982-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 1,480 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by numerous reservoirs upstream, combined capacity, 1,386,000 acre-ft. Most of the flow bypasses this station through Cresta Powerplant (station 11404360). Diversion through Cresta Powerplant began in 1949. See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 86,000 ft^3/s, Feb. 19, 1986, gage height, unknown, on the basis of flood routing the peak discharge between North Fork Feather River below Rock Creek Diversion Dam and North Fork Feather River at Pulga (stations 11403200, 11404500); minimum daily, 48 ft^3/s, Oct. 1, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 806 ft^3/s, Dec. 8, gage height, 4.64 ft; minimum daily, 37 ft^3/s, July 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	62	66	69	61	143	90	84	60	61	61	59
2	61	63	64	69	63	140	91	81	58	67	61	59
3	60	63	61	66	64	133	94	80	57	68	60	58
4	62	63	61	71	61	130	92	82	63	67	61	58
5	62	62	60	70	63	152	85	91	63	67	61	58
6	62	63	62	61	88	140	86	101	60	66	61	59
7	62	62	65	64	191	128	90	99	63	65	61	60
8	63	62	409	62	128	120	92	90	61	65	61	60
9	62	62	151	61	99	117	107	89	61	61	60	62
10	62	62	90	64	126	126	93	90	60	62	60	63
11	62	64	113	62	109	136	87	114	60	63	60	63
12	63	64	92	62	92	121	86	83	60	63	59	63
13	60	62	76	61	85	117	87	78	60	62	60	62
14	64	62	102	59	79	119	89	74	60	61	60	61
15	83	63	76	59	73	121	92	72	60	57	59	60
16	76	62	66	58	68	118	96	76	60	55	57	60
17	67	62	61	58	168	114	97	74	57	55	58	60
18	61	61	61	58	126	109	96	72	63	56	60	60
19	60	61	62	57	104	108	97	70	63	57	60	60
20	59	61	60	57	108	105	94	69	60	57	60	60
21	63	61	62	58	126	101	91	67	56	57	59	60
22	65	61	63	58	109	99	88	66	57	56	59	60
23	73	59	63	107	99	92	87	64	59	56	58	60
24	62	59	67	123	97	90	86	63	62	55	58	60
25	65	58	61	100	102	88	103	63	61	37	57	60
26	66	59	60	84	124	87	94	61	61	65	58	59
27	65	59	62	68	179	88	94	61	60	60	59	59
28	63	60	59	66	148	89	89	62	59	60	58	59
29	63	139	63	65	---	90	95	61	59	62	58	61
30	63	71	61	64	---	90	88	60	60	62	58	63
31	63	---	61	62	---	91	---	61	---	65	57	---
TOTAL	1983	1932	2540	2103	2940	3503	2756	2358	1803	1870	1839	1806
MEAN	64.0	64.4	81.9	67.8	105	113	91.9	76.1	60.1	60.3	59.3	60.2
MAX	83	139	409	123	191	152	107	114	63	68	61	63
MIN	59	58	59	57	61	87	85	60	56	37	57	58
AC-FT	3930	3830	5040	4170	5830	6950	5470	4680	3580	3710	3650	3580
a	127300	119400	124900	46720	61700	100100	73700	73620	35370	57870	64530	84840

a Diversion, in acre-feet, to Cresta Powerplant, provided by Pacific Gas & Electric Co.

C-042196

11404330 NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	86.1	95.3	105	224	188	1389	434	241	86.2	59.1	58.9	60.0
MAX	182	256	215	837	493	5375	2270	1320	219	62.5	62.1	65.9
(WY)	1986	1989	1988	1993	1993	1993	1993	1993	1993	1989	1993	1989
MIN	57.4	57.8	59.0	55.7	61.5	86.0	78.0	67.7	55.6	55.4	55.5	56.0
(WY)	1992	1993	1990	1991	1991	1988	1988	1992	1988	1988	1988	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1986 - 1994	
ANNUAL TOTAL	334164		27433			
ANNUAL MEAN	916		75.2		247	
HIGHEST ANNUAL MEAN					921	1993
LOWEST ANNUAL MEAN					75.2	1994
HIGHEST DAILY MEAN	17700	Mar 18	409	Dec 8	39500	Feb 17 1986
LOWEST DAILY MEAN	56	Aug 20	37	Jul 25	37	Jul 25 1994
ANNUAL SEVEN-DAY MINIMUM	59	Nov 22	54	Jul 19	52	Dec 10 1988
INSTANTANEOUS PEAK FLOW			806	Dec 8	86000	Feb 19 1986
INSTANTANEOUS PEAK STAGE			4.64	Dec 8		Feb 19 1986
ANNUAL RUNOFF (AC-FT)	662800		54410		178900	
ANNUAL TOTAL, DIV (AC-FT) a	2052000		970100			
10 PERCENT EXCEEDS	2450		108		175	
50 PERCENT EXCEEDS	76		63		63	
90 PERCENT EXCEEDS	61		58		56	

a Diversion, in acre-feet, to Cresta Powerplant, provided by Pacific Gas & Electric Co.

C-042197

11404380 CAMP CREEK NEAR PULGA, CA

LOCATION.--Lat 39°49'42", long 121°25'19", in SW 1/4 SE 1/4 sec.21, T.23 N., R.5 E., Butte County, Hydrologic Unit 18020121, Plumas National Forest, on left bank at county road bridge, 0.1 mi downstream from diversion dam, 0.4 mi upstream from mouth, and 2.2 mi northeast of Pulga.

DRAINAGE AREA.--9.17 mi^2.

PERIOD OF RECORD.--October 1992 to current year (low-flow records only).

GAGE.--Water-stage recorder and v-notch sharp-crested weir. Elevation of gage is 2,010 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records not computed above 7 ft^3/s. Low and medium flows regulated by diversion dam 0.1 mi upstream. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Western Hydrologic Systems, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.7	4.7	3.6	---	---	---	---	---	2.6	2.5	2.6
2	2.8	2.7	5.1	3.0	---	---	---	---	---	2.6	2.5	2.6
3	3.0	2.8	5.5	2.9	---	---	---	---	2.7	2.6	2.5	2.5
4	2.8	2.8	5.2	2.9	---	---	---	---	4.2	2.6	2.5	3.7
5	2.5	4.9	4.9	2.8	---	---	---	---	---	2.6	2.5	5.6
6	2.5	4.7	4.7	2.8	---	---	---	---	---	2.6	2.5	5.6
7	2.3	2.8	2.8	---	---	---	---	---	---	2.6	2.5	5.6
8	2.3	2.6	4.9	---	---	---	---	6.3	5.7	2.6	2.6	5.4
9	2.3	3.4	---	3.4	---	---	---	5.1	---	2.6	2.6	5.2
10	2.3	5.4	---	---	---	---	---	5.3	---	2.6	3.0	5.1
11	2.2	5.4	---	---	---	---	---	5.1	---	2.6	2.6	5.1
12	2.3	5.2	---	2.6	---	---	---	5.2	3.0	2.6	2.6	5.1
13	2.3	5.1	2.9	---	---	---	---	5.4	3.4	2.6	2.6	5.0
14	2.4	5.0	2.8	---	---	---	---	5.3	3.5	2.6	2.6	5.0
15	2.5	4.9	2.8	---	---	---	---	5.0	3.5	2.6	2.6	5.2
16	2.6	4.9	2.7	---	---	---	---	5.0	2.9	2.6	2.6	5.3
17	2.6	4.8	2.7	---	---	---	---	4.7	---	2.6	2.5	5.5
18	2.6	4.8	2.7	---	---	---	---	---	---	2.5	2.5	5.4
19	2.6	4.9	2.7	---	---	---	---	2.6	---	2.5	2.5	4.9
20	2.9	5.0	2.7	---	---	---	---	---	---	2.5	2.5	4.7
21	---	5.0	2.7	---	---	---	---	---	2.9	2.5	2.5	4.5
22	4.4	6.5	2.7	---	---	---	---	2.6	2.9	2.5	2.5	4.4
23	3.5	5.5	2.7	---	---	---	---	2.6	---	2.6	2.5	4.3
24	3.2	5.2	2.7	---	---	---	---	2.6	---	2.6	2.5	4.2
25	3.3	5.1	3.9	---	---	---	---	---	---	2.6	2.5	4.1
26	3.3	5.0	2.7	---	---	---	---	---	4.7	---	2.5	4.1
27	3.3	5.1	2.7	---	---	---	---	---	2.7	5.4	2.5	4.0
28	3.7	5.0	2.8	---	---	---	---	---	2.6	2.6	2.5	4.0
29	---	4.7	2.8	---	---	---	---	3.3	4.1	2.6	2.5	3.9
30	---	4.7	2.8	---	---	---	---	3.0	2.6	2.6	2.5	3.9
31	---	---	2.9	---	---	---	---	---	---	2.6	2.5	---
TOTAL	---	136.6	---	---	---	---	---	---	---	---	78.8	136.5
MEAN	---	4.55	---	---	---	---	---	---	---	---	2.54	4.55
MAX	---	6.5	---	---	---	---	---	---	---	---	3.0	5.6
MIN	---	2.6	---	---	---	---	---	---	---	---	2.5	2.5
AC-FT	---	271	---	---	---	---	---	---	---	---	156	271

C-042198

11404380 CAMP CREEK NEAR PULGA, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	4.9	5.6	2.6	2.6	---	2.6	2.7	2.7	3.4	3.8	2.8
2	3.9	4.8	2.6	2.6	2.6	---	2.6	2.7	2.7	3.6	3.7	2.7
3	3.8	4.8	2.6	2.6	2.6	---	2.6	2.7	2.7	5.5	3.6	2.7
4	3.9	4.9	2.6	2.8	2.6	---	2.6	2.7	2.7	6.7	3.6	2.7
5	4.4	4.8	2.6	---	2.6	---	2.6	2.8	2.7	5.5	3.5	2.6
6	4.4	4.7	2.6	5.4	2.9	---	4.4	2.8	2.7	2.8	3.4	2.6
7	4.3	4.8	2.6	2.6	---	---	2.6	2.8	2.7	2.8	3.4	2.5
8	4.2	4.9	---	2.6	4.0	---	2.6	2.8	2.7	5.7	3.3	2.5
9	4.2	4.9	---	2.6	2.7	---	5.8	2.8	2.7	5.8	3.3	2.6
10	4.6	5.0	---	2.6	6.6	---	2.7	2.8	2.7	5.7	3.3	2.7
11	6.5	5.3	3.1	2.6	3.3	---	---	2.8	6.6	5.5	3.2	2.8
12	5.8	6.8	2.1	2.6	2.7	---	---	2.8	6.4	5.4	3.2	3.0
13	5.6	5.4	2.0	2.6	2.7	---	---	2.8	---	5.2	3.1	3.4
14	4.6	5.2	2.2	2.6	2.7	---	---	2.8	---	5.1	3.1	3.1
15	2.6	5.1	2.2	2.6	2.7	---	2.6	2.8	---	5.0	3.0	2.8
16	2.6	5.1	2.1	2.6	2.6	6.1	2.6	2.8	---	4.9	2.9	2.6
17	2.6	5.1	2.1	2.6	---	4.1	2.6	7.0	---	4.8	2.9	2.5
18	2.6	5.2	2.1	4.9	3.4	4.5	2.6	---	5.5	4.7	2.9	2.5
19	2.6	5.1	2.1	2.6	2.5	2.8	2.6	2.8	2.8	4.6	2.9	2.5
20	2.6	5.1	4.9	2.6	---	2.8	6.6	2.8	2.8	4.6	2.9	2.4
21	2.6	5.1	3.8	2.6	---	2.7	6.2	2.8	2.8	4.5	2.9	2.3
22	2.6	5.2	2.6	2.6	---	3.1	2.6	2.8	2.8	4.5	2.9	2.2
23	3.5	5.2	3.1	2.6	---	3.2	2.6	2.8	2.8	4.5	2.9	2.3
24	5.4	5.2	2.6	---	---	2.7	2.6	2.9	2.8	4.4	2.9	2.5
25	5.2	5.2	2.6	2.6	---	2.7	2.6	2.9	5.8	4.3	2.8	2.5
26	4.9	5.2	2.6	2.6	2.7	2.7	2.6	2.8	4.1	4.1	2.8	2.5
27	4.8	5.1	2.6	2.6	---	2.7	2.6	2.7	2.8	4.1	2.8	2.4
28	4.9	5.2	2.6	2.6	6.0	2.7	2.6	2.7	2.8	4.0	2.8	2.7
29	5.0	---	2.6	2.6	---	2.6	2.6	2.7	2.8	3.9	2.8	3.1
30	5.0	---	2.6	2.6	---	2.6	2.6	2.7	2.8	3.8	2.7	3.1
31	5.0	---	2.6	2.6	---	2.6	---	2.7	---	3.8	2.8	---
TOTAL	128.6	---	---	---	---	---	---	---	---	143.2	96.1	79.6
MEAN	4.15	---	---	---	---	---	---	---	---	4.62	3.10	2.65
MAX	6.5	---	---	---	---	---	---	---	---	6.7	3.8	3.4
MIN	2.6	---	---	---	---	---	---	---	---	2.8	2.7	2.2
AC-FT	255	---	---	---	---	---	---	---	---	284	191	158

C-042199

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA

LOCATION.--Lat 39°47'40", long 121°27'02", in SE 1/4 NE 1/4 sec.6, T.22 N., R.5 E., Butte County, Hydrologic Unit 18020121, Plumas National Forest, on left bank between railroad and highway bridges, 0.6 mi downstream from Flea Valley Creek and Pulga, and 1.6 mi downstream from Poe Dam.
DRAINAGE AREA.--1,953 mi^2.

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods and yearly estimates for water years 1911 and 1938, published in WSP 1315-A. Prior to October 1960, published as "at Big Bar."
CHEMICAL DATA: Water years 1963-66, 1972, 1977.
WATER TEMPERATURE: Water years 1963-83.
REVISED RECORDS.--WSP 931: 1938(M), 1940. WSP 1515: 1935. WDR CA-77-4: 1976 (yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 1,305.62 ft above sea level. Prior to Oct. 1, 1937, at site 1.1 mi upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Flow regulated by Lake Almanor, Bucks Lake, Butt Valley Reservoir (stations 11399000, 11403500, 11401050), Mountain Meadows Reservoir, and five forebays, combined capacity, 1,386,000 acre-ft. Diversion through Poe Powerplant (station 11404900) began on May 29, 1958. See schematic diagram of North Fork Feather River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,900 ft^3/s, Feb. 19, 1986, gage height, 39.86 ft, from rating curve extended above 32,000 ft^3/s on basis of slope area measurement of peak discharge; minimum daily, 5.4 ft^3/s, Sept. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 208 ft^3/s, Feb. 7, gage height, 4.95 ft; minimum daily, 55 ft^3/s, Nov. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	62	62	60	58	81	58	61	65	63	62	63
2	62	61	60	59	59	79	59	60	72	63	61	67
3	62	61	60	58	60	74	59	61	73	61	59	67
4	62	60	61	60	59	73	58	60	68	65	64	67
5	64	62	60	58	60	77	59	62	64	63	62	65
6	61	60	61	59	82	71	59	62	63	63	61	67
7	61	61	62	58	154	68	57	60	63	63	64	67
8	62	61	116	58	93	66	63	62	65	63	62	68
9	62	61	62	59	71	64	66	62	64	61	62	68
10	61	62	59	58	75	67	57	64	63	64	64	68
11	62	62	72	59	71	68	59	61	63	65	64	61
12	59	62	60	58	65	62	59	64	66	64	60	61
13	59	61	62	58	62	60	59	61	63	63	62	65
14	62	60	74	59	58	60	59	64	64	64	62	63
15	63	62	59	58	57	60	59	60	62	64	62	61
16	64	60	61	58	59	59	58	63	64	65	64	66
17	62	61	59	59	78	58	59	63	64	64	63	67
18	60	61	62	59	75	59	60	63	63	63	64	68
19	60	62	63	59	71	58	59	63	64	61	64	68
20	60	62	61	58	79	58	59	62	63	61	64	67
21	62	60	60	59	99	59	59	63	63	62	63	68
22	62	61	58	57	97	59	59	62	63	63	64	64
23	61	61	59	60	83	57	61	64	67	62	65	64
24	60	63	58	69	76	59	57	63	66	62	62	66
25	61	59	57	60	73	59	66	63	64	62	60	66
26	63	62	59	58	78	57	62	63	64	61	60	66
27	62	60	58	58	89	59	59	63	63	61	60	63
28	61	61	58	57	84	60	59	64	62	62	63	65
29	61	72	59	59	---	59	60	66	63	61	60	67
30	61	55	58	58	---	59	60	65	63	62	61	67
31	56	---	58	58	---	58	---	63	---	63	63	---
TOTAL	1900	1838	1938	1825	2125	1967	1787	1937	1934	1944	1931	1970
MEAN	61.3	61.3	62.5	58.9	75.9	63.5	59.6	62.5	64.5	62.7	62.3	65.7
MAX	64	72	116	69	154	81	66	66	73	65	65	68
MIN	56	55	57	57	57	57	57	60	62	61	59	61
AC-FT	3770	3650	3840	3620	4210	3900	3540	3840	3840	3860	3830	3910
a	142200	132500	137200	58100	77090	120600	92690	89960	42580	65350	71590	94040

a Diversion, in acre-feet, to Poe Powerplant, provided by Pacific Gas & Electric Co.

C-042200

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	997	1203	1730	2128	2754	2803	3508	2990	1594	1006	951	904
MAX	2943	4594	10690	10380	14320	10320	13580	12460	7688	2771	2441	2430
(WY)	1963	1951	1956	1970	1986	1940	1952	1922	1911	1952	1952	1952
MIN	16.4	26.4	50.7	52.6	56.0	58.2	54.9	41.7	34.0	32.6	13.3	14.2
(WY)	1978	1978	1977	1977	1990	1977	1990	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1911 - 1994	
ANNUAL TOTAL	324055		23086			
ANNUAL MEAN	888		63.3		1850	
HIGHEST ANNUAL MEAN					5320	1952
LOWEST ANNUAL MEAN					42.7	1977
HIGHEST DAILY MEAN	18300	Mar 18	154	Feb 7	81000	Feb 18 1986
LOWEST DAILY MEAN	55	Jul 20	55	Nov 30	5.4	Sep 18 1977
ANNUAL SEVEN-DAY MINIMUM	57	Jul 19	58	Jan 26	12	Aug 10 1977
INSTANTANEOUS PEAK FLOW			208	Feb 7	87900	Feb 19 1986
INSTANTANEOUS PEAK STAGE			4.95	Feb 7	39.86	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	642800		45810		1340000	
ANNUAL TOTAL, DIV (AC-FT) a	2156000		1124000			
10 PERCENT EXCEEDS	2930		68		4580	
50 PERCENT EXCEEDS	62		62		1340	
90 PERCENT EXCEEDS	59		58		55	

a Diversion, in acre-feet, to Poe Powerplant, provided by Pacific Gas & Electric Co.

C-042201

11405120 PHILBROOK CREEK BELOW PHILBROOK DAM, NEAR BUTTE MEADOWS, CA

LOCATION.--Lat 40°01'48", long 121°28'36", unsurveyed, T.25 N., R.4 E., Butte County, Hydrologic Unit 18020121, Lassen National Forest, on right bank 500 ft downstream from outlet structure on Philbrook Dam, and 5.4 mi southeast of Butte Meadows.

DRAINAGE AREA.--5.05 mi^2.

PERIOD OF RECORD.--July 1989 to current year (no winter records). Unpublished records for water years 1986-89 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder, Parshall flume, and V-notch sharp-crested weir. Elevation of gage is 5,490 ft above sea level, from topographic map. October 1985 to July 1989, nonrecording gage at same site and datum. In June 1989, V-notch sharp-crested weir installed in flume to be used at low flows.

REMARKS.--No estimated daily discharges. Records not computed for winter months. Flow completely regulated by Philbrook Reservoir, usable capacity, 5,370 acre-ft, 500 ft upstream. Spillwater from Philbrook Reservoir bypasses this station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	3.8	---	---	---	---	3.6	4.0	3.0	3.0	71	9.6
2	3.0	3.8	---	---	---	---	3.6	4.0	3.0	3.0	71	9.5
3	3.0	3.8	---	---	---	---	3.6	4.0	3.0	3.0	69	9.5
4	3.0	3.8	---	---	---	---	3.6	4.0	3.0	3.0	32	9.5
5	3.0	3.7	---	---	---	---	3.6	4.2	2.9	3.0	32	9.5
6	3.0	3.6	---	---	---	---	3.7	4.2	2.9	3.0	32	9.5
7	12	3.6	---	---	---	---	3.8	4.2	2.8	25	32	9.5
8	25	3.6	---	---	---	---	3.8	4.2	3.0	61	24	9.5
9	24	---	---	---	---	---	3.8	4.2	3.0	60	13	9.5
10	24	---	---	---	---	---	3.8	4.2	3.0	60	7.7	9.5
11	24	---	---	---	---	---	3.8	4.2	3.0	60	2.8	9.5
12	24	---	---	---	---	---	3.8	4.2	3.0	60	2.7	14
13	24	---	---	---	---	---	3.8	4.2	3.0	52	2.7	81
14	23	---	---	---	---	---	3.8	4.2	3.0	12	2.6	79
15	23	---	---	---	---	---	3.9	4.2	3.0	15	2.6	78
16	23	---	---	---	---	---	3.9	4.2	2.9	20	2.5	71
17	9.7	---	---	---	---	---	3.9	4.2	2.8	22	2.7	3.5
18	3.6	---	---	---	---	---	3.9	4.2	2.8	22	2.8	3.5
19	3.6	---	---	---	---	---	3.9	4.2	2.9	22	2.9	3.5
20	3.6	---	---	---	---	---	4.0	4.2	3.0	22	2.9	3.5
21	3.6	---	---	---	---	---	4.0	4.2	3.0	22	2.9	3.5
22	3.6	---	---	---	---	---	4.0	4.2	3.0	22	2.8	3.5
23	3.6	---	---	---	---	---	4.0	4.2	3.0	22	2.8	3.5
24	3.6	---	---	---	---	---	4.0	4.2	3.0	22	5.7	3.5
25	3.6	---	---	---	---	---	4.0	4.2	3.0	29	9.6	3.5
26	3.6	---	---	---	---	---	4.0	3.6	3.0	71	9.6	3.5
27	3.6	---	---	---	---	---	4.0	3.0	3.0	71	9.8	3.5
28	3.7	---	---	---	---	---	4.0	3.0	3.0	71	9.8	3.4
29	3.8	---	---	---	---	---	4.0	3.0	3.0	70	9.8	3.4
30	3.8	---	---	---	---	---	4.0	3.0	3.0	70	9.7	3.4
31	3.8	---	---	---	---	---	---	3.0	---	69	9.6	---
TOTAL	304.7	---	---	---	---	---	115.6	122.8	89.3	1070.0	493.0	476.3
MEAN	9.83	---	---	---	---	---	3.85	3.96	2.98	34.5	15.9	15.9
MAX	25	---	---	---	---	---	4.0	4.2	3.0	71	71	81
MIN	2.9	---	---	---	---	---	3.6	3.0	2.9	3.0	2.5	3.4
AC-FT	604	---	---	---	---	---	229	244	177	2120	978	945

C-042202

11405200 WEST BRANCH FEATHER RIVER BELOW HENDRICKS DIVERSION DAM, NEAR STIRLING CITY, CA

LOCATION.--Lat 39°56'03", long 121°31'43" (revised), in NW 1/4 SE 1/4 sec.16, T.24 N., R.4 E., Butte County, Hydrologic Unit 18020121, on right bank 200 ft upstream from road bridge, 1,800 ft downstream from Hendricks Diversion Dam, and 1.9 mi north of Stirling City.

DRAINAGE AREA.--46.1 mi^2.

PERIOD OF RECORD.--August 1986 to current year (low-flow records only).

GAGE.--Water-stage recorder. Elevation of gage is 3,210 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 40 ft^3/s. Most of the water is diverted at Hendricks diversion dam to the Hendricks Canal and Toadtown Canal (station 11389800) and then to De Sabla Powerplant (station 11389750) on Butte Creek.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	17	18	17	17	20	39	35	8.8	9.1	19	18
2	17	17	17	17	17	20	---	32	8.8	8.9	20	18
3	17	17	17	17	17	20	---	30	9.0	8.8	21	18
4	17	17	17	18	17	26	---	---	8.8	8.8	20	19
5	17	17	17	19	17	---	36	---	8.8	8.8	22	18
6	17	17	17	18	18	---	37	---	9.1	8.8	23	18
7	17	17	17	18	27	---	36	---	9.1	8.9	24	18
8	17	17	---	18	19	---	---	---	9.3	14	25	18
9	17	17	---	18	17	---	---	---	9.3	16	26	18
10	17	17	20	17	19	---	36	---	9.1	16	28	18
11	17	17	22	17	18	---	32	---	9.1	16	23	18
12	17	17	18	17	18	---	36	---	9.0	16	19	17
13	17	17	18	17	18	---	---	---	8.8	16	19	16
14	18	17	18	17	17	---	---	---	8.8	15	19	16
15	18	18	18	17	17	---	---	---	8.8	16	19	16
16	19	17	17	17	17	---	---	---	8.6	16	19	15
17	18	17	18	17	22	---	---	---	8.6	20	19	13
18	17	17	17	17	18	---	---	---	8.6	21	18	14
19	17	17	17	18	18	---	---	---	8.6	21	18	13
20	17	17	18	18	18	---	---	---	8.6	21	18	13
21	17	17	17	17	18	39	---	40	8.7	21	18	12
22	17	17	17	17	17	37	---	33	8.8	21	18	12
23	17	18	17	---	17	26	---	25	8.8	21	18	12
24	17	17	17	28	18	21	---	17	8.8	21	18	12
25	17	17	17	20	18	19	---	13	8.8	20	18	12
26	17	18	17	18	18	19	37	9.6	8.8	19	18	12
27	17	18	17	18	20	19	---	9.0	8.7	19	18	12
28	17	18	17	18	20	26	38	8.8	8.6	19	18	13
29	17	---	17	18	---	33	38	8.8	8.7	19	18	13
30	17	29	17	18	---	34	36	8.8	9.1	19	18	13
31	17	---	17	18	---	---	---	8.8	---	19	18	---
TOTAL	532	---	---	---	512	---	---	---	265.4	504.1	617	455
MEAN	17.2	---	---	---	18.3	---	---	---	8.85	16.3	19.9	15.2
MAX	19	---	---	---	27	---	---	---	9.3	21	28	19
MIN	17	---	---	---	17	---	---	---	8.6	8.8	18	12
AC-FT	1060	---	---	---	1020	---	---	---	526	1000	1220	902

C-042203

C-042204

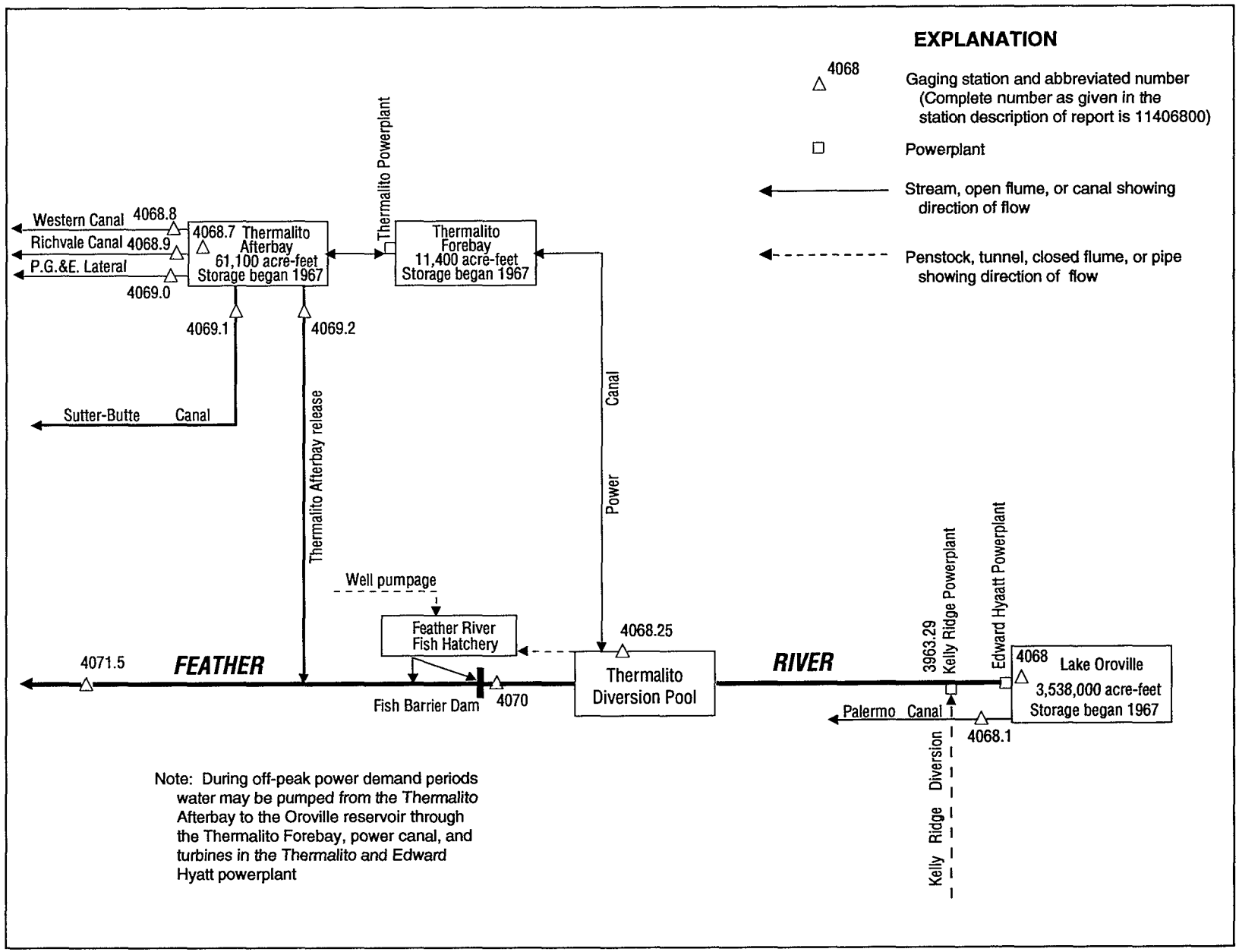

Figure 33. Diversions and storage from Feather River at Lake Oroville.

C—042204

11406800 LAKE OROVILLE NEAR OROVILLE, CA

LOCATION.--Lat 39°32'06", long 121°28'25", in NE 1/4 SW 1/4 sec.1, T.19 N., R.4 E., Butte County, Hydrologic Unit 18020123, near intake structure at left end of Oroville Dam on Feather River, 1.0 mi downstream from North Fork Feather River, and 4.2 mi east of Oroville.
DRAINAGE AREA.--3,607 mi^2.
PERIOD OF RECORD.--November 1967 to current year.
GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above sea level (levels by California Department of Water Resources). Contents based on capacity table in use since Sept. 21, 1967.
REMARKS.--Reservoir is formed by an earthfill dam with concrete chute-type sidehill spillway completed May 13, 1968; storage began Nov. 14, 1967. Usable capacity, 2,685,385 acre-ft between elevations 640.0 ft, minimum power pool, and 900.0 ft, normal maximum pool. Dead storage, 852,192 acre-ft. Total capacity at normal maximum pool, 3,537,577 acre-ft; temporary detention storage occurred at times during construction; maximum was 155,200 acre-ft, Dec. 23, 1964. Water is released to Edward Hyatt Powerplant through penstock in left abutment of dam and to Palermo Canal (station 11406810) through concrete tunnel also in left abutment of dam. Three of the total of six turbines in the Edward Hyatt Powerplant are reversible and during periods of low power demand water is pumped at times from the river back into Lake Oroville. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from Feather River at Lake Oroville. Maximum inflow of 266,000 ft^3/s during a 2-hour period Feb. 17, 1986.
COOPERATION.--Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,536,000 acre-ft, June 4, 1973, gage height, 899.88 ft; minimum since initial storage began, 882,395 acre-ft, Sept. 7, 1977, gage height, 845.11 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,667,113 acre-ft, Oct. 3, gage height, 839.28 ft; minimum, 1,683,158 acre-ft, Sept. 30, gage height, 750.60 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources, dated Sept. 21, 1967)

640	852,192	710	1,332,547	780	1,974,240	850	2,808,349
650	911,975	720	1,413,685	790	2,080,969	860	2,944,741
660	974,560	730	1,498,175	800	2,191,742	870	3,085,747
670	1,040,003	740	1,586,086	810	2,306,597	880	3,231,454
680	1,108,406	750	1,677,554	820	2,425,571	890	3,382,038
690	1,179,915	760	1,772,690	830	2,548,850	900	3,537,577
700	1,254,634	770	1,871,511	840	2,676,446		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2664913	2650965	2618617	2428119	2411077	2494080	2632703	2631292	2521485	2302507	2021452	1801146
2	2661421	2643624	2612870	2431636	2408908	2499891	2638224	2622454	2506207	2296441	2008805	1790681
3	2667113	2640151	2609043	2420493	2410233	2509679	2646456	2614019	2504100	2297606	1995265	1788925
4	2665560	2639123	2608661	2416385	2407101	2515267	2650063	2604584	2508066	2299589	1985785	1786682
5	2661550	2637453	2611849	2418680	2409269	2528837	2645683	2593649	2511541	2286316	1972671	1783663
6	2659095	2639894	2601529	2417834	2416506	2541332	2645039	2583379	2506207	2271593	1968488	1772207
7	2655221	2643881	2591618	2414574	2425331	2544087	2644010	2584266	2501871	2257512	1973718	1765233
8	2654705	2642981	2583886	2415057	2425695	2548348	2646327	2590096	2491857	2243721	1967338	1756737
9	2654576	2644525	2575917	2418317	2427513	2549728	2652770	2582999	2481871	2230218	1958162	1752499
10	2654447	2644010	2564814	2410715	2430544	2555504	2660129	2581101	2470686	2221779	1949950	1751345
11	2649547	2645941	2563051	2407101	2433821	2562799	2660775	2580874	2471177	2205535	1935252	1756447
12	2646198	2641052	2564184	2403490	2435522	2573264	2656125	2577180	2474984	2189374	1923202	1749134
13	2643624	2644653	2555001	2403250	2438438	2581987	2658449	2568848	2465291	2171503	1918992	1751828
14	2642080	2650965	2550481	2404453	2435886	2584646	2655738	2566830	2456480	2153289	1928242	1743376
15	2643109	2645039	2541708	2405777	2438682	2588447	2653673	2570614	2450009	2136956	1918377	1734571
16	2646198	2639637	2532331	2403971	2439655	2590984	2654963	2566074	2441966	2120821	1910286	1727322
17	2649676	2637068	2524848	2400725	2440871	2593776	2661421	2562295	2432971	2113995	1896518	1729895
18	2649805	2632703	2529461	2397241	2445498	2593522	2658062	2559904	2425574	2097109	1887684	1735049
19	2648259	2628472	2532082	2396640	2452449	2598731	2657416	2561792	2425089	2088701	1881507	1725894
20	2647486	2631420	2521610	2396520	2461495	2604966	2655480	2561414	2411559	2081296	1879182	1716110
21	2645554	2636682	2508190	2396040	2466639	2605985	2652770	2561163	2395440	2075538	1876153	1707121
22	2640408	2629754	2496551	2398562	2469459	2610828	2651996	2566452	2380710	2066002	1868288	1702121
23	2646713	2622582	2483472	2402408	2471055	2614785	2652383	2563429	2366519	2064704	1864367	1702969
24	2651738	2617339	2477688	2401085	2470411	2617723	2658837	2559024	2354876	2068058	1851137	1705799
25	2647615	2623221	2476459	2401326	2470932	2618873	2656512	2555001	2347294	2060058	1843750	1706555
26	2648516	2623349	2471055	2403490	2476582	2623221	2650191	2546844	2344691	2049174	1835589	1699295
27	2646842	2626678	2461372	2401326	2485690	2629497	2644139	2537704	2339547	2040904	1828346	1692057
28	2645941	2632960	2448301	2402528	2488895	2626038	2639123	2536454	2335481	2032017	1828147	1689899
29	2646713	2630779	2437831	2408787	---	2622965	2634756	2540706	2326883	2024862	1820728	1684935
30	2651996	2627062	2432850	2417593	---	2623349	2636169	2540331	2316197	2021772	1812739	1683158
31	2657674	---	2429938	2410233	---	2627062	---	2532082	---	2024329	1806248	---
MAX	2667113	2650965	2618617	2431636	2488895	2629497	2661421	2631292	2521485	2302507	2021452	1801146
MIN	2640408	2617339	2429938	2396040	2407101	2494080	2632703	2532082	2316197	2021772	1806248	1683158
a	838.55	836.17	820.36	818.73	825.18	836.17	836.88	828.66	810.82	784.74	763.44	750.60
b	-8274	-30612	-197124	-19705	+78662	+138167	+9107	-104087	-215885	-291868	-218081	-123090
c	3520	2456	722	924	1065	2472	3203	3738	5889	6913	6726	4583

CAL YR 1993 b +1027890
WTR YR 1994 b -982790
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

C-042205

11406810 PALERMO CANAL NEAR OROVILLE, CA

LOCATION.--Lat 39°31'59", long 121°28'54", in SW 1/4 SW 1/4 sec.1, T.19 N., R.4 E., Butte County, Hydrologic Unit 18020106, on right bank 50 ft downstream from Oroville Dam and 4.4 mi east of Oroville.
PERIOD OF RECORD.--April 1965 to current year. Daily discharge records of diversion from Kelly Ridge Penstock for period April 1965 to October 1968, when Kelly Ridge Penstock supplied the entire flow of Palermo Canal, are in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 547.67 ft above sea level (levels by California Department of Water Resources). April 1965 to October 1968, water-stage recorder and Parshall flume at site of diversion from Kelly Ridge Penstock, 0.4 mi downstream at different datum.
REMARKS.--No estimated daily discharges. Canal diverts from left end of Oroville Dam. Water is used for irrigation near Oroville. During period of construction of Oroville Dam, water was released from Kelly Ridge Penstock to meet irrigation requirements. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records were provided by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 28 ft^3/s, several days during July to September 1967; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	9.9	6.2	2.7	2.9	3.3	10	9.7	18	19	17	19
2	18	9.9	6.2	2.7	2.9	3.3	10	9.7	19	19	17	19
3	18	9.9	6.2	2.7	2.9	3.3	10	9.7	19	19	18	19
4	17	9.9	6.2	2.7	2.9	3.3	10	9.7	19	19	19	19
5	16	10	6.2	2.7	2.9	3.3	8.6	9.7	19	19	19	19
6	16	10	6.1	2.7	2.9	3.3	8.0	9.7	19	19	19	19
7	15	9.9	5.9	2.7	.90	3.3	8.1	9.6	19	19	19	19
8	14	9.6	4.0	2.7	.00	3.3	8.2	9.7	19	19	19	19
9	13	9.7	2.9	2.7	.00	3.4	7.8	9.7	19	19	19	19
10	13	9.7	2.8	2.7	.00	3.4	7.7	9.7	19	19	19	19
11	10	9.7	2.8	2.7	.00	3.2	7.8	9.6	19	19	19	19
12	8.7	8.6	2.9	2.7	.00	3.2	7.8	9.7	19	19	19	19
13	8.7	8.0	2.8	2.6	.00	3.3	7.8	9.7	19	19	19	19
14	8.7	8.0	2.8	2.7	2.1	3.2	7.9	9.7	19	19	19	19
15	8.8	8.0	2.8	2.7	3.2	3.1	8.0	9.6	19	19	19	19
16	8.9	8.1	2.8	2.6	3.2	3.2	8.0	10	19	19	19	19
17	8.9	8.1	2.8	2.6	2.8	3.3	8.0	10	19	19	19	19
18	9.0	8.2	2.8	2.6	2.6	3.3	8.0	11	19	19	19	19
19	9.0	8.1	2.8	2.6	2.6	3.3	8.0	12	19	19	19	19
20	9.0	8.0	2.8	2.6	2.6	3.3	7.9	12	19	19	19	19
21	9.0	7.8	2.7	2.6	2.7	3.3	8.6	12	19	19	19	19
22	9.0	7.8	2.7	2.7	2.9	3.3	10	12	19	17	19	19
23	9.1	7.8	2.7	2.7	2.9	3.3	9.9	13	19	17	19	19
24	9.1	7.8	2.7	2.7	2.9	3.2	9.9	15	19	17	19	19
25	9.1	7.8	2.7	.82	2.9	3.2	9.9	16	19	17	19	19
26	9.3	7.8	2.7	.00	2.9	3.2	9.8	17	19	16	19	19
27	9.7	7.9	2.7	1.3	2.9	3.1	9.8	17	19	17	19	19
28	9.8	7.9	2.7	2.9	3.0	3.7	9.7	17	19	17	19	19
29	9.8	6.8	2.7	2.9	---	5.1	9.7	17	19	17	19	19
30	9.9	6.2	2.7	2.9	---	7.5	9.7	17	19	17	19	19
31	9.9	---	2.7	2.9	---	10	---	17	---	17	19	---
TOTAL	351.4	256.9	110.5	77.82	60.50	114.5	264.6	370.2	569	568	584	570
MEAN	11.3	8.56	3.56	2.51	2.16	3.69	8.82	11.9	19.0	18.3	18.8	19.0
MAX	18	10	6.2	2.9	3.2	10	10	17	19	19	19	19
MIN	8.7	6.2	2.7	.00	.00	3.1	7.7	9.6	18	16	17	19
AC-FT	697	510	219	154	120	227	525	734	1130	1130	1160	1130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1994, BY WATER YEAR (WY)

MEAN	12.4	5.29	3.34	2.85	2.42	2.74	6.26	14.9	19.2	19.7	20.0	18.9
MAX	18.0	8.56	5.94	5.12	5.33	6.22	19.1	22.3	24.5	24.5	24.5	22.8
(WY)	1979	1994	1975	1971	1974	1988	1970	1976	1976	1975	1978	1975
MIN	6.85	2.04	.000	1.05	.000	.000	.000	7.26	13.4	16.0	16.2	13.8
(WY)	1973	1983	1982	1982	1975	1979	1991	1983	1993	1991	1991	1985

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1969 - 1994	
ANNUAL TOTAL	3373.4		3897.42			
ANNUAL MEAN	9.24		10.7		10.7	
HIGHEST ANNUAL MEAN					13.3	1970
LOWEST ANNUAL MEAN					8.84	1982
HIGHEST DAILY MEAN	20	Jun 23	19	Jun 2	26	Jul 2 1975
LOWEST DAILY MEAN	1.7	Apr 7	.00	Jan 26	.00	Jan 15 1970
ANNUAL SEVEN-DAY MINIMUM	1.7	Apr 7	.13	Feb 7	.00	Jan 15 1970
ANNUAL RUNOFF (AC-FT)	6690		7730		7770	
10 PERCENT EXCEEDS	19		19		21	
50 PERCENT EXCEEDS	8.7		9.7		9.0	
90 PERCENT EXCEEDS	1.8		2.7		1.4	

C-042206

11406870 THERMALITO AFTERBAY NEAR OROVILLE, CA

LOCATION.--Lat 39°27'30", long 121°38'17", in NE 1/4 SE 1/4 sec.33, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, at dam 195 ft northeast of centerline of outlet structure and 5.7 mi southwest of Oroville.
PERIOD OF RECORD.--October 1967 to current year.
GAGE.--Water-stage recorder. Datum of gage is 100.47 ft above sea level (levels by California Department of Water Resources). Auxiliary water-stage recorder 90 ft southwest of centerline of Western Canal outlet, and 7.2 mi west of Oroville.
REMARKS.--Reservoir is formed by an earthfill dam completed in 1967. Diversion from the reservoir began Oct. 12, 1967. Usable capacity, 61,144 acre-ft between gage heights 120.0 and 139.0 ft, extreme operating levels. Normal operating range is 123 to 136.5 ft. Water is released to four canals (stations 11406880, 11406890, 11406900, and 11406910) and to the Feather River (station 11406920) from the reservoir. Total maximum release to the four canals is approximately 4,000 ft^3/s. Water is pumped, at times, from Thermalito Afterbay back into Thermalito Forebay during off-peak periods to be re-released through Thermalito Powerplant for power generation during peak-demand periods. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 57,300 acre-ft, May 24, 1969, gage height, 136.56 ft; minimum since initial operation began, 5,590 acre-ft, Mar. 1, 1968, gage height, 119.09 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 50,208 acre-ft, Aug. 12, gage height, 134.87 ft; minimum, 15,533 acre-ft, Oct. 3, gage height, 124.16 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources, dated Oct. 10, 1968)

119	5,465	124	15,157	130	32,150
120	7,054	126	20,171	134	46,719
122	10,792	128	25,832	139	68,198

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16275	32052	41036	22579	29672	30413	33765	16640	31096	43032	20735	34724
2	18908	38684	44878	18035	30283	28941	30316	17481	40590	39631	26282	39375
3	15533	40775	46011	25741	29036	25383	25235	17757	39120	31162	34862	37104
4	15842	40812	38938	28563	29769	24998	23031	22467	32185	21799	41073	33494
5	17909	42198	28062	26646	27844	20870	28155	27411	23458	24646	48350	30705
6	19273	38142	26889	26889	26191	18701	31688	32719	22551	28062	44259	38106
7	21524	34312	26676	27968	28187	21387	33629	29385	23458	27165	34518	40553
8	21552	34449	28751	26071	31886	23717	34449	20897	28280	26981	31589	42690
9	20627	32118	31326	23003	32285	27442	31260	27319	34931	26494	35069	42804
10	20735	30640	34140	27319	32786	28343	26615	27380	41446	17606	38358	38720
11	26464	27689	32652	30090	30835	28124	27751	25681	34896	18882	45189	31293
12	30737	32251	25502	33494	31424	25116	31688	28531	26373	22160	50208	32085
13	33122	27875	31064	36962	29353	21799	31129	34655	26676	24441	47433	27073
14	34931	21662	34380	35104	31721	22974	33257	34038	28374	28437	32418	31721
15	34414	25562	40516	32987	31064	24880	37247	28312	28552	31031	35035	36820
16	30672	30868	44255	30802	31556	27104	36045	30251	29705	34004	37353	39705
17	28031	33156	46444	29290	34209	29929	32218	33663	31952	30058	42918	35451
18	28218	37069	38684	31886	36010	33460	35940	34072	29163	37384	44684	28280
19	30413	40183	29961	31194	32687	32351	36115	31031	21524	38106	43147	33190
20	31589	36185	31886	29929	29417	30445	35870	30316	28000	37353	36750	40405
21	33936	30802	36396	29961	28249	31986	36291	28000	33629	37962	31556	46208
22	39741	35835	37782	28751	29322	31326	33156	21965	40220	39741	32218	49275
23	35660	40257	40257	26920	30575	30219	29067	22021	44840	33190	30510	45736
24	31490	44684	35625	31787	33426	30510	20332	22805	48350	23976	36432	38974
25	34931	37211	25205	34724	36045	30835	20279	23316	45736	25324	38938	34931
26	35416	34931	19456	35035	34038	28909	24412	27012	40887	31031	39011	39120
27	36573	29163	18830	37711	29993	24969	25951	33088	38250	32019	39302	41484
28	38070	22720	22636	37247	31328	29577	24998	30478	36679	35347	30640	41148
29	36538	28783	25383	31326	---	36115	24353	24237	35104	36396	31952	42463
30	31952	34140	26859	22720	---	37532	18010	19142	37461	33055	34483	43299
31	26981	---	25294	29641	---	36538	---	23316	---	23803	34586	---
MAX	39741	44684	46444	37711	36045	37532	37247	34655	48350	43032	50208	49275
MIN	15533	21662	18830	18035	26191	18701	18010	16640	21524	17606	20735	27073
a	128.38	130.59	127.82	129.23	129.75	131.28	125.17	127.14	131.54	127.31	130.72	133.12
b	+10487	+7159	-8846	+4347	+1685	+5212	-18528	+5306	+14145	-13658	+10783	+8713
c	1014	781	304	307	422	809	1123	1316	2070	2113	2318	1799

CAL YR 1993 b -16340
WTR YR 1994 b +26805

a Gage-height, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

C-042207

11406880 WESTERN CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'19", long 121°41'06", in SW 1/4 NW 1/4 sec.18, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020105, on left bank 500 ft downstream from Thermalito Afterbay Dam and 7.3 mi west of Oroville.
PERIOD OF RECORD.--October 1967 to current year.
GAGE.--Water-stage recorder. Datum of gage is 100.47 ft above sea level (levels by California Department of Water Resources).
REMARKS.--No estimated daily discharges. Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,200 ft^3/s, May 12, 1981, May 6, 7, 1984, May 6-8, 1990, May 3-5, 1994; no flow at times each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	311	224	98	.00	.00	.00	929	735	715	702	164
2	223	301	223	97	.00	.00	.00	1100	748	702	706	153
3	223	300	236	74	.00	.00	.00	1200	725	692	702	138
4	223	313	248	44	.00	.00	.00	1200	692	687	693	117
5	223	325	247	35	.00	.00	.00	1200	688	694	674	108
6	223	311	248	13	.00	.00	.00	1120	683	710	660	104
7	223	285	259	.00	.00	.00	.00	934	653	718	644	95
8	223	275	265	.00	.00	.00	.00	821	618	719	610	80
9	223	274	217	.00	.00	.00	.00	722	608	731	570	64
10	223	275	198	.00	.00	.00	.00	723	659	728	556	57
11	224	275	183	.00	.00	.00	56	853	688	716	540	53
12	223	274	173	.00	.00	.00	99	876	677	703	516	43
13	223	274	174	.00	.00	.00	75	813	652	703	510	40
14	223	275	133	.00	.00	.00	50	782	654	726	509	29
15	223	268	98	.00	.00	.00	48	788	673	734	520	14
16	223	250	98	.00	.00	.00	65	760	685	728	515	10
17	223	250	98	.00	.00	.00	87	648	706	728	502	10
18	223	249	98	.00	.00	.00	137	524	758	734	487	10
19	262	250	98	.00	.00	.00	229	472	783	720	472	10
20	273	249	99	.00	.00	.00	320	438	772	704	457	10
21	273	249	98	.00	.00	.00	423	432	785	705	447	10
22	273	249	88	.00	.00	.00	531	460	772	719	417	14
23	273	249	73	.00	.00	.00	579	512	758	715	371	20
24	273	264	73	.00	.00	.00	597	585	755	707	318	20
25	273	275	72	.00	.00	.00	579	668	755	696	284	20
26	284	274	73	.00	.00	.00	548	706	746	689	253	14
27	316	274	84	.00	.00	.00	548	723	721	716	260	10
28	323	275	99	.00	.00	.00	594	723	698	726	243	35
29	323	275	98	.00	---	.00	692	713	698	719	215	50
30	323	241	99	.00	---	.00	805	714	708	708	196	50
31	323	---	98	.00	---	.00	---	724	---	697	181	---
TOTAL	7807	8209	4572	361.00	0.00	0.00	7062.00	23863	21253	22089	14730	1552
MEAN	252	274	147	11.6	.000	.000	235	770	708	713	475	51.7
MAX	323	325	265	98	.00	.00	805	1200	785	734	706	164
MIN	223	241	72	.00	.00	.00	.00	432	608	687	181	10
AC-FT	15490	16280	9070	716	.00	.00	14010	47330	42160	43810	29220	3080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

MEAN	243	220	110	27.7	.000	.49	157	693	693	761	645	165
MAX	539	607	365	155	.000	12.4	566	930	959	1032	890	257
(WY)	1975	1975	1977	1977	1968	1972	1977	1985	1981	1981	1981	1993
MIN	95.2	38.9	.000	.000	.000	.000	1.00	333	477	504	456	49.9
(WY)	1990	1974	1971	1969	1968	1968	1982	1983	1983	1970	1970	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	110603.80		111498.00			
ANNUAL MEAN	303		305		311	
HIGHEST ANNUAL MEAN					403	1981
LOWEST ANNUAL MEAN					217	1983
HIGHEST DAILY MEAN	1100	May 16	1200	May 3	1200	May 12 1981
LOWEST DAILY MEAN	.00	Jan 2	.00	Jan 7	.00	Dec 4 1967
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 2	.00	Jan 7	.00	Jan 5 1968
ANNUAL RUNOFF (AC-FT)	219400		221200		225500	
10 PERCENT EXCEEDS	873		723		818	
50 PERCENT EXCEEDS	223		224		208	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042208

11406890 RICHVALE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'19", long 121°41'06", in SW 1/4 NW 1/4 sec.18, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020105, on right bank 500 ft downstream from axis of Thermalito Afterbay Dam and 7.3 mi west of Oroville.
PERIOD OF RECORD.--April 1968 to current year.
REVISED RECORDS.--WDR CA-91-4: 1990.
GAGE.--Water-stage recorder. Datum of gage is 100.47 ft above sea level (levels by California Department of Water Resources).
REMARKS.--No estimated daily discharges. Canal diverts from Thermalito Afterbay; water is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 511 ft^3/s, May 16, 1974; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	109	178	153	.00	.00	.00	340	274	269	274	114
2	.00	115	192	153	.00	.00	.00	375	274	268	268	99
3	.00	119	189	154	.00	.00	.00	358	262	256	269	87
4	.00	118	182	154	.00	.00	.00	313	252	248	270	90
5	.00	119	183	152	.00	.00	.00	269	270	263	264	94
6	14	119	183	154	.00	.00	.00	254	278	258	260	75
7	22	119	197	154	.00	.00	.00	229	313	270	253	65
8	20	119	204	153	.00	.00	.00	196	350	284	252	58
9	20	119	204	153	.00	.00	.00	174	359	291	251	39
10	20	119	204	154	.00	.00	.00	192	359	293	250	20
11	18	118	204	154	.00	.00	.00	220	358	287	250	15
12	18	118	204	154	.00	.00	12	264	358	284	250	15
13	40	107	204	153	.00	.00	36	261	359	284	243	15
14	50	104	204	83	.00	.00	74	259	359	284	239	15
15	83	109	186	.00	.00	.00	84	267	358	284	240	15
16	104	113	179	.00	.00	.00	83	287	359	284	230	15
17	103	114	179	.00	.00	.00	95	294	359	284	214	15
18	114	114	178	.00	.00	.00	88	285	358	284	201	15
19	119	113	178	.00	.00	.00	96	273	358	290	180	10
20	118	113	179	.00	.00	.00	126	252	359	293	169	5.0
21	119	113	179	.00	.00	.00	142	229	337	287	168	5.0
22	102	114	179	.00	.00	.00	156	227	314	284	156	5.0
23	93	143	179	.00	.00	.00	166	258	309	272	149	2.5
24	94	160	179	.00	.00	.00	158	299	308	267	151	.00
25	94	169	178	.00	.00	.00	159	308	309	268	151	.00
26	93	169	178	.00	.00	.00	137	319	308	286	134	.00
27	100	169	179	.00	.00	.00	154	323	294	294	126	.00
28	109	168	170	.00	.00	.00	163	323	288	294	124	.00
29	108	169	164	.00	---	.00	223	311	288	294	126	.00
30	108	169	164	.00	---	.00	278	279	275	280	126	.00
31	109	---	157	.00	---	.00	---	274	---	278	124	---
TOTAL	1992.00	3841	5717	2078.00	0.00	0.00	2430.00	8512	9606	8662	6362	888.50
MEAN	64.3	128	184	67.0	.000	.000	81.0	275	320	279	205	29.6
MAX	119	169	204	154	.00	.00	278	375	359	294	274	114
MIN	.00	104	157	.00	.00	.00	.00	174	252	248	124	.00
AC-FT	3950	7620	11340	4120	.00	.00	4820	16880	19050	17180	12620	1760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

MEAN	14.0	25.7	22.3	4.43	.000	.29	72.1	279	283	303	262	72.3
MAX	64.3	128	184	67.0	.000	6.32	201	436	400	390	373	116
(WY)	1994	1994	1994	1994	1969	1972	1972	1974	1979	1981	1974	1974
MIN	.000	.000	.000	.000	.000	.000	.000	104	129	140	130	8.43
(WY)	1972	1969	1969	1969	1969	1969	1983	1991	1991	1991	1991	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	47637.20		50088.50			
ANNUAL MEAN	131		137		113	
HIGHEST ANNUAL MEAN					146	1974
LOWEST ANNUAL MEAN					66.4	1991
HIGHEST DAILY MEAN	412	May 15	375	May 2	511	May 16 1974
LOWEST DAILY MEAN	.00	Jan 8	.00	Oct 1	.00	Sep 25 1968
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 8	.00	Jan 15	.00	Oct 5 1968
ANNUAL RUNOFF (AC-FT)	94490		99350		82080	
10 PERCENT EXCEEDS	313		293		343	
50 PERCENT EXCEEDS	114		126		25	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042209

11406900 PACIFIC GAS & ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°29'22", long 121°41'12", in SE 1/4 NW 1/4 sec.19, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, on right bank 82 ft downstream from axis of Thermalito Afterbay Dam and 7.2 mi west of Oroville.
PERIOD OF RECORD.--April 1968 to current year.
GAGE.--Water-stage recorder. Datum of gage is 113.47 ft above sea level (levels by California Department of Water Resources).
REMARKS.--No estimated daily discharges. Flow regulated at outlet works from Thermalito Afterbay; water is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 46 ft^3/s, Apr. 24, 1977, May 16, 1978; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	6.3	5.0	.00	.00	.00	11	12	16	14	.00
2	.00	.00	8.6	4.7	.00	.00	.00	8.5	11	16	13	.00
3	.00	.00	8.7	4.6	.00	.00	.00	5.8	11	16	13	.00
4	.00	.00	8.6	1.6	.00	.00	.00	2.7	11	16	13	.00
5	.00	.00	4.7	.00	.00	.00	.00	2.5	12	16	13	.00
6	.00	.00	1.8	.00	.00	.00	.00	2.2	12	15	13	.00
7	.00	.00	3.6	.00	.00	.00	.00	1.6	12	14	13	.00
8	.00	.00	4.7	.00	.00	.00	.00	2.0	13	14	13	.00
9	.00	.00	4.8	.00	.00	.00	.00	1.8	12	14	13	.00
10	.00	.00	3.7	.00	.00	.00	.00	2.2	12	14	12	.00
11	.00	.00	1.9	.00	.00	.00	.00	2.5	12	14	11	.00
12	.00	.00	1.8	.00	.00	.00	.00	1.9	12	14	11	.00
13	.00	.00	1.7	.00	.00	.00	.00	.79	12	14	11	.00
14	.00	.00	1.7	.00	.00	.00	.00	1.3	13	14	11	.00
15	.00	9.8	1.8	.00	.00	.00	.00	3.2	12	14	11	.00
16	.00	16	1.9	.00	.00	.00	.00	3.6	12	14	11	.00
17	.00	16	1.9	.00	.00	.00	.00	3.7	12	14	8.9	.00
18	.00	16	1.9	.00	.00	.00	.00	4.5	12	15	7.2	.00
19	.00	16	1.9	.00	.00	.00	.00	3.9	12	16	5.6	.00
20	.00	16	1.9	.00	.00	.00	12	6.1	13	16	4.6	.00
21	.00	16	1.9	.00	.00	.00	21	9.0	13	16	3.5	.00
22	.00	8.2	1.9	.00	.00	.00	25	11	13	16	2.5	.00
23	.00	2.3	1.9	.00	.00	.00	36	14	13	16	2.2	.00
24	.00	1.8	1.9	.00	.00	.00	43	16	13	16	1.3	.00
25	.00	1.8	1.8	.00	.00	.00	39	16	13	14	1.1	.00
26	.00	1.7	1.5	.00	.00	.00	31	13	14	13	1.1	.00
27	.00	1.6	1.5	.00	.00	.00	27	11	14	13	1.0	.00
28	.00	1.6	1.6	.00	.00	.00	27	11	16	13	.78	.00
29	.00	1.5	3.5	.00	---	.00	22	9.8	16	13	.26	.00
30	.00	1.7	5.0	.00	---	.00	15	9.6	16	13	.00	.00
31	.00	---	5.0	.00	---	.00	---	11	---	13	.00	---
TOTAL	0.00	128.00	101.4	15.90	0.00	0.00	298.00	203.19	381	452	236.04	0.00
MEAN	.000	4.27	3.27	.51	.000	.000	9.93	6.55	12.7	14.6	7.61	.000
MAX	.00	16	8.7	5.0	.00	.00	43	16	16	16	14	.00
MIN	.00	.00	1.5	.00	.00	.00	.00	.79	11	13	.00	.00
AC-FT	.00	254	201	32	.00	.00	591	403	756	897	468	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

MEAN	.031	1.25	.66	.046	.000	.000	3.72	13.2	12.5	13.1	10.6	1.28
MAX	.19	5.23	3.49	.51	.000	.000	14.8	23.2	18.3	17.1	13.5	2.62
(WY)	1989	1986	1987	1994	1969	1969	1977	1975	1981	1981	1981	1972
MIN	.000	.000	.000	.000	.000	.000	.000	6.55	8.60	9.37	7.12	.000
(WY)	1969	1969	1969	1969	1969	1969	1974	1994	1993	1970	1988	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	1712.62		1815.53			
ANNUAL MEAN	4.69		4.97		4.77	
HIGHEST ANNUAL MEAN					5.93	1981
LOWEST ANNUAL MEAN					3.67	1983
HIGHEST DAILY MEAN	34	May 16	43	Apr 24	46	Apr 24 1977
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Sep 8 1968
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Sep 9 1968
ANNUAL RUNOFF (AC-FT)	3400		3600		3460	
10 PERCENT EXCEEDS	15		14		14	
50 PERCENT EXCEEDS	.00		.26		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042210

11406910 SUTTER-BUTTE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°27'01", long 121°39'27", in NW corner of Boga Fernandez Grant, T.18 N., R.3 E., Butte County, Hydrologic Unit 18020105, on left bank 675 ft downstream from Thermalito Afterbay Dam and 6.8 mi southwest of Oroville.
PERIOD OF RECORD.--November 1967 to current year.
GAGE.--Water-stage recorder. Datum of gage is 109.97 ft above sea level (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 109.50 ft lower.
REMARKS.--No estimated daily discharges. Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,110 ft^3/s, Apr. 22-24, 1968; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	406	369	370	309	.00	.00	288	1480	1250	1430	1420	810
2	396	366	389	307	.00	.00	347	1580	1270	1470	1430	795
3	389	368	410	319	.00	.00	391	1580	1280	1460	1420	752
4	336	376	417	316	.00	.00	422	1600	1310	1430	1420	758
5	313	370	416	314	.00	.00	519	1600	1320	1430	1420	740
6	314	357	403	307	.00	.00	581	1580	1340	1440	1430	750
7	311	358	402	311	.00	.00	635	1460	1340	1440	1410	775
8	284	358	387	314	.00	.00	606	1320	1350	1440	1390	773
9	272	367	373	313	.00	.00	545	1290	1350	1470	1390	726
10	266	372	372	290	.00	.00	528	1300	1360	1470	1380	662
11	268	371	371	268	.00	.00	510	1330	1410	1470	1380	597
12	268	348	372	267	.00	.00	516	1320	1420	1470	1400	542
13	269	356	362	249	.00	.00	567	1330	1430	1450	1400	521
14	297	362	352	128	.00	.00	584	1350	1450	1430	1400	532
15	297	328	315	.00	.00	.00	583	1360	1460	1400	1370	527
16	327	314	299	.00	.00	.00	655	1310	1510	1380	1350	512
17	332	313	299	.00	.00	.00	721	1250	1520	1370	1330	483
18	374	313	298	.00	.00	.00	863	1260	1500	1380	1320	467
19	398	313	298	.00	.00	.00	1020	1200	1460	1420	1300	454
20	443	313	299	.00	.00	.00	1080	1120	1460	1430	1280	447
21	475	311	300	.00	.00	.00	1140	1110	1430	1430	1240	444
22	473	313	299	.00	.00	.00	1180	1130	1400	1400	1220	437
23	492	331	298	.00	.00	.00	1220	1170	1380	1410	1200	458
24	496	387	304	.00	.00	.00	1140	1230	1410	1420	1150	469
25	485	433	308	.00	.00	.00	1080	1300	1380	1430	1120	464
26	434	435	308	.00	.00	.00	1070	1340	1380	1460	1080	441
27	440	461	309	.00	.00	.00	1110	1270	1400	1470	1060	469
28	463	463	309	.00	.00	.00	1230	1220	1420	1500	1020	486
29	463	404	308	.00	---	.00	1370	1210	1430	1480	979	483
30	462	367	309	.00	---	139	1430	1230	1430	1440	917	479
31	428	---	309	.00	---	264	---	1250	---	1420	841	---
TOTAL	11671	10895	10565	4012.00	0.00	403.00	23931	41080	41850	44540	39467	17253
MEAN	376	363	341	129	.000	13.0	798	1325	1395	1437	1273	575
MAX	496	463	417	319	.00	264	1430	1600	1520	1500	1430	810
MIN	266	311	298	.00	.00	.00	288	1110	1250	1370	841	437
AC-FT	23150	21610	20960	7960	.00	799	47470	81480	83010	88350	78280	34220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

MEAN	360	84.1	58.3	10.1	27.9	108	592	1418	1378	1465	1352	719
MAX	661	363	341	129	374	571	1294	1815	1643	1709	1608	890
(WY)	1975	1994	1994	1994	1977	1976	1968	1975	1975	1981	1982	1981
MIN	77.2	.000	.000	.000	.000	.000	.000	518	826	834	776	283
(WY)	1978	1975	1971	1969	1969	1978	1983	1977	1992	1991	1991	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	226021.00		245667.00			
ANNUAL MEAN	619		673		632	
HIGHEST ANNUAL MEAN					765	1976
LOWEST ANNUAL MEAN					401	1992
HIGHEST DAILY MEAN	1730	May 19	1600	May 4	2110	Apr 22 1968
LOWEST DAILY MEAN	.00	Jan 9	.00	Jan 15	.00	Jan 8 1968
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 9	.00	Jan 15	.00	Jan 8 1968
ANNUAL RUNOFF (AC-FT)	448300		487300		457500	
10 PERCENT EXCEEDS	1540		1430		1570	
50 PERCENT EXCEEDS	374		461		401	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042211

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE, CA

LOCATION.--Lat 39°27'23", long 121°38'10", in NW 1/4 SE 1/4 sec.33, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, on left bank of outlet channel 955 ft downstream from centerline of Thermalito Afterbay Dam and 5.7 mi southwest of Oroville.
PERIOD OF RECORD.--November 1967 to current year.
WATER TEMPERATURE: Water years 1969-92.
GAGE.--Water-stage recorder. Datum of gage is 113.47 ft above sea level (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 13.00 ft lower.
REMARKS.--No estimated daily discharges. Flow regulated by gates of Thermalito Afterbay outlet 955 ft upstream. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft^3/s, Jan. 28, 1970, gage height, 23.30 ft, datum then in use; no flow for many days during 1968.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,060 ft^3/s, Dec. 8, gage height, 5.89 ft; minimum daily, 559 ft^3/s, May 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1670	1770	1990	2220	1120	1090	1100	2360	567	2070	1250	2250
2	1670	1770	2480	1830	1100	1090	1100	2360	567	2360	1250	2250
3	1670	1770	2970	1590	1100	1090	1090	2360	568	2360	1250	2250
4	1670	1770	3960	1380	1090	1090	1100	2360	563	2360	1380	2250
5	1670	1770	4970	1200	1100	1090	1090	2360	561	2610	1750	2250
6	1680	1770	5960	1120	1100	1090	892	2360	565	3610	1750	2250
7	1670	1770	6710	1120	1110	1090	700	2360	730	4600	1750	2250
8	1670	1770	7710	1110	1100	1100	700	2360	1060	5590	1750	2250
9	1670	1770	7710	1120	1100	1100	702	1870	1060	5600	1750	2250
10	1670	1770	6690	1120	1100	1090	699	1670	1060	5340	1750	2250
11	1670	1770	5710	1120	1100	1100	706	1470	1060	5310	1750	2250
12	1670	1780	5470	1120	1100	1090	1030	1260	1060	5100	1750	2250
13	1670	1770	5460	1110	1090	1090	1150	1060	1060	4830	1750	2250
14	1670	1770	5200	1120	1100	1090	1280	862	1060	4830	1740	2250
15	1470	1780	4480	1120	1090	1090	1390	658	1060	4830	1750	2250
16	1260	1780	4470	1120	1090	1090	1390	568	1550	4090	2230	2250
17	1260	1780	4470	1120	1100	1090	1390	567	1560	3090	2250	2250
18	1270	1770	4460	1120	1100	1100	1520	565	2070	2350	2250	2250
19	1270	1770	4460	1120	1100	1100	2030	559	2060	1850	2160	2250
20	1270	1770	4750	1120	1100	1090	2390	563	2070	1850	2240	2250
21	1270	1770	5750	1120	1090	1100	2400	566	2070	1850	2250	2250
22	1270	1780	6480	1120	1100	1100	2410	562	2070	1850	2250	2250
23	1260	1780	6480	1120	1100	1090	1910	562	2070	1640	2250	2250
24	1270	1780	6480	1120	1090	1100	1910	565	2060	1450	2250	2250
25	1270	1770	6480	1130	1100	1090	1920	565	2060	1250	2250	2250
26	1270	1770	6490	1130	1090	1100	1920	564	2060	1250	2250	2250
27	1500	1770	6220	1120	1090	1090	2360	566	2060	1250	2250	2250
28	1770	1770	5230	1120	1090	1090	2360	565	2060	1250	2250	2250
29	1770	1780	4210	1120	---	1090	2360	561	2060	1250	2250	2250
30	1760	1780	3210	1120	---	1090	2360	563	2060	1250	2250	2250
31	1760	---	2720	1120	---	1090	---	565	---	1240	2250	---
TOTAL	47360	53190	159830	37340	30740	33880	45359	36756	42541	90160	60250	67500
MEAN	1528	1773	5156	1205	1098	1093	1512	1186	1418	2908	1944	2250
MAX	1770	1780	7710	2220	1120	1100	2410	2360	2070	5600	2250	2250
MIN	1260	1770	1990	1110	1090	1090	699	559	561	1240	1250	2250
AC-FT	93940	105500	317000	74060	60970	67200	89970	72910	84380	178800	119500	133900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

MEAN	1948	2600	4104	4283	4220	5237	4275	3184	2761	3467	3300	2811
MAX	5867	11020	15120	14490	14600	16890	15410	12340	9717	6678	7043	7085
(WY)	1975	1974	1984	1970	1983	1983	1983	1983	1983	1983	1974	1974
MIN	145	336	56.7	391	345	239	207	549	337	.13	116	398
(WY)	1978	1978	1968	1993	1968	1992	1992	1977	1990	1968	1968	1968

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	1455609		704906			
ANNUAL MEAN	3988		1931		3619	
HIGHEST ANNUAL MEAN					9352	1983
LOWEST ANNUAL MEAN					970	1991
HIGHEST DAILY MEAN	17900	Mar 19	7710	Dec 8	21200	Jan 28 1970
LOWEST DAILY MEAN	385	Mar 6	559	May 19	.00	Nov 16 1967
ANNUAL SEVEN-DAY MINIMUM	386	Mar 4	563	May 18	.00	Nov 16 1967
INSTANTANEOUS PEAK FLOW			8060	Dec 8	21600	Jan 28 1970
INSTANTANEOUS PEAK STAGE			5.89	Dec 8	23.30	Jan 28 1970
ANNUAL RUNOFF (AC-FT)	2887000		1398000		2622000	
10 PERCENT EXCEEDS	8070		3750		7780	
50 PERCENT EXCEEDS	3210		1670		2140	
90 PERCENT EXCEEDS	387		1060		428	

C-042212

11407000 FEATHER RIVER AT OROVILLE, CA

LOCATION.--Lat 39°31'18", long 121°32'48", in Boga Fernandez Grant, T.19 N., R.4 E., Butte County, Hydrologic Unit 18020106, on right bank 300 ft upstream from fish barrier dam on Feather River, 0.4 mi downstream from Thermalito Diversion Dam, 0.8 mi northeast of Oroville Post Office, and 4.8 mi downstream from Oroville Dam.
DRAINAGE AREA.--3,624 mi^2.
PERIOD OF RECORD.--October 1901 to current year. Monthly discharge only for some periods, published in WSP 1315-A. October 1934 to September 1961 published as "near Oroville."
CHEMICAL DATA: Water years 1906-07, 1951-77.
SPECIFIC CONDUCTANCE: Water years 1972-78.
WATER TEMPERATURE: Water years 1954-92.
SEDIMENT DATA: Water years 1957-79.
REVISED RECORDS.--WSP 843: 1907(M), 1909(M), 1914-15(M), 1919(M), 1927-28(M). WSP 881: 1913-28 (yearly summaries). WSP 1515: 1906-8. WSP 1931: Drainage area. WDR CA-74-2: 1968-70, adjusted monthly discharge.
GAGE.--Water-stage recorder. Datum of gage is 148.97 ft above sea level (levels by California Department of Water Resources). See WSP 1931 for history of changes prior to Oct. 1, 1964.
REMARKS.--No estimated daily discharges. Flow completely regulated by Lake Oroville (station 11406800) beginning November 1967, and Thermalito Diversion Pool (station 11406825), capacity 13,500 acre-ft. Diversions upstream from station for power and irrigation. Feather River Fish Hatchery diverts up to 120 ft^3/s at Thermalito Diversion Dam 0.4 mi upstream from gage. Daily figures shown are combined figures of river flow and diversion to fish hatchery. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Prior to completion of Oroville Dam: Maximum discharge observed, 230,000 ft^3/s Mar. 19, 1907, elevation, 167.5 ft above sea level, site and datum then in use; minimum, 300 ft^3/s, estimated, Nov. 9, 1931.
Combined flow (since completion of Oroville Dam): Maximum discharge, 134,000 ft^3/s, Feb. 18, 1986, gage height, 23.22 ft; minimum daily, 222 ft^3/s, Sept. 19, 1972.
EXTREMES FOR CURRENT YEAR.--River only: Maximum daily discharge, 687 ft^3/s, Feb. 7; minimum daily, 516 ft^3/s, Oct. 9.
Combined flow: Maximum daily discharge, 751 ft^3/s, Feb. 7; minimum daily, 604 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	613	610	623	622	619	643	624	628	640	612	619	616
2	615	616	623	621	639	641	631	639	632	615	619	618
3	612	620	623	614	639	623	636	623	634	619	618	620
4	611	610	623	622	635	623	626	626	625	617	617	621
5	613	616	623	620	634	624	627	634	624	615	618	612
6	614	616	621	618	641	623	634	642	632	616	618	620
7	615	617	624	620	751	623	628	637	633	612	615	611
8	607	619	626	623	642	624	627	632	633	615	619	650
9	604	618	634	618	630	634	628	638	629	615	618	669
10	608	623	623	619	640	628	624	634	625	608	618	669
11	612	622	623	613	633	626	624	629	625	612	615	668
12	607	622	623	619	628	624	623	632	631	618	616	667
13	606	621	624	614	623	624	623	630	637	611	616	644
14	619	620	627	607	623	624	622	633	628	611	613	619
15	624	620	627	612	624	624	621	628	625	617	613	613
16	622	621	626	611	622	624	624	636	623	616	613	613
17	610	620	626	607	625	631	622	656	629	608	614	611
18	604	620	626	616	636	624	628	667	624	605	614	612
19	605	624	625	617	648	632	620	663	617	605	693	613
20	615	622	635	619	637	623	624	662	620	634	615	611
21	608	623	635	616	634	618	628	655	619	649	618	632
22	605	622	623	617	626	625	627	648	618	649	613	636
23	624	622	619	617	629	629	630	643	616	649	615	626
24	621	622	620	639	624	628	624	642	616	647	618	617
25	605	622	622	624	630	632	637	627	616	644	615	620
26	615	622	618	620	644	631	636	631	618	643	617	618
27	620	623	617	619	632	630	632	635	614	606	618	613
28	626	623	618	620	667	630	632	628	613	608	620	621
29	616	623	615	614	---	634	629	631	612	611	617	620
30	629	623	621	618	---	626	626	625	613	613	617	617
31	625	---	620	611	---	629	---	637	---	611	617	---
TOTAL	19030	18602	19333	19147	17855	19454	18817	19771	18721	19211	19186	18797
MEAN	614	620	624	618	638	628	627	638	624	620	619	627
MAX	629	624	635	639	751	643	637	667	640	649	693	669
MIN	604	610	615	607	619	618	620	623	612	605	613	611
AC-FT	37750	36900	38350	37980	35420	38590	37320	39220	37130	38110	38060	37280
MEAN a	2980	2840	3130	1800	3220	4140	3200	2720	1260	1200	1360	1770
AC-FTa	183500	169200	192400	110900	179000	254800	190600	167000	74840	73540	83630	105300

a Adjusted for unreviewed evaporation, change in contents, and diversions in and out of Lake Oroville, Thermalito Diversion Pool, Thermalito Forebay, and Thermalito Afterbay.

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 1967, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2085	3069	5296	6790	9463	10080	12120	9930	5176	2505	1980	1792
MAX	12370	19710	28410	39860	28030	39760	30100	25150	15650	5999	3265	2883
(WY)	1963	1904	1956	1909	1904	1904	1911	1938	1911	1907	1967	1967
MIN	745	853	1102	1350	1714	1564	2146	1246	924	852	956	992
(WY)	1933	1933	1950	1947	1933	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1902 - 1967	
ANNUAL MEAN	5834	
HIGHEST ANNUAL MEAN	12860	1907
LOWEST ANNUAL MEAN	1623	1924
HIGHEST DAILY MEAN	187000	Mar 19 1907
LOWEST DAILY MEAN	577	Oct 3 1932
ANNUAL SEVEN-DAY MINIMUM	652	Sep 30 1932
INSTANTANEOUS PEAK FLOW	230000	Mar 19 1907
INSTANTANEOUS PEAK STAGE	167.5	Mar 19 1907
ANNUAL RUNOFF (AC-FT)	4226000	
10 PERCENT EXCEEDS	13300	
50 PERCENT EXCEEDS	2870	
90 PERCENT EXCEEDS	1470	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	483	691	1009	2614	2068	1634	1014	469	487	483	468	469
MAX	760	3313	6953	23240	25180	15570	7064	639	998	775	635	644
(WY)	1978	1982	1984	1970	1986	1983	1982	1988	1989	1992	1988	1988
MIN	399	397	392	401	399	404	401	387	405	404	393	389
(WY)	1969	1979	1979	1976	1978	1978	1977	1969	1974	1981	1979	1972

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1969 - 1994	
ANNUAL TOTAL	346355		227924			
ANNUAL MEAN	949		624		986	
ANNUAL MEAN ADJUSTED a	7502		2466		b5756	
HIGHEST ANNUAL MEAN					3014	1986
LOWEST ANNUAL MEAN					404	1976
HIGHEST DAILY MEAN	23500	Mar 25	751	Feb 7	132000	Feb 18 1986
LOWEST DAILY MEAN	599	May 23	604	Oct 9	222	Sep 19 1972
ANNUAL SEVEN-DAY MINIMUM	608	Jul 26	608	Oct 7	337	Sep 13 1972
INSTANTANEOUS PEAK FLOW					134000	Feb 18 1986
INSTANTANEOUS PEAK STAGE					23.22	Feb 18 1986
ANNUAL RUNOFF (AC-FT)	687000		452100		714400	
ANNUAL RUNOFF (AC-FT) ADJUSTED a	5431000		1785000		b4170000	
10 PERCENT EXCEEDS	633		638		639	
50 PERCENT EXCEEDS	615		623		416	
90 PERCENT EXCEEDS	610		612		400	

a Adjusted for unreviewed evaporation, change in contents, and diversions in and out of Lake Oroville, Thermalito Diversion Pool, Thermalito Forebay, and Thermalito Afterbay.
b Includes water year 1968.

11407150 FEATHER RIVER NEAR GRIDLEY, CA

LOCATION.--Lat 39°22'00", long 121°38'46", in Boga Fernandez Grant, T.18 N., R.3 E., Butte County, Hydrologic Unit 18020106, on right bank 300 ft upstream from highway bridge and 2.7 mi east of Gridley.

DRAINAGE AREA.--3,676 mi^2.

PERIOD OF RECORD.--October 1964 to current year. January 1944 to September 1964 are published in reports by California Department of Water Resources.
CHEMICAL DATA: Water years 1979-81.
WATER TEMPERATURE: Water years 1965-93.
SEDIMENT DATA: Water years 1965-93.

REVISED RECORDS.--WDR CA-80-4: 1967(M), 1968(M).

GAGE.--Water-stage recorder. Datum of gage is 2.91 ft below sea level. Prior to Mar. 13, 1966, water-stage recorder on left bank, at same datum. Mar. 14, 1966, to Sept. 30, 1973, gage at present location, with datum 47.09 ft above sea level.

REMARKS.--Records good. Flow regulated by Lake Oroville since November 1967 (station 11406800) and Thermalito Afterbay release to Feather River since December 1967 (station 11406920). See schematic diagrams showing diversions and storage from Feather River at Lake Oroville and lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 151,000 ft^3/s, Dec. 23, 1964, gage height, 100.43 ft, present datum; minimum daily, 117 ft^3/s, June 27, 1966. Since completion of Oroville Dam in 1967, maximum discharge, 150,000 ft^3/s, Feb. 19, 1986, gage height, 100.06 ft; minimum daily, 366 ft^3/s, July 26, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 102.25 ft, present datum, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,600 ft^3/s, Dec. 8, from Oroville Dam release; minimum daily, 1,160 ft^3/s, June 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1970	2300	e2600	e2850	1730	1770	1710	2960	1190	2590	1680	2900
2	1960	2300	e3400	e2450	1720	1770	1710	2980	1190	2870	1680	2900
3	1970	2310	e3600	e2200	1720	1740	1720	2970	1180	2960	1690	2890
4	1970	2300	e4600	e2000	1720	1730	1710	2980	1170	2990	1770	2910
5	1960	2290	e5600	e1900	1720	1750	1710	2970	1160	3250	2130	2910
6	1970	2300	e6600	e1800	1750	1720	1560	2980	1170	4600	2160	2920
7	1970	2300	e7350	e1750	1910	1720	1380	2980	1230	5800	2160	2910
8	1960	2300	e8350	e1750	1820	1730	1360	2970	1540	6960	2170	2930
9	1970	2310	e8100	e1750	1780	1740	1360	2520	1530	7070	2170	2970
10	1960	2320	e7350	e1750	1790	1740	1340	2280	1560	6660	2170	2960
11	1980	2330	e6350	e1750	1750	1720	1340	2080	1530	6620	2170	2960
12	1970	2330	e6100	1730	1750	1710	1570	1890	1530	6470	2170	2960
13	1970	2310	e6100	1720	1730	1730	1760	1690	1540	6010	2180	2950
14	1980	2290	e5850	1720	1730	1730	1830	1500	1540	5990	2180	2900
15	1820	2310	e5350	1720	1720	1740	1980	1320	1530	6010	2190	2900
16	1620	2300	e5100	1730	1730	1740	1990	1210	1950	5230	2740	2910
17	1550	2300	e5100	1730	1780	1720	1990	1200	2030	3950	2980	2920
18	1550	2310	e5100	1720	1750	1740	2070	1230	2390	2900	2980	2910
19	1560	2310	e5100	1730	1750	1730	2530	1230	2570	2350	2960	2920
20	1560	2300	e5350	1730	1780	1720	2970	1210	2570	2270	2970	2920
21	1570	2290	e6350	1720	1770	1730	3000	1210	2570	2290	2970	2920
22	1560	2320	e7100	1720	1750	1720	3000	1210	2590	2290	2980	2950
23	1560	2300	e7100	1780	1750	1710	2550	1200	2570	2110	2970	2930
24	1570	e2300	e7100	1790	1740	1700	2480	1220	2570	1910	2970	2920
25	1560	e2300	e7100	1760	1740	1710	2490	1180	2570	1730	2980	2930
26	1550	e2300	e7100	1740	1760	1710	2480	1180	2590	1710	2910	2930
27	1780	e2300	e6850	1730	1750	1720	2890	1180	2590	1680	2900	2940
28	2290	e2300	e5850	1730	1760	1720	2970	1180	2590	1670	2890	2930
29	2300	e2300	e4850	1730	---	1720	2970	1180	2570	1670	2900	2930
30	2300	e2300	e3850	1720	---	1720	2950	1180	2590	1680	2900	2930
31	2310	---	e3350	1720	---	1710	---	1200	---	1670	2890	---
TOTAL	57570	69130	179650	56620	49150	53560	63370	56270	57900	113960	77560	87760
MEAN	1857	2304	5795	1826	1755	1728	2112	1815	1930	3676	2502	2925
MAX	2310	2330	8350	2850	1910	1770	3000	2980	2590	7070	2980	2970
MIN	1550	2290	2600	1720	1720	1700	1340	1180	1160	1670	1680	2890
AC-FT	114200	137100	356300	112300	97490	106200	125700	111600	114800	226000	153800	174100

e Estimated.

C—042215

C-042215

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2377	3245	5337	7180	6512	7118	5459	3675	3265	4072	3848	3346
MAX	6520	12940	22700	37860	34170	33530	22630	12600	9996	7145	7565	7872
(WY)	1975	1974	1984	1970	1986	1983	1982	1983	1983	1983	1974	1974
MIN	853	855	832	936	905	895	804	809	913	1708	1059	1002
(WY)	1978	1978	1978	1992	1991	1992	1991	1977	1990	1970	1991	1990

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1969 - 1994	
ANNUAL TOTAL	1802069		922500			
ANNUAL MEAN	4937		2527		4614	
HIGHEST ANNUAL MEAN					11880	1983
LOWEST ANNUAL MEAN					1394	1977
HIGHEST DAILY MEAN	37500	Mar 27	8350	Dec 8	146000	Feb 19 1986
LOWEST DAILY MEAN	886	Feb 6	1160	Jun 5	602	May 21 1977
ANNUAL SEVEN-DAY MINIMUM	894	Feb 1	1180	May 31	611	May 18 1977
INSTANTANEOUS PEAK FLOW			8600	Dec 8	150000	Feb 19 1986
INSTANTANEOUS PEAK STAGE					100.06	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	3574000		1830000		3342000	
10 PERCENT EXCEEDS	8830		4600		8990	
50 PERCENT EXCEEDS	3830		2110		2580	
90 PERCENT EXCEEDS	963		1540		1050	

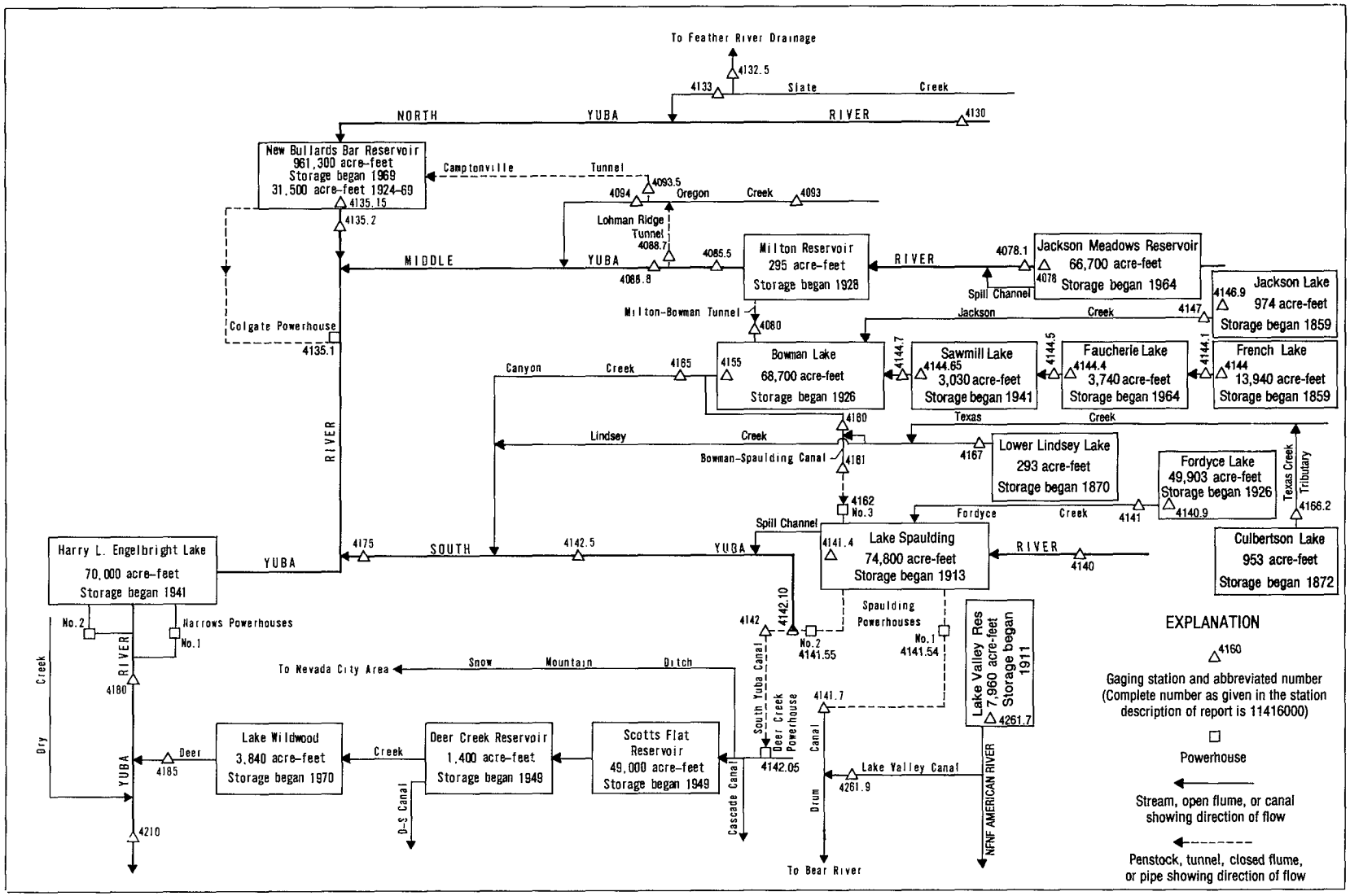

Figure 34. Diversions and storage in Yuba River basin.

C-042217

11407800 JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'33", long 120°33'08", in NW 1/4 SE 1/4 sec.18, T.19 N., R.13 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank at Jackson Meadows Dam on Middle Yuba River, 0.7 mi downstream from Pass Creek, and 5.7 mi southeast of Sierra City.

DRAINAGE AREA.--37.6 mi^2.

PERIOD OF RECORD.--November 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Nov. 9, 1964. Usable capacity, 66,700 acre-ft between elevations 5,933.0 ft, bottom of intake tower, and 6,036.0 ft, top of radial spillway gates. Dead contents, 2,500 acre-ft. Records, including extremes, represent total contents. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,100 acre-ft, May 31 and June 1, 1993, elevation, 6,037.78 ft; minimum since reservoir first filled, 2,500 acre-ft, Sept. 27-29, 1976, elevation, 5,933.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 63,300 acre-ft, Oct. 1-4, elevation, 6,030.33 ft; minimum, 22,300 acre-ft, Jan. 15-22, elevation, 5981.98 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Nevada Irrigation District, dated February 1965)

5,930	2,000	5,990	27,600
5,940	3,920	6,000	35,300
5,950	6,760	6,010	43,900
5,960	10,600	6,020	53,200
5,970	15,400	6,030	63,000
5,980	21,000	6,040	73,500

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63300	58700	38200	23000	22400	23000	26000	36200	47900	48500	40800	32000
2	63300	58200	e37500	22800	22400	23000	26200	36500	48000	48400	40500	31600
3	63300	57800	e36800	22800	22400	23000	26500	36900	48100	48200	40300	31400
4	63300	57200	e36200	22700	22400	23000	26700	37300	48200	48100	40000	31100
5	63200	56500	e35500	22600	22400	23200	26900	37800	48300	47900	39700	30800
6	63100	55800	e34800	22600	22400	23200	27100	38400	48400	47700	39500	30500
7	63000	55000	e34000	22600	22400	23200	27300	38900	48500	47500	39100	30200
8	62900	54300	e33300	22500	22500	23300	27400	39400	48600	47200	38900	29900
9	62800	53600	e32500	22500	22500	23300	27600	40200	48600	46900	38600	29600
10	62700	52800	e31800	22400	22500	23500	27700	40800	48700	46700	38400	29300
11	62600	52100	e31000	22400	22500	23500	27900	41600	48700	46400	38100	29100
12	62500	51400	e30300	22400	22500	23600	28100	42200	48700	46100	37800	28700
13	62400	50600	e29500	22400	22500	23600	28400	42800	48700	45900	37400	28500
14	62300	49900	e28800	22400	22500	23700	28800	43200	48800	45600	37200	28200
15	62300	49200	e28000	22300	22500	23900	29200	43600	48800	45300	36800	27900
16	62300	48400	e27500	22300	22500	24000	29800	44000	48800	45100	36500	27600
17	62200	47700	e27200	22300	22700	24100	30500	44300	48800	44800	36200	27300
18	62100	47000	e26900	22300	22700	24200	31200	44600	48800	44500	35900	27100
19	62000	46200	e26600	22300	22700	24300	31900	44900	48800	44200	35600	26900
20	61900	45500	e26300	22300	22800	24400	32500	45100	48800	43900	35300	26600
21	61800	44800	25900	22300	22900	24500	33100	45400	48800	43700	35000	26300
22	61700	44100	25300	22300	22900	24600	33600	45600	48800	43400	34700	26000
23	61600	43400	24900	22400	22900	24700	33900	45900	48800	43200	34500	25800
24	61500	42700	24600	22400	22900	24800	34300	46100	48800	42900	34200	25500
25	61300	42000	24300	22400	22900	24900	34600	46400	48800	42600	33900	25300
26	61100	41400	24000	22400	22900	24900	34800	46700	48800	42400	33600	25000
27	60800	40700	23700	22400	22900	25000	35000	47000	48800	42100	33300	24700
28	60500	40000	23400	22400	22900	25200	35300	47200	48700	41800	33000	24500
29	60100	39500	23300	22400	---	25400	35500	47400	48700	41600	32800	24300
30	59700	38800	23200	22400	---	25600	35800	47500	48700	41300	32500	24000
31	59200	---	23100	22400	---	25800	---	47700	---	41000	32200	---
MAX	63300	58700	38200	23000	22900	25800	35800	47700	48800	48500	40800	32000
MIN	59200	38800	23100	22300	22400	23000	26000	36200	47900	41000	32200	24000
a	6026.10	6004.07	5983.10	5982.09	5982.92	5987.18	6000.57	6014.11	6015.12	6006.63	5995.95	5984.54
b	-4200	-20400	-15700	-700	+500	+2900	+10000	+11900	+1000	-7700	-8800	-8200

CAL YR 1993 MAX 71100 MIN 10900 b +1900
WTR YR 1994 MAX 63300 MIN 22300 b -39400

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

C-042218

11407810 MIDDLE YUBA RIVER AT JACKSON MEADOWS DAM, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'36", long 120°33'15", in NW 1/4 SE 1/4 sec.18, T.19 N., R.13 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, in outlet structure near right bank below Jackson Meadows Dam on Middle Yuba River, 0.7 mi downstream from Pass Creek, and 5.7 mi southeast of Sierra City.

DRAINAGE AREA.--37.6 mi^2.

PERIOD OF RECORD.--October 1988 to July 1994 (discontinued).

GAGE.--Differential-pressure recorder and orifice control in outlet pipe. Elevation of gage is 5,910 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Jackson Meadows Reservoir (station 11407800). Flow over the spillway and large releases bypass this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 11 ft^3/s, Oct. 4-12, 1993; minimum daily, 3.5 ft^3/s, Aug. 4 to Oct. 3, 1993.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	10	9.8	8.5	8.3	8.3	8.4	9.3	9.9	9.9	---	---
2	3.5	10	9.8	8.5	8.3	8.3	8.4	9.3	9.9	9.9	---	---
3	3.5	10	9.7	8.5	8.3	8.3	8.4	9.3	9.9	9.9	---	---
4	11	10	9.5	8.5	8.3	8.3	8.4	9.3	9.9	9.9	---	---
5	11	10	9.5	8.4	8.3	8.3	8.4	9.3	9.9	9.9	---	---
6	11	10	9.5	8.4	8.3	8.3	8.4	9.3	9.9	9.9	---	---
7	11	10	9.5	8.3	8.3	8.3	8.4	9.3	9.9	9.9	---	---
8	11	10	9.5	8.3	8.3	8.3	8.4	9.4	9.9	9.8	---	---
9	11	10	9.4	8.3	8.3	8.3	8.4	9.4	9.9	9.8	---	---
10	11	10	9.4	8.3	8.3	8.3	8.4	9.4	9.9	9.8	---	---
11	11	10	9.4	8.3	8.3	8.3	8.5	9.5	9.9	9.8	---	---
12	11	10	9.4	8.3	8.3	8.3	8.7	9.5	9.9	9.8	---	---
13	10	10	9.3	8.3	8.3	8.4	8.7	9.5	9.9	9.8	---	---
14	10	10	9.3	8.3	8.3	8.4	8.7	9.7	9.9	9.8	---	---
15	10	10	9.3	8.3	8.3	8.4	8.7	9.7	9.9	9.7	---	---
16	10	10	9.3	8.3	8.3	8.4	8.8	9.7	9.9	9.7	---	---
17	10	10	9.3	8.3	8.3	8.4	8.8	9.7	9.9	9.7	---	---
18	10	9.9	9.3	8.3	8.3	8.4	8.9	9.7	9.9	9.7	---	---
19	10	9.9	9.2	8.3	8.3	8.4	8.9	9.7	9.9	---	---	---
20	10	9.9	9.2	8.3	8.3	8.4	8.9	9.7	9.9	---	---	---
21	10	9.9	9.2	8.3	8.3	8.4	8.9	9.7	9.9	---	---	---
22	10	9.9	8.5	8.3	8.3	8.4	9.0	9.8	9.9	---	---	---
23	10	9.8	8.5	8.3	8.3	8.4	9.0	9.8	9.9	---	---	---
24	10	9.8	8.5	8.3	8.3	8.3	9.0	9.8	9.9	---	---	---
25	10	9.8	8.5	8.3	8.3	8.3	9.0	9.8	9.9	---	---	---
26	10	9.8	8.5	8.3	8.3	8.3	9.0	9.8	9.9	---	---	---
27	10	9.8	8.5	8.3	8.3	8.4	9.0	9.8	9.9	---	---	---
28	10	9.8	8.5	8.3	8.3	8.4	9.0	9.8	9.9	---	---	---
29	10	9.8	8.5	8.3	---	8.4	9.2	9.8	9.9	---	---	---
30	10	9.8	8.5	8.3	---	8.4	9.2	9.8	9.9	---	---	---
31	10	---	8.5	8.3	---	8.4	---	9.8	---	---	---	---
TOTAL	299.5	297.9	282.8	258.3	232.4	258.9	261.9	297.4	297.0	---	---	---
MEAN	9.66	9.93	9.12	8.33	8.30	8.35	8.73	9.59	9.90	---	---	---
MAX	11	10	9.8	8.5	8.3	8.4	9.2	9.8	9.9	---	---	---
MIN	3.5	9.8	8.5	8.3	8.3	8.3	8.4	9.3	9.9	---	---	---
AC-FT	594	591	561	512	461	514	519	590	589	---	---	---

CAL YR 1993 TOTAL 2694.2 MEAN 7.38 MAX 11 MIN 3.5 AC-FT 5340

C-042219

11407815 MIDDLE YUBA RIVER, CONTROLLED RELEASE AT JACKSON MEADOWS DAM, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'36", long 120°33'15", in NW 1/4 SE 1/4 sec.18, T.19 N., R.13 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, in outlet structure near right bank below Jackson Meadows Dam on Middle Yuba River, 0.7 mi downstream from Pass Creek, and 5.7 mi southeast of Sierra City.

DRAINAGE AREA.--37.6 mi^2.

PERIOD OF RECORD.--July to September 1994.

GAGE.--Ultrasonic meter measures flow in two outlet pipes. Elevation of gage is 5,910 ft above sea level, from topographic map.

REMARKS.--Flow regulated by Jackson Meadows Reservoir (station 11407800). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 150 ft^3/s, Aug. 11-15, 1994; minimum daily, 131 ft^3/s, several days in 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	e131	144
2	---	---	---	---	---	---	---	---	---	---	e131	144
3	---	---	---	---	---	---	---	---	---	---	e131	144
4	---	---	---	---	---	---	---	---	---	---	e131	143
5	---	---	---	---	---	---	---	---	---	---	e131	143
6	---	---	---	---	---	---	---	---	---	---	e131	142
7	---	---	---	---	---	---	---	---	---	---	e131	142
8	---	---	---	---	---	---	---	---	---	---	e131	142
9	---	---	---	---	---	---	---	---	---	---	e137	141
10	---	---	---	---	---	---	---	---	---	---	e143	140
11	---	---	---	---	---	---	---	---	---	---	e150	139
12	---	---	---	---	---	---	---	---	---	---	e150	139
13	---	---	---	---	---	---	---	---	---	---	150	138
14	---	---	---	---	---	---	---	---	---	---	150	138
15	---	---	---	---	---	---	---	---	---	---	150	138
16	---	---	---	---	---	---	---	---	---	---	149	137
17	---	---	---	---	---	---	---	---	---	---	149	137
18	---	---	---	---	---	---	---	---	---	---	149	137
19	---	---	---	---	---	---	---	---	---	e131	148	136
20	---	---	---	---	---	---	---	---	---	131	148	136
21	---	---	---	---	---	---	---	---	---	132	148	135
22	---	---	---	---	---	---	---	---	---	132	148	135
23	---	---	---	---	---	---	---	---	---	131	148	134
24	---	---	---	---	---	---	---	---	---	131	147	134
25	---	---	---	---	---	---	---	---	---	131	147	134
26	---	---	---	---	---	---	---	---	---	e131	146	133
27	---	---	---	---	---	---	---	---	---	e131	146	133
28	---	---	---	---	---	---	---	---	---	e131	146	133
29	---	---	---	---	---	---	---	---	---	e131	145	133
30	---	---	---	---	---	---	---	---	---	e131	145	132
31	---	---	---	---	---	---	---	---	---	e131	145	---
TOTAL	---	---	---	---	---	---	---	---	---	---	4432	4136
MEAN	---	---	---	---	---	---	---	---	---	---	143	138
MAX	---	---	---	---	---	---	---	---	---	---	150	144
MIN	---	---	---	---	---	---	---	---	---	---	131	132
AC-FT	---	---	---	---	---	---	---	---	---	---	8790	8200

e Estimated.

C-042220

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'37", long 120°36'37", in NW 1/4 NE 1/4 sec.3, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank 100 ft downstream from tunnel outlet near upper end of Bowman Lake, and 6.9 mi east of Graniteville.

PERIOD OF RECORD.--May 1928 to September 1930, February 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "Milton-Bowman tunnel at outlet."

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 5,592.51 ft above sea level. Prior to Sept. 22, 1964, at datum 0.56 ft higher.

REMARKS.--No estimated daily discharges. Records excellent. Tunnel diverts from Middle Yuba River at Milton Reservoir, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake. Nearly the entire flow of Middle Yuba River is diverted during low and medium flows. Middle Yuba River is regulated by Jackson Meadows Reservoir (station 11407800) since November 1964. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 492 ft^3/s, Feb. 11, 1941; minimum daily, 0.4 ft^3/s, Oct. 7, 1944.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	232	344	57	7.3	10	20	21	13	68	125	136
2	1.7	232	342	56	7.2	11	21	21	13	70	125	135
3	1.7	232	340	56	7.2	11	23	22	12	70	124	135
4	1.7	251	339	59	7.2	11	22	23	12	70	124	135
5	1.7	306	338	54	7.1	20	21	24	12	70	124	135
6	1.7	341	336	30	7.4	18	21	31	12	88	124	134
7	20	344	335	29	8.9	16	20	30	12	127	123	134
8	50	348	337	28	7.6	15	20	27	11	128	123	134
9	51	357	341	28	7.3	15	21	31	11	127	123	133
10	53	352	335	28	8.3	16	20	29	11	127	127	133
11	52	357	333	28	7.7	17	20	29	10	127	139	133
12	52	358	330	23	7.2	16	22	28	10	127	142	133
13	51	358	327	10	7.3	16	24	26	10	127	141	133
14	54	357	328	9.1	7.2	18	26	23	9.9	127	141	133
15	57	357	324	8.9	7.1	19	28	22	9.8	127	141	132
16	55	357	323	8.8	7.0	19	32	21	9.7	127	140	132
17	53	356	321	8.7	10	18	34	21	9.6	127	141	131
18	52	356	319	8.6	9.5	18	37	20	9.6	126	140	131
19	33	356	318	8.4	7.8	18	39	19	9.5	126	139	131
20	6.7	354	316	7.7	8.6	17	36	19	9.3	125	139	130
21	8.7	354	314	7.5	8.5	18	31	18	6.2	127	139	130
22	88	355	301	7.3	7.8	18	28	17	7.8	127	138	129
23	58	352	229	8.4	7.6	16	26	17	8.9	127	138	129
24	52	351	149	8.8	7.6	15	23	17	8.9	126	138	129
25	66	350	148	8.0	7.9	15	23	17	8.8	126	138	129
26	121	348	148	7.7	8.5	15	21	16	8.8	126	138	129
27	138	347	148	7.6	9.7	15	22	16	8.9	126	137	128
28	138	347	133	7.3	9.7	17	21	15	8.8	125	137	131
29	169	350	89	7.3	---	18	21	14	8.7	125	137	129
30	233	349	58	7.3	---	19	21	14	18	125	136	128
31	233	---	57	7.3	---	20	---	14	---	125	136	---
TOTAL	1954.6	10064	8400	630.7	222.2	505	744	662	310.2	3596	4157	3954
MEAN	63.1	335	271	20.3	7.94	16.3	24.8	21.4	10.3	116	134	132
MAX	233	358	344	59	10	20	39	31	18	128	142	136
MIN	1.7	232	57	7.3	7.0	10	20	14	6.2	68	123	128
AC-FT	3880	19960	16660	1250	441	1000	1480	1310	615	7130	8250	7840

C-042221

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1964, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.00	14.6	31.4	35.3	51.6	72.9	176	242	142	28.6	6.77	3.88
MAX	101	65.4	118	124	143	213	294	414	272	90.9	26.8	10.1
(WY)	1963	1951	1956	1942	1963	1940	1936	1937	1933	1938	1952	1952
MIN	.50	.50	.70	1.00	4.28	9.19	19.7	45.6	24.8	4.21	2.06	1.00
(WY)	1931	1931	1931	1931	1931	1933	1938	1936	1934	1939	1964	1931

SUMMARY STATISTICS	WATER YEARS 1928 - 1964	
ANNUAL MEAN	67.9	
HIGHEST ANNUAL MEAN	97.2	1930
LOWEST ANNUAL MEAN	33.5	1949
HIGHEST DAILY MEAN	492	Feb 11 1941
LOWEST DAILY MEAN	.40	Oct 7 1944
ANNUAL SEVEN-DAY MINIMUM	.50	Oct 1 1930
ANNUAL RUNOFF (AC-FT)	49180	
10 PERCENT EXCEEDS	220	
50 PERCENT EXCEEDS	20	
90 PERCENT EXCEEDS	3.0	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	150	137	63.0	39.1	36.1	44.0	41.1	83.4	74.8	62.9	86.2	153
MAX	310	368	357	211	197	265	128	333	224	174	253	300
(WY)	1981	1973	1973	1985	1985	1986	1975	1969	1993	1976	1968	1974
MIN	1.52	1.34	1.25	1.17	1.20	1.68	5.38	7.69	5.23	3.95	2.20	1.72
(WY)	1977	1977	1977	1977	1977	1977	1977	1986	1976	1977	1993	1981

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	41819.5		35199.7			
ANNUAL MEAN	115		96.4		81.0	
HIGHEST ANNUAL MEAN					133	1973
LOWEST ANNUAL MEAN					14.5	1977
HIGHEST DAILY MEAN	390	Jun 1	358	Nov 12	438	Nov 4 1972
LOWEST DAILY MEAN	1.7	Sep 11	1.7	Oct 1	1.1	Dec 11 1976
ANNUAL SEVEN-DAY MINIMUM	1.7	Sep 22	4.3	Oct 1	1.1	Dec 26 1976
ANNUAL RUNOFF (AC-FT)	82950		69820		58710	
10 PERCENT EXCEEDS	347		331		261	
50 PERCENT EXCEEDS	70		34		24	
90 PERCENT EXCEEDS	1.9		7.9		4.8	

C-042222

11408550 MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°31'19", long 120°34'57", in SW 1/4 SW 1/4 sec.12, T.19 N., R.12 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 350 ft downstream from Milton Dam, and 4.1 mi southeast of Sierra City.

DRAINAGE AREA.--39.9 mi^2.

PERIOD OF RECORD.--October 1987 to current year. Unpublished records for water years 1965-87 available in files of the U.S. Geological Survey.

REVISED RECORDS.--WDR CA-88-4: Drainage area.

GAGE.--Water-stage recorder, sharp-crested weir, and crest-stage gage. Elevation of gage is 5,690 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage 450 ft downstream at different datum.

REMARKS.--Records good except estimated daily discharges, which are fair. Middle Yuba River is regulated by Jackson Meadows Reservoir (station 11407800) since November 1964 and Milton Reservoir. Tunnel diverts from Middle Yuba River at Milton Dam, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake via Milton-Bowman Tunnel (station 11408000). Practically the entire flow of Middle Yuba River is diverted during low and medium flows. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 541 ft^3/s, June 1, 1993, gage height, 7.90 ft; minimum daily, 0.77 ft^3/s, Nov. 3, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 67 ft^3/s, Oct. 21, gage height, unknown; minimum daily, 1.8 ft^3/s, Apr. 9-19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e4.5	e3.7	3.8	3.1	4.3	4.2	4.0	4.0	3.7	3.7	4.1	4.2
2	e4.5	3.6	3.8	3.1	4.3	4.2	4.0	4.0	3.7	3.8	4.2	4.2
3	e4.5	3.6	3.8	3.0	4.3	4.2	3.9	4.0	3.7	3.8	4.2	4.2
4	6.5	3.5	3.8	3.0	4.3	4.2	3.8	4.0	3.6	3.8	4.3	4.3
5	6.8	3.7	3.7	3.0	4.3	4.3	3.7	4.1	3.5	3.9	4.2	4.2
6	8.1	12	3.7	3.0	4.3	4.3	3.7	4.1	3.6	3.9	4.2	4.2
7	6.1	18	3.7	3.0	4.3	4.3	3.7	4.1	3.6	3.9	4.2	4.2
8	2.8	12	3.7	3.0	4.3	4.3	3.3	4.1	3.6	3.9	4.2	4.2
9	3.0	4.3	3.8	3.0	4.3	4.3	1.8	4.1	3.6	3.9	4.2	4.2
10	2.7	4.4	3.7	3.0	4.3	4.3	1.8	4.1	3.6	3.9	4.2	4.2
11	2.7	4.3	3.7	3.0	4.3	4.3	1.8	4.1	3.6	3.9	4.2	4.2
12	2.5	4.3	3.7	3.0	4.3	4.1	1.8	4.1	3.7	4.0	4.2	4.2
13	3.0	4.3	3.7	3.0	4.2	4.1	1.8	4.0	3.7	4.0	4.2	4.2
14	4.3	4.5	3.7	3.0	4.2	4.0	1.8	4.0	3.6	4.0	4.2	4.2
15	4.3	4.2	3.7	3.0	4.2	4.0	1.8	4.0	3.6	4.0	4.2	4.2
16	4.3	4.1	3.6	3.0	4.2	4.0	1.8	4.0	3.6	4.0	4.2	4.2
17	3.6	4.1	3.6	3.0	4.2	4.0	1.8	4.0	3.6	4.0	4.2	4.2
18	3.3	4.0	3.6	3.0	4.2	4.0	1.8	3.9	3.6	4.0	4.2	4.2
19	3.3	3.9	3.6	3.5	4.2	4.0	1.8	3.8	3.6	4.1	4.2	4.2
20	6.5	3.9	3.5	4.1	4.2	4.0	3.1	3.8	3.6	4.2	4.2	4.2
21	e56	3.8	3.6	4.2	4.2	4.0	3.9	3.8	3.7	4.2	4.2	4.2
22	e41	3.7	3.6	4.2	4.2	4.0	3.9	3.8	3.6	4.2	4.2	4.2
23	e3.7	3.8	3.5	4.3	4.2	4.0	3.9	3.7	3.5	4.2	4.2	4.2
24	e3.7	3.8	3.4	4.3	4.2	4.0	3.9	3.7	3.5	4.2	4.2	4.2
25	e3.7	3.8	3.3	4.3	4.2	4.0	4.0	3.7	3.5	4.2	4.2	4.2
26	e3.7	3.8	3.3	4.3	4.2	4.0	4.0	3.7	3.6	4.2	4.2	4.2
27	e3.7	3.8	3.3	4.3	4.2	4.0	4.0	3.8	3.5	4.2	4.2	4.2
28	e3.7	3.8	3.3	4.3	4.2	4.1	4.0	3.7	3.5	4.2	4.2	4.2
29	e3.7	3.8	3.3	4.3	---	4.1	4.0	3.7	3.5	4.2	4.2	4.2
30	e3.7	3.8	3.2	4.3	---	4.0	4.0	3.6	3.7	4.2	4.2	4.2
31	e3.7	---	3.1	4.3	---	4.0	---	3.6	---	4.1	4.2	---
TOTAL	217.6	148.3	110.8	108.9	118.8	127.3	92.6	121.1	108.0	124.8	130.2	126.1
MEAN	7.02	4.94	3.57	3.51	4.24	4.11	3.09	3.91	3.60	4.03	4.20	4.20
MAX	56	18	3.8	4.3	4.3	4.3	4.0	4.1	3.7	4.2	4.3	4.3
MIN	2.5	3.5	3.1	3.0	4.2	4.0	1.8	3.6	3.5	3.7	4.1	4.2
AC-FT	432	294	220	216	236	252	184	240	214	248	258	250

e Estimated.

C-042223

11408550 MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.30	3.83	3.55	3.53	30.7	3.86	3.63	14.7	48.6	11.2	4.08	3.99
MAX	7.02	4.94	3.92	3.95	195	4.11	4.14	74.8	219	53.0	5.36	4.68
(WY)	1994	1994	1988	1988	1993	1993	1991	1989	1993	1993	1993	1993
MIN	3.55	3.34	3.26	3.30	3.19	3.45	3.09	3.58	3.38	3.37	3.46	3.42
(WY)	1989	1991	1989	1989	1989	1990	1994	1990	1990	1988	1988	1990

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1988 - 1994	
ANNUAL TOTAL	15016.3		1534.5			
ANNUAL MEAN	41.1		4.20		11.1	
HIGHEST ANNUAL MEAN					40.8	1993
LOWEST ANNUAL MEAN					3.53	1990
HIGHEST DAILY MEAN	426	Jun 1	56	Oct 21	426	Jun 1 1993
LOWEST DAILY MEAN	2.5	Oct 12	1.8	Apr 9	.77	Nov 3 1990
ANNUAL SEVEN-DAY MINIMUM	3.0	Oct 8	1.8	Apr 9	1.8	Apr 9 1994
INSTANTANEOUS PEAK FLOW			67	Oct 21	541	Jun 1 1993
INSTANTANEOUS PEAK STAGE			Unknown	Oct 21	7.90	Jun 1 1993
ANNUAL RUNOFF (AC-FT)	29780		3040		8070	
10 PERCENT EXCEEDS	221		4.3		4.7	
50 PERCENT EXCEEDS	4.3		4.0		3.8	
90 PERCENT EXCEEDS	3.7		3.1		3.3	

C-042224

11408870 LOHMAN RIDGE TUNNEL AT INTAKE, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°24'25", long 120°59'43", in SW 1/4 NE 1/4 sec.20, T.18 N., R.8 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, at tunnel intake at Our House Dam and 4.0 mi southeast of Camptonville.

PERIOD OF RECORD.--October 1988 to current year. Records of monthly diversion published with Middle Yuba River below Our House Dam, near Camptonville (station 11408880) for water years 1969-88.

GAGE.--Water-stage recorder. Datum of gage is 2,014.77 ft above sea level.

REMARKS.--Records good. Tunnel diverts water from Middle Yuba River to New Bullards Bar Reservoir (station 11413515) for power development. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 839 ft^3/s, Mar. 25, 1989; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	2.9	42	29	33	321	172	146	51	4.3	.00	.00
2	.83	2.2	23	29	31	317	176	e140	45	4.2	.00	.00
3	.69	1.7	18	29	30	315	185	145	39	4.1	.00	.00
4	.63	1.6	18	38	28	293	187	157	34	3.5	.00	.00
5	5.2	1.4	19	89	28	421	172	e168	30	3.2	.00	.00
6	8.4	1.5	15	67	42	457	168	235	34	3.0	.00	.00
7	14	4.0	14	50	213	372	e165	e256	33	1.9	.00	.00
8	15	19	147	43	172	325	e165	e218	26	1.1	.00	.00
9	2.6	17	388	39	110	298	196	240	21	.66	.00	.00
10	1.4	4.0	151	34	136	301	163	245	17	.22	.00	.00
11	3.7	2.8	129	31	161	367	145	240	13	.17	.00	.00
12	5.9	14	131	28	113	303	145	245	10	.13	.00	.00
13	3.7	7.7	81	26	93	271	e145	212	8.2	.08	.00	.00
14	14	4.1	160	26	78	283	e159	190	6.4	.04	.00	.00
15	62	2.6	118	25	69	301	164	174	5.1	.00	.00	.00
16	52	2.8	79	24	61	297	189	168	13	.00	.00	.00
17	34	2.7	60	23	233	256	211	163	20	.00	.00	.00
18	20	2.4	49	23	232	229	e228	143	19	.00	.00	.00
19	13	2.2	42	24	168	219	247	e136	19	.00	.00	.00
20	9.6	2.0	37	23	167	204	e245	125	18	.00	.00	.00
21	8.0	2.0	33	23	180	195	e227	e110	16	.00	.00	.00
22	34	10	31	23	180	194	e204	e102	18	.00	.00	.00
23	37	19	29	50	161	181	e190	e95	14	.00	.00	.00
24	8.7	7.4	28	85	141	167	174	e92	12	.00	.00	.00
25	5.0	5.0	27	82	160	156	190	90	12	.00	.00	.00
26	3.4	4.3	28	70	210	143	179	88	10	.00	.00	.00
27	2.6	3.8	34	62	371	137	179	83	9.0	.00	.00	.00
28	2.7	5.7	35	51	333	149	167	75	8.4	.00	.00	.00
29	2.9	55	32	44	---	162	159	67	6.9	.00	.00	.37
30	2.9	142	30	40	---	165	152	61	5.6	.00	.00	.33
31	3.2	---	30	36	---	177	---	56	---	.00	.00	---
TOTAL	377.87	352.8	2058	1266	3934	7976	5448	4665	573.6	26.60	0.00	0.70
MEAN	12.2	11.8	66.4	40.8	140	257	182	150	19.1	.86	.000	.023
MAX	62	142	388	89	371	457	247	256	51	4.3	.00	.37
MIN	.63	1.4	14	23	28	137	145	56	5.1	.00	.00	.00
AC-FT	750	700	4080	2510	7800	15820	10810	9250	1140	53	.00	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

MEAN	14.1	26.2	51.5	126	219	349	379	260	166	29.4	4.21	1.83
MAX	51.4	72.1	117	410	485	644	596	516	503	111	18.0	5.92
(WY)	1990	1989	1993	1993	1993	1993	1989	1993	1993	1993	1993	1989
MIN	.000	1.42	1.36	2.18	16.6	257	182	55.4	10.6	.86	.000	.000
(WY)	1989	1991	1991	1991	1991	1994	1994	1992	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1989 - 1994	
ANNUAL TOTAL	101020.28		26678.57			
ANNUAL MEAN	277		73.1		135	
HIGHEST ANNUAL MEAN					280	1993
LOWEST ANNUAL MEAN					73.1	1994
HIGHEST DAILY MEAN	837	Mar 24	457	Mar 6	839	Mar 25 1989
LOWEST DAILY MEAN	.63	Oct 4	.00	Jul 15	.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	.78	Sep 28	.00	Jul 15	.00	Oct 1 1988
ANNUAL RUNOFF (AC-FT)	200400		52920		97650	
10 PERCENT EXCEEDS	651		212		439	
50 PERCENT EXCEEDS	189		26		34	
90 PERCENT EXCEEDS	3.3		.00		.00	

e Estimated.

C-042225

11408880 MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°24'42", long 120°59'49", in SW 1/4 NW 1/4 sec.20, T.18 N., R.9 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 300 ft downstream from Our House Dam, and 4.0 mi southeast of Camptonville.

DRAINAGE AREA.--145 mi^2.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder, sharp-crested weir since Oct. 16, 1990, and crest-stage gage. Datum of gage is 1,957.51 ft above sea level. Prior to Nov. 4, 1970, water-stage recorder at datum 10 ft higher. Prior to Oct. 1, 1987, at site 75 ft downstream.

REMARKS.--Records good. Natural flow of stream affected by Jackson Meadows Reservoir (station 11407800), Milton Bowman Tunnel (station 11408000), which diverts upstream from station to Bowman Lake (station 11415500), and Lohman Ridge Tunnel (station 11408870), which diverts 300 ft upstream to Oregon Creek and then to New Bullards Bar Reservoir (station 11413515) via Camptonville Tunnel (station 11409350). Other small diversions upstream from station. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,600 ft^3/s, Feb. 17, 1986, gage height, 27.4 ft, from floodmark, present datum, from rating curve extended above 8,600 ft^3/s on basis of theoretical rating of Our House Dam spillway; minimum daily, 2.1 ft^3/s, Jan. 10, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 56 ft^3/s, several days Apr. 18 to May 11, gage height, 17.58; minimum daily, 21 ft^3/s, several days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	33	34	34	34	36	34	53	53	33	25	22
2	33	33	33	34	34	e36	34	53	53	33	25	23
3	33	33	33	34	34	e35	34	53	53	33	24	23
4	33	33	33	34	e34	35	34	53	53	33	24	23
5	33	33	33	34	34	37	34	53	54	33	24	22
6	33	33	33	34	34	37	34	55	54	33	23	22
7	33	33	33	34	e35	36	34	55	54	33	23	21
8	33	33	35	34	36	36	34	55	54	33	23	22
9	33	33	38	34	35	35	35	55	54	33	23	21
10	33	33	35	34	35	36	34	55	54	32	23	21
11	33	33	35	34	35	36	e34	55	54	32	23	22
12	33	33	35	34	35	36	34	55	54	31	e23	22
13	33	33	34	33	35	35	34	54	54	31	23	23
14	33	33	35	33	34	35	45	54	54	31	23	24
15	34	33	34	33	34	36	e50	54	54	31	e22	23
16	34	33	34	33	34	35	e55	53	44	30	21	23
17	33	33	34	33	36	35	e54	53	36	29	21	22
18	33	33	34	33	36	35	55	53	35	29	22	22
19	33	33	34	33	35	35	55	53	35	28	22	21
20	33	33	33	33	35	35	55	53	35	28	22	22
21	33	33	33	33	36	34	54	52	34	28	22	21
22	33	33	33	33	35	34	e54	52	34	28	22	e21
23	33	34	30	34	34	34	54	52	34	28	22	e21
24	33	33	33	34	34	34	e54	52	34	27	22	21
25	33	33	33	34	34	34	54	52	34	27	22	21
26	33	33	34	34	35	34	54	52	34	26	22	22
27	33	33	34	34	37	34	54	53	34	26	22	22
28	33	33	34	34	36	34	53	53	33	26	22	22
29	33	34	34	34	---	34	e53	53	33	26	22	28
30	33	34	34	34	---	34	53	53	33	25	22	31
31	33	---	34	34	---	34	---	53	---	25	22	---
TOTAL	1025	993	1048	1044	975	1086	1349	1654	1328	921	701	674
MEAN	33.1	33.1	33.8	33.7	34.8	35.0	45.0	53.4	44.3	29.7	22.6	22.5
MAX	34	34	38	34	37	37	55	55	54	33	25	31
MIN	33	33	30	33	34	34	34	52	33	25	21	21
AC-FT	2030	1970	2080	2070	1930	2150	2680	3280	2630	1830	1390	1340

e Estimated.

C-042226

11408880 MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.5	83.4	149	282	208	223	159	157	87.0	32.6	29.2	29.1
MAX	52.7	462	1040	1854	1521	1015	1368	1422	739	49.6	42.1	39.6
(WY)	1983	1982	1982	1970	1986	1989	1982	1969	1983	1983	1984	1986
MIN	16.6	20.4	20.7	7.10	28.0	31.3	33.9	32.5	28.8	17.5	13.0	14.3
(WY)	1978	1978	1987	1987	1977	1976	1970	1970	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1969 - 1994	
ANNUAL TOTAL	30773		12798			
ANNUAL MEAN	84.3		35.1		122	
HIGHEST ANNUAL MEAN					481	1969
LOWEST ANNUAL MEAN					26.3	1977
HIGHEST DAILY MEAN	2240	Jan 22	55	Apr 16	17000	Feb 17 1986
LOWEST DAILY MEAN	30	Dec 23	21	Aug 16	2.1	Jan 10 1982
ANNUAL SEVEN-DAY MINIMUM	33	Dec 19	21	Sep 19	3.2	Oct 21 1970
INSTANTANEOUS PEAK FLOW			56	Apr 18	20600	Feb 17 1986
INSTANTANEOUS PEAK STAGE			17.58	Apr 18	27.40	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	61040		25380		88510	
10 PERCENT EXCEEDS	57		53		107	
50 PERCENT EXCEEDS	34		34		34	
90 PERCENT EXCEEDS	33		22		25	

C-042227

11409300 OREGON CREEK AT CAMPTONVILLE, CA

LOCATION.--Lat 39°26'46", long 121°02'43", in SE 1/4 NE 1/4 sec.11, T.18 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 25 ft downstream from county bridge, 0.5 mi southeast of Camptonville, and 5.5 mi upstream from mouth.

DRAINAGE AREA.--23.0 mi^2.

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,230 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,550 ft^3/s, Feb. 17, 1986, gage height, 11.56 ft, from rating curve extended above 1,600 ft^3/s; minimum daily, 0.53 ft^3/s, Aug. 14-16, 1977, Sept. 6, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 8	2200	*211	*5.52				

Minimum daily, 0.87 ft^3/s, Sept. 20, 22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	3.0	9.0	12	12	110	32	30	11	3.3	1.5	1.0
2	2.2	3.0	6.2	13	12	106	31	28	10	3.2	1.4	.98
3	2.2	2.9	5.3	14	11	105	31	27	9.7	3.2	1.5	1.0
4	2.2	3.0	5.3	17	17	101	30	27	9.2	3.2	1.4	1.0
5	2.3	3.0	5.0	29	17	138	29	27	9.0	3.0	1.4	1.0
6	2.4	2.9	4.6	23	14	149	27	32	9.4	3.1	1.3	1.1
7	2.5	2.9	4.7	19	75	122	28	38	8.9	3.1	1.2	1.1
8	2.5	3.0	59	17	63	106	32	35	8.3	3.2	1.3	1.1
9	2.5	3.0	90	15	38	95	52	32	7.7	3.1	1.3	1.1
10	2.5	3.0	27	13	61	94	44	30	7.3	2.8	1.2	1.0
11	2.7	3.2	28	12	70	112	35	27	6.9	2.4	1.1	1.1
12	3.3	4.5	27	11	46	99	32	26	6.5	2.4	1.1	1.2
13	3.1	4.0	19	10	35	89	30	24	6.3	2.3	1.1	1.2
14	3.7	3.4	28	9.8	29	85	29	23	6.1	2.2	1.2	1.3
15	18	3.2	22	9.4	26	83	29	22	6.0	2.1	1.1	1.3
16	11	3.2	18	9.0	24	81	29	23	5.9	2.2	1.0	1.1
17	5.6	3.2	15	8.7	58	74	29	26	5.8	2.2	.98	.99
18	4.5	3.2	13	8.4	61	68	29	23	5.6	2.4	.90	.96
19	4.0	3.2	11	8.1	46	63	28	22	5.4	2.8	.96	.92
20	3.8	3.2	10	7.8	44	58	27	21	5.3	2.8	.98	.87
21	3.6	3.2	9.3	7.5	43	53	26	20	5.1	2.9	.98	.88
22	3.5	4.0	8.9	7.3	41	51	25	19	4.8	2.9	.98	.87
23	3.4	4.6	8.6	12	37	47	24	18	4.6	2.7	1.0	.87
24	3.4	3.9	8.4	21	36	44	25	17	4.5	2.6	1.0	.90
25	3.3	3.4	8.3	20	42	41	32	16	4.4	2.3	1.0	.98
26	3.1	3.3	8.5	20	66	37	36	16	4.1	1.9	1.0	1.0
27	2.9	3.4	9.7	19	118	35	42	15	4.0	1.6	1.0	1.0
28	3.0	3.8	11	17	113	33	37	14	3.9	1.6	.98	1.1
29	3.0	12	11	15	---	33	34	13	3.7	1.6	.96	1.4
30	3.0	25	11	14	---	34	32	12	3.4	1.5	.98	1.5
31	3.0	---	11	13	---	33	---	11	---	1.4	1.0	---
TOTAL	118.4	130.6	512.8	432.0	1255	2379	946	714	192.8	78.0	34.80	31.82
MEAN	3.82	4.35	16.5	13.9	44.8	76.7	31.5	23.0	6.43	2.52	1.12	1.06
MAX	18	25	90	29	118	149	52	38	11	3.3	1.5	1.5
MIN	2.2	2.9	4.6	7.3	11	33	24	11	3.4	1.4	.90	.87
AC-FT	235	259	1020	857	2490	4720	1880	1420	382	155	69	63

C-042228

11409300 OREGON CREEK AT CAMPTONVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.62	36.6	79.2	138	149	166	108	53.4	16.3	5.31	2.67	2.78
MAX	16.9	214	407	547	664	453	391	176	47.8	12.2	5.83	9.12
(WY)	1982	1974	1984	1970	1986	1988	1982	1975	1983	1974	1983	1983
MIN	.84	3.03	2.30	3.88	6.27	10.8	7.64	9.45	3.61	1.11	.68	.67
(WY)	1989	1991	1977	1991	1991	1977	1977	1987	1987	1977	1977	1988

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	26484.4		6825.22			
ANNUAL MEAN	72.6		18.7		63.2	
HIGHEST ANNUAL MEAN					146	1982
LOWEST ANNUAL MEAN					5.38	1977
HIGHEST DAILY MEAN	954	Jan 22	149	Mar 6	3200	Feb 17 1986
LOWEST DAILY MEAN	2.1	Sep 30	.87	Sep 20	.53	Aug 14 1977
ANNUAL SEVEN-DAY MINIMUM	2.2	Sep 28	.90	Sep 18	.54	Aug 11 1977
INSTANTANEOUS PEAK FLOW			211	Dec 8	4550	Feb 17 1986
INSTANTANEOUS PEAK STAGE			5.52	Dec 8	11.56	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	52530		13540		45800	
10 PERCENT EXCEEDS	183		46		161	
50 PERCENT EXCEEDS	21		8.3		13	
90 PERCENT EXCEEDS	2.9		1.1		2.0	

C-042229

11409350 CAMPTONVILLE TUNNEL AT INTAKE, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°26'25", long 121°03'30", in NW 1/4 SW 1/4 sec.11, T.18 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, at tunnel intake at Log Cabin Dam 1.0 mi southwest of town of Camptonville.

PERIOD OF RECORD.--October 1988 to current year. Records of monthly diversion published with Oregon Creek below Log Cabin Dam near Camptonville (station 11409400) for water years 1969-88.

GAGE.--Water-stage recorder. Datum of gage is 1,952.00 ft above sea level (from contractor's drawings).

REMARKS.--Records good except for periods of estimated record, which are considered fair. Water is diverted to Oregon Creek from the Middle Yuba River through Lohman Ridge Tunnel (station 11408870) 1,000 ft upstream. Camptonville Tunnel diverts water from Oregon Creek to New Bullards Bar Reservoir (station 11413515) for power development. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,090 ft^3/s, Mar. 25, 1989; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	30	29	32	422	163	133	41	1.2	.00	.00
2	.00	.00	13	29	30	410	166	129	37	.87	.00	.00
3	.00	.00	7.6	30	29	409	178	129	33	.71	.00	.00
4	.00	.00	7.4	37	27	378	183	138	28	.48	.00	.00
5	.04	.00	8.1	83	27	534	159	148	26	.04	.00	.00
6	.58	.00	4.6	62	36	614	150	237	28	.00	.00	.00
7	2.4	.00	3.7	47	263	486	e147	270	27	.00	.00	.00
8	4.3	5.6	160	41	214	417	152	228	21	.00	.00	.00
9	.14	5.0	479	37	115	376	e213	246	17	.00	.00	.00
10	.00	.31	148	33	165	373	e166	251	14	.00	.00	.00
11	.00	.00	120	30	209	468	e138	244	11	.00	.00	.00
12	.23	3.9	131	27	125	388	e133	246	7.6	.00	.00	.00
13	.01	1.1	71	26	95	342	e130	209	5.6	.00	.00	.00
14	3.3	.06	153	25	77	345	e140	175	3.8	.00	.00	.00
15	49	.00	109	24	67	360	e145	150	2.1	.00	.00	.00
16	43	.00	67	23	60	352	e170	e144	8.5	.00	.00	.00
17	19	.00	51	22	256	308	e202	e139	18	.00	.00	.00
18	9.3	.00	43	22	282	277	229	e121	17	.00	.00	.00
19	e3.4	.00	38	22	181	260	248	e117	16	.00	.00	.00
20	e2.3	.00	33	22	175	230	e250	e104	15	.00	.00	.00
21	e1.5	.00	30	21	e190	217	e225	e90	13	.00	.00	.00
22	e19	1.3	28	21	201	214	e191	81	14	.00	.00	.00
23	e21	8.3	27	40	166	189	174	e74	12	.00	.00	.00
24	e2.0	1.0	26	75	143	167	156	e73	9.9	.00	.00	.00
25	e.60	.05	25	73	165	151	182	71	9.4	.00	.00	.00
26	e.20	.00	26	62	256	138	e179	69	7.7	.00	.00	.00
27	.00	.00	31	56	480	130	185	65	6.9	.00	.00	.00
28	.00	.26	32	47	443	137	161	59	6.2	.00	.00	.00
29	.00	36	31	41	---	149	150	52	4.5	.00	.00	.00
30	.00	175	29	38	---	152	139	48	2.7	.00	.00	.00
31	.00	---	29	34	---	167	---	45	---	.00	.00	---
TOTAL	181.31	237.88	1991.4	1179	4509	9561	5204	4285	463.9	3.30	0.00	0.00
MEAN	5.85	7.93	64.2	38.0	161	308	173	138	15.5	.11	.000	.000
MAX	49	175	479	83	480	614	250	270	41	1.2	.00	.00
MIN	.00	.00	3.7	21	27	130	130	45	2.1	.00	.00	.00
AC-FT	360	472	3950	2340	8940	18960	10320	8500	920	6.5	.00	.00

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

MEAN	15.8	33.3	55.2	163	293	501	446	287	180	25.6	1.80	.98
MAX	54.9	105	136	555	668	793	686	564	542	97.5	7.81	5.33
(WY)	1990	1989	1993	1993	1993	1993	1989	1993	1993	1993	1993	1989
MIN	.000	1.28	.83	1.16	16.7	308	173	53.2	7.22	.11	.000	.000
(WY)	1989	1991	1991	1991	1991	1994	1994	1992	1992	1994	1992	1991

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1989 - 1994	
ANNUAL TOTAL	119685.66		27615.79			
ANNUAL MEAN	328		75.7		166	
HIGHEST ANNUAL MEAN					335	1993
LOWEST ANNUAL MEAN					75.7	1994
HIGHEST DAILY MEAN	1080	Mar 24	614	Mar 6	1090	Mar 25 1989
LOWEST DAILY MEAN	.00	Sep 11	.00	Oct 1	.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 21	.00	Oct 27	.00	Oct 1 1988
ANNUAL RUNOFF (AC-FT)	237400		54780		120100	
10 PERCENT EXCEEDS	790		228		552	
50 PERCENT EXCEEDS	236		22		31	
90 PERCENT EXCEEDS	.00		.00		.00	

C—042230

C-042230

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°26'22", long 121°03'29", in SW 1/4 SW 1/4 sec.11, T.18 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 500 ft downstream from Log Cabin Dam, 670 ft upstream from High Point Ravine, and 1.1 mi southwest of Camptonville.

DRAINAGE AREA.--29.1 mi^2.

PERIOD OF RECORD.--August 1968 to current year.
WATER TEMPERATURE: Water years 1972-79.

REVISED RECORDS.--WDR CA-81-4: 1980(M).

GAGE.--Water-stage recorder, sharp-crested weir since Nov. 13, 1990, and crest-stage gage. Datum of gage is 1,912.73 ft above sea level (levels by Yuba County Water Agency). Prior to July 24, 1973, at site 470 ft downstream at datum 8.40 ft lower. July 24, 1973, to Sept. 30, 1986, at site on right bank at present datum.

REMARKS.--Records good except for periods of estimated daily discharge which are fair. Lohman Ridge Tunnel (station 11408870) diverts water into the basin from the Middle Yuba River. Camptonville Tunnel (station 11409350), maximum capacity, about 1,000 ft^3/s, 520 ft upstream, diverts water out of the basin to New Bullards Bar Reservoir (station 11413515); diversion began October 1968. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft^3/s, Feb. 17, 1986, gage height, 11.24 ft, datum then in use, from rating curve extended above 50 ft^3/s based on flow-over-dam computation; minimum daily, 0.34 ft^3/s, Sept. 18, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15 ft^3/s, May 7, gage height, 7.23 ft; minimum daily, 1.7 ft^3/s, Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	8.4	12	11	10	14	11	13	13	8.1	2.3	1.8
2	5.1	7.8	e12	10	10	14	e12	13	13	8.0	2.2	1.9
3	4.9	7.3	e12	10	10	14	e12	13	13	8.0	2.1	1.9
4	4.6	7.0	e12	10	10	13	e13	14	13	8.0	2.2	1.9
5	6.4	6.9	e12	10	10	14	e13	14	13	7.7	2.0	2.0
6	9.9	6.7	e12	10	10	14	e13	14	13	7.7	2.1	2.0
7	10	7.0	e12	10	13	13	e11	15	13	7.2	2.1	2.0
8	10	11	e12	10	13	12	10	14	13	5.7	2.0	1.9
9	8.8	11	11	10	12	12	11	14	12	5.0	1.9	1.9
10	6.3	11	11	10	13	12	11	14	12	4.0	1.9	1.9
11	6.8	8.1	11	10	13	12	10	14	12	3.6	2.0	1.9
12	9.5	11	11	10	12	12	10	14	12	3.5	1.9	2.1
13	9.2	11	11	10	12	12	11	14	12	3.4	1.9	2.2
14	9.4	11	10	10	12	12	12	14	12	3.3	1.9	2.3
15	12	9.6	10	10	12	13	12	14	12	3.2	1.9	2.3
16	12	8.5	10	10	12	13	12	13	10	3.1	1.8	2.3
17	11	8.5	10	10	12	12	13	13	7.9	3.1	1.8	2.1
18	11	8.4	10	10	12	12	13	13	8.1	2.9	1.8	2.0
19	10	8.5	10	10	12	11	13	13	8.3	2.8	1.8	2.0
20	10	8.3	10	10	14	11	13	13	8.5	2.9	1.8	2.0
21	9.8	8.0	11	10	13	11	14	13	8.4	2.9	1.8	1.9
22	11	10	10	10	12	11	13	13	8.4	2.8	1.8	1.8
23	11	12	10	10	12	11	13	13	8.2	2.6	1.8	1.8
24	10	11	10	11	12	11	13	13	8.2	2.6	1.8	1.8
25	9.7	11	10	11	12	11	13	13	8.2	2.6	1.8	1.9
26	9.2	9.6	10	11	12	11	13	13	8.2	2.5	1.8	2.0
27	8.3	9.4	10	11	14	11	13	13	8.2	2.5	1.8	1.9
28	7.9	9.7	10	11	14	11	13	13	8.2	2.5	1.8	1.9
29	8.0	11	11	11	---	11	13	13	8.1	2.4	1.7	1.9
30	8.1	14	11	11	---	11	13	13	8.1	2.4	1.8	3.0
31	8.2	---	11	10	---	11	---	13	---	2.3	1.8	---
TOTAL	273.0	282.7	335	318	335	373	367	416	313.0	129.3	59.1	60.3
MEAN	8.81	9.42	10.8	10.3	12.0	12.0	12.2	13.4	10.4	4.17	1.91	2.01
MAX	12	14	12	11	14	14	14	15	13	8.1	2.3	3.0
MIN	4.6	6.7	10	10	10	11	10	13	7.9	2.3	1.7	1.8
AC-FT	541	561	664	631	664	740	728	825	621	256	117	120

e Estimated.

C-042231

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.36	17.1	48.0	84.8	61.2	44.9	31.6	16.9	11.1	8.14	6.26	5.51
MAX	12.8	72.5	273	604	617	189	268	111	22.0	15.2	13.1	14.3
(WY)	1972	1982	1982	1969	1986	1969	1969	1969	1969	1983	1983	1984
MIN	1.95	2.27	1.97	4.57	3.39	7.14	8.11	8.00	4.89	1.82	1.32	1.37
(WY)	1989	1977	1977	1977	1977	1977	1986	1986	1987	1977	1977	1988

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	7996.0		3261.4			
ANNUAL MEAN	21.9		8.94		28.4	
HIGHEST ANNUAL MEAN					128	1969
LOWEST ANNUAL MEAN					4.20	1977
HIGHEST DAILY MEAN	831	Jan 20	15	May 7	5340	Feb 17 1986
LOWEST DAILY MEAN	4.6	Oct 4	1.7	Aug 29	.34	Sep 18 1972
ANNUAL SEVEN-DAY MINIMUM	5.0	Sep 28	1.8	Aug 23	.74	Sep 18 1972
INSTANTANEOUS PEAK FLOW			15	May 7	6400	Feb 17 1986
INSTANTANEOUS PEAK STAGE			7.23	May 7	11.24	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	15860		6470		20560	
10 PERCENT EXCEEDS	16		13		17	
50 PERCENT EXCEEDS	11		10		9.7	
90 PERCENT EXCEEDS	8.3		1.9		3.1	

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA

LOCATION.--Lat 39°31'30", long 120°56'13", in NE 1/4 SW 1/4 sec.11, T.19 N., R.9 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 200 ft downstream from St. Catherine Creek, 3.1 mi southwest of Goodyears Bar, and 6.4 mi southwest of Downieville.

DRAINAGE AREA.--250 mi^2.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1949, published as North Fork Yuba River below Goodyears Bar. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1041: 1944. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,453 ft above sea level (river-profile survey).

REMARKS.--No estimated daily discharges. Records good. Several small diversions upstream from station for irrigation and mining. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft^3/s, Feb. 1, 1963, gage height, 23.8 ft (corrected), from floodmarks, from rating curve extended above 8,500 ft^3/s on basis of one float measurement at 17,900 ft^3/s and slope-area measurements at gage heights 19.15 and 23.8 ft; minimum daily, 60 ft^3/s, Sept. 7-14, 1977.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 19	2400	*1500	*5.72				

Minimum daily, 86 ft^3/s, Sept. 21-24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	156	211	192	191	593	645	664	431	157	106	89
2	151	154	190	192	192	601	665	687	402	155	106	89
3	150	153	179	197	191	611	714	703	378	154	105	89
4	149	153	181	232	186	598	670	755	352	153	104	90
5	173	152	175	341	184	846	629	806	338	151	103	89
6	176	151	169	264	207	869	616	1090	351	148	100	89
7	164	152	168	233	373	740	591	1010	335	145	100	88
8	158	151	610	223	331	679	573	920	307	143	100	88
9	156	150	714	215	267	661	577	1230	291	140	99	87
10	159	150	392	205	352	705	517	1190	277	137	99	88
11	164	153	368	199	357	745	509	1230	264	136	98	89
12	169	172	327	194	290	651	551	1230	255	135	98	91
13	164	158	269	192	264	629	622	1100	247	133	97	105
14	221	152	349	192	241	698	688	982	240	131	96	98
15	465	149	299	191	231	774	790	913	232	129	94	95
16	290	150	253	191	223	782	938	804	227	127	93	91
17	266	150	229	191	470	683	1070	756	222	127	93	89
18	218	150	218	192	433	654	1170	708	216	124	92	89
19	195	148	206	194	353	631	1250	667	210	122	92	88
20	184	147	201	194	350	580	1210	622	204	121	92	87
21	178	148	196	192	350	597	1120	588	198	120	92	86
22	173	165	192	191	340	590	1010	574	192	120	91	86
23	170	162	189	242	318	526	908	567	187	118	92	86
24	167	149	186	273	302	485	763	572	183	117	92	86
25	164	148	186	253	321	457	754	585	180	114	92	90
26	161	149	188	241	404	443	684	579	175	112	91	92
27	158	151	196	228	613	463	684	564	173	111	90	89
28	158	163	194	217	596	519	642	535	169	110	90	91
29	158	314	191	206	---	571	653	497	164	109	90	135
30	157	359	189	203	---	588	651	473	159	108	88	118
31	157	---	189	196	---	662	---	459	---	107	89	---
TOTAL	5725	4959	7804	6666	8930	19631	22864	24060	7559	4014	2984	2767
MEAN	185	165	252	215	319	633	762	776	252	129	95.6	92.2
MAX	465	359	714	341	613	869	1250	1230	431	157	106	135
MIN	149	147	168	191	184	443	509	459	159	107	88	86
AC-FT	11360	9840	15480	13220	17710	38940	45350	47720	14990	7960	5880	5490

C-042233

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	188	363	629	800	914	1030	1360	1744	1077	351	182	148
MAX	1407	2380	3830	4031	4367	2803	2822	3894	3627	1384	417	256
(WY)	1963	1951	1965	1970	1986	1986	1982	1952	1983	1983	1983	1983
MIN	71.8	107	97.3	117	138	151	241	335	170	82.7	66.8	71.0
(WY)	1978	1978	1977	1991	1977	1977	1977	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1931 - 1994	
ANNUAL TOTAL	347468		117943			
ANNUAL MEAN	952		323		731	
HIGHEST ANNUAL MEAN					1566	1982
LOWEST ANNUAL MEAN					141	1977
HIGHEST DAILY MEAN	4820	Mar 17	1250	Apr 19	26500	Jan 13 1980
LOWEST DAILY MEAN	147	Nov 20	86	Sep 21	60	Sep 7 1977
ANNUAL SEVEN-DAY MINIMUM	149	Nov 15	87	Sep 18	60	Sep 7 1977
INSTANTANEOUS PEAK FLOW			1500	Apr 19	40000	Feb 1 1963
INSTANTANEOUS PEAK STAGE			5.72	Apr 19	25.80	Feb 1 1963
ANNUAL RUNOFF (AC-FT)	689200		233900		529400	
10 PERCENT EXCEEDS	2350		700		1820	
50 PERCENT EXCEEDS	558		192		321	
90 PERCENT EXCEEDS	158		92		125	

C-042234

11413250 SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'57", long 121°03'03", in SE 1/4 SW 1/4 sec.2, T.20 N., R.8 E., Plumas County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 30 ft upstream from diversion dam on Slate Creek, 0.3 mi upstream from Feney Ravine, and 4.5 mi northeast of town of Strawberry Valley.
PERIOD OF RECORD.--February 1962 to current year. Monthly discharge only published as adjustment to Slate Creek below diversion dam near Strawberry Valley (station 11413300) February 1962 to September 1966; records of daily discharge are in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Datum of gage is sea level.
REMARKS.--No estimated daily discharges. Tunnel diverts water from Slate Creek to Sly Creek Reservoir (station 11395400) for power development. See schematic diagrams of South Fork Feather and Yuba River basins.
COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 863 ft^3/s, Apr. 6, 1963; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	20	17	30	196	207	149	45	2.9	.00	.00
2	.00	.00	12	20	28	202	210	143	41	.00	.00	.00
3	.00	.00	8.0	23	28	206	225	139	38	.00	.00	.00
4	.00	.00	7.6	55	25	204	205	142	35	.00	.00	.00
5	.00	.00	6.0	117	24	359	182	154	33	.00	.00	.00
6	.00	.00	4.7	67	35	386	173	245	37	.00	.00	.00
7	.00	.00	5.1	48	78	319	181	247	33	.00	.00	.00
8	.00	.00	197	39	81	276	179	210	30	.00	.00	.00
9	.00	.00	216	33	60	266	190	226	27	.00	.00	.00
10	.00	.00	119	28	68	290	174	209	25	.00	.00	.00
11	.00	.00	87	24	61	344	163	199	23	.00	.00	.00
12	.00	.00	59	21	49	285	166	184	21	.00	.00	.00
13	.00	.00	40	21	46	266	176	159	20	.00	.00	.00
14	.00	.00	36	21	42	297	188	138	19	.00	.00	.00
15	.00	.00	34	20	40	332	212	127	17	.00	.00	.00
16	.00	.00	24	20	38	318	241	123	16	.00	.00	.00
17	.00	.00	21	21	104	272	251	117	16	.00	.00	.00
18	.00	.00	19	23	85	251	251	113	14	.00	.00	.00
19	.00	.00	16	23	67	239	247	110	14	.00	.00	.00
20	.00	.00	16	23	53	221	227	98	13	.00	.00	.00
21	.00	.00	14	23	51	218	202	88	12	.00	.00	.00
22	.00	.00	14	22	49	210	185	82	11	.00	.00	.00
23	.00	.00	15	73	44	179	171	77	9.8	.00	.00	.00
24	.00	.00	13	78	43	158	152	73	9.4	.00	.00	.00
25	.00	.00	13	63	48	146	158	71	8.8	.00	.00	.00
26	.00	.00	13	50	76	143	154	67	8.1	.00	.00	.00
27	.00	.00	15	44	173	152	172	64	7.6	.00	.00	.00
28	.00	.00	15	39	193	175	160	60	7.2	.00	.00	.00
29	.00	107	14	35	---	191	158	55	6.1	.00	.00	.00
30	.00	70	14	34	---	198	155	51	5.4	.00	.00	.00
31	.00	---	15	32	---	215	---	48	---	.00	.00	---
TOTAL	0.00	177.00	1102.4	1157	1719	7514	5715	3968	602.4	2.90	0.00	0.00
MEAN	.000	5.90	35.6	37.3	61.4	242	190	128	20.1	.094	.000	.000
MAX	.00	107	216	117	193	386	251	247	45	2.9	.00	.00
MIN	.00	.00	4.7	17	24	143	152	48	5.4	.00	.00	.00
AC-FT	.00	351	2190	2290	3410	14900	11340	7870	1190	5.8	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

MEAN	9.55	68.1	88.4	109	122	200	222	189	97.5	21.0	3.01	1.76
MAX	43.5	321	302	347	459	588	690	638	291	144	24.2	21.1
(WY)	1983	1984	1967	1986	1986	1993	1993	1973	1975	1983	1983	1986
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.028	.000	.000	.000
(WY)	1963	1963	1974	1965	1965	1969	1969	1977	1977	1966	1963	1963

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	61008.21		21957.70			
ANNUAL MEAN	167		60.2		94.1	
HIGHEST ANNUAL MEAN					176	1971
LOWEST ANNUAL MEAN					.002	1977
HIGHEST DAILY MEAN	853	Mar 24	386	Mar 6	863	Apr 6 1963
LOWEST DAILY MEAN	.00	Feb 11	.00	Oct 1	.00	Oct 1 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 11	.00	Oct 1	.00	Oct 1 1962
ANNUAL RUNOFF (AC-FT)	121000		43550		68180	
10 PERCENT EXCEEDS	666		204		305	
50 PERCENT EXCEEDS	14		16		14	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042235

11413300 SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'52", long 121°03'04", in SE 1/4 SW 1/4 sec.2, T.20 N., R.8 E., Plumas County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 300 ft downstream from diversion dam, 0.2 mi upstream from Feney Ravine, and 4.5 mi northeast of town of Strawberry Valley.

DRAINAGE AREA.--49.4 mi^2.

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

GAGE.--Water-stage recorder and 130° V-notch weir since October 1982. Elevation of gage is 3,570 ft above sea level, from topographic map.

REMARKS.--Slate Creek Tunnel (station 11413250) diverts up to 900 ft^3/s from Slate Creek Reservoir, capacity, 223 acre-ft, at diversion dam 300 ft upstream, to Sly Creek Reservoir (station 11395400). Diversion began in February 1962. See schematic diagrams of South Fork Feather and Yuba River basins.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 13,600 ft^3/s, Feb. 17, 1986, gage height, 16.89 ft, from rating curve extended above 5,500 ft^3/s on basis of computed flow over dam at gage heights 12.75, 15.90, and 16.89 ft; minimum, 0.3 ft^3/s, Mar. 4, 5, 1962.
Combined flow: Maximum discharge, 13,900 ft^3/s, Dec. 22, 1964; minimum daily, 2.3 ft^3/s, Nov. 23, 1961.

EXTREMES FOR CURRENT YEAR.--Creek only: Maximum discharge, 223 ft^3/s, Dec. 9, gage height, 6.41 ft; minimum daily, 6.4 ft^3/s, Sept. 22-24.
Combined flow: Maximum discharge, 777 ft^3/s, Nov. 29; minimum daily, 6.4 ft^3/s, Sept. 22-24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	11	12	12	12	12	12	11	13	9.1	6.9
2	11	12	11	12	12	12	12	12	11	17	9.0	6.9
3	11	12	12	12	12	12	12	12	11	17	8.9	6.9
4	11	12	12	12	12	12	12	12	11	17	8.8	7.0
5	12	12	12	12	12	12	12	12	11	16	8.6	6.9
6	12	11	12	12	12	12	12	12	11	16	8.4	6.9
7	12	11	12	12	12	12	12	12	11	15	8.2	6.8
8	12	11	13	12	12	12	12	12	11	15	8.1	6.7
9	12	11	14	12	12	12	12	12	11	14	8.1	6.7
10	13	11	12	12	12	12	12	12	11	14	8.1	6.7
11	19	12	12	12	12	12	12	12	11	14	7.9	6.9
12	21	15	12	12	12	12	12	12	11	13	7.9	7.1
13	16	13	12	12	12	12	12	12	11	13	7.7	9.3
14	26	12	12	12	12	12	12	12	11	13	7.7	8.4
15	60	11	12	12	12	12	12	12	11	12	7.5	7.6
16	41	12	12	12	12	12	12	12	11	12	7.3	7.2
17	45	12	12	12	12	12	12	12	11	12	7.3	6.9
18	24	12	12	12	12	12	12	12	11	11	7.3	6.8
19	20	e12	12	12	12	12	12	12	11	11	7.3	6.7
20	18	14	12	12	12	12	12	12	11	11	7.3	6.7
21	17	12	12	12	12	12	12	12	11	11	7.2	6.5
22	16	14	12	12	12	12	12	12	11	11	7.3	6.4
23	15	14	12	12	12	12	12	12	11	11	7.3	6.4
24	14	11	12	12	12	12	12	12	11	10	7.3	6.4
25	14	8.1	12	12	12	12	12	12	11	10	7.2	6.8
26	13	8.1	12	12	12	12	12	12	11	10	7.1	7.0
27	e12	9.7	12	12	12	12	12	11	11	9.9	7.1	6.8
28	e12	14	12	12	12	12	12	11	11	9.7	7.0	8.0
29	e12	19	12	12	---	12	12	11	11	9.6	6.9	12
30	12	11	12	12	---	12	12	11	11	9.4	7.0	8.8
31	12	---	12	12	---	12	---	11	---	9.2	7.0	---
TOTAL	556	360.9	373	372	336	372	360	367	330	386.8	238.9	217.1
MEAN	17.9	12.0	12.0	12.0	12.0	12.0	12.0	11.8	11.0	12.5	7.71	7.24
MAX	60	19	14	12	12	12	12	12	11	17	9.1	12
MIN	11	8.1	11	12	12	12	12	11	11	9.2	6.9	6.4
AC-FT	1100	716	740	738	666	738	714	728	655	767	474	431
MEAN a	17.9	18.0	47.7	49.3	73.5	254	203	140	30.9	12.6	7.71	7.24
AC-FT a	1100	1070	2930	3030	4080	15640	12050	8600	1840	773	474	431

e Estimated.
a Adjusted for diversion to Slate Creek Tunnel.

C-042236

C-042236

11413300 SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	26.9	59.4	139	229	198	207	183	193	50.3	11.7	10.9	10.1
MAX	437	545	1303	1334	1415	901	753	795	481	17.3	19.3	15.3
(WY)	1963	1974	1965	1970	1986	1983	1982	1983	1983	1969	1965	1983
MIN	5.85	7.51	5.80	9.04	8.49	6.61	6.12	6.15	6.95	5.17	3.82	6.13
(WY)	1971	1977	1977	1975	1973	1968	1968	1968	1973	1977	1977	1987

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	40403.9		4269.7			
ANNUAL MEAN	111		11.7		109	
ANNUAL MEAN ADJUSTED a	278		71.9			
HIGHEST ANNUAL MEAN					352	1982
LOWEST ANNUAL MEAN					10.4	1976
HIGHEST DAILY MEAN	2160	Mar 17	60	Oct 15	10600	Dec 22 1964
LOWEST DAILY MEAN	8.1	Nov 25	6.4	Sep 22	.86	Feb 18 1975
ANNUAL SEVEN-DAY MINIMUM	11	Nov 21	6.6	Sep 18	.95	Feb 21 1975
INSTANTANEOUS PEAK FLOW			223	Dec 9	13600	Feb 17 1986
INSTANTANEOUS PEAK STAGE			6.41	Dec 9	16.89	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	80140		8470		79310	
ANNUAL RUNOFF (AC-FT) ADJUSTED a	201100		52020			
10 PERCENT EXCEEDS	382		13		320	
50 PERCENT EXCEEDS	13		12		11	
90 PERCENT EXCEEDS	11		7.3		8.0	

C-042237

11413510 NEW COLGATE POWERPLANT NEAR FRENCH CORRAL, CA

LOCATION.--Lat 39°19'51", long 121°11'23", in NE 1/4 SE 1/4 sec.16, T.17 N., R.7 E., Yuba County, Hydrologic Unit 18020125, at powerplant on right bank of Yuba River, 0.3 mi upstream from Dobbins Creek, and 2.3 mi northwest of French Corral.
PERIOD OF RECORD.--October 1966 to current year. Prior to October 1969, published as "Colgate Powerplant."

GAGE.--Recorded output from powerplant turbines.
REMARKS.--Water is diverted from North Yuba River at New Bullards Bar Reservoir (station 11413515). Colgate Powerplant was rebuilt during the 1970 water year with an increased capacity. Prior to Oct. 31, 1973, Browns Valley Ditch diverted up to 10 ft^3/s at times from the head of the penstock for use in irrigation. See schematic diagram of Yuba River basin.
COOPERATION.--Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	923	1180	1110	1700	1220	514	146	610	1130	2030	1250	775
2	457	1120	1480	753	864	351	1440	630	734	1420	1050	373
3	918	1610	1100	1400	227	757	620	901	901	1380	1310	858
4	964	1710	1100	1200	630	270	497	806	1070	1110	1320	723
5	1320	1140	1090	1280	752	245	495	919	1000	1780	1080	617
6	1200	1190	1340	963	1060	.00	277	827	1180	1450	1050	1220
7	1240	1460	1620	1880	549	313	739	620	979	371	994	205
8	1070	1560	976	1460	9.1	300	338	713	920	1150	761	.00
9	1110	1670	251	1230	386	438	416	723	1080	828	1300	608
10	1610	1340	186	1460	569	761	328	982	1010	785	1080	461
11	1460	1250	754	1260	225	511	754	1050	815	703	990	386
12	1330	1670	1070	1300	745	123	394	772	1000	1020	1070	519
13	1660	1450	1040	1220	404	801	324	1080	1210	801	1220	684
14	1640	1830	562	1030	743	613	736	1180	987	733	853	436
15	768	1660	958	1260	858	548	336	738	876	759	1210	842
16	933	1090	1530	1220	344	412	519	1130	1030	1020	1120	6.6
17	981	1060	940	1360	850	613	494	580	1210	739	865	402
18	958	1440	1080	1160	.00	709	929	916	972	930	877	360
19	1030	1860	678	1540	92	748	654	1280	910	352	960	467
20	1110	1510	1700	866	.00	581	802	660	1090	1000	1070	808
21	1060	1130	1740	869	.00	761	778	727	971	1130	998	525
22	888	1750	1500	1060	116	627	806	843	957	1050	1090	262
23	1050	1370	1590	83	116	663	1040	1000	960	522	1090	252
24	1050	1640	1900	797	678	888	787	797	1020	622	1150	262
25	888	1110	1620	412	587	578	932	589	1000	1090	659	258
26	1020	1600	1050	658	491	695	276	842	956	677	962	740
27	1140	1730	1480	576	366	867	861	692	944	697	797	915
28	832	1370	1730	833	134	828	553	737	930	1110	680	789
29	1440	1260	1770	386	---	613	612	820	1180	784	731	506
30	483	653	1810	639	---	756	835	740	910	810	979	464
31	1090	---	1610	758	---	550	---	948	---	593	585	---
TOTAL	33623	42413	38365	32613	13015.10	17434.00	18718	25862	29932	29446	31151	15723.60
MEAN	1085	1414	1238	1052	465	562	624	834	998	950	1005	524
MAX	1660	1860	1900	1880	1220	888	1440	1280	1210	2030	1320	1220
MIN	457	653	186	83	.00	.00	146	580	734	352	585	.00
AC-FT	66690	84130	76100	64690	25820	34580	37130	51300	59370	58410	61790	31190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1236	1184	1441	1433	1432	1452	1545	1398	1562	1665	1847	1441
MAX	2497	2433	3262	3496	3428	3519	3508	3565	3629	3057	3130	2995
(WY)	1976	1976	1975	1984	1980	1980	1993	1982	1983	1983	1984	1980
MIN	.000	302	96.6	152	54.6	39.3	103	206	404	386	319	.000
(WY)	1975	1978	1978	1977	1977	1977	1979	1977	1977	1977	1977	1974

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1971 - 1994	
ANNUAL TOTAL	768798.00		328295.70			
ANNUAL MEAN	2106		899		1470	
HIGHEST ANNUAL MEAN					2686	1983
LOWEST ANNUAL MEAN					316	1977
HIGHEST DAILY MEAN	3630	Jun 10	2030	Jul 1	4200	Jun 2 1971
LOWEST DAILY MEAN	.00	Sep 26	.00	Feb 18	.00	Mar 14 1971
ANNUAL SEVEN-DAY MINIMUM	406	Sep 21	143	Feb 18	.00	Feb 29 1972
ANNUAL RUNOFF (AC-FT)	1525000		651200		1065000	
10 PERCENT EXCEEDS	3510		1460		3310	
50 PERCENT EXCEEDS	2010		888		1150	
90 PERCENT EXCEEDS	671		357		126	

C-042238

11413515 NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°23'34", long 121°08'25", in SE 1/4 NW 1/4 sec.25, T.18 N., R.7 E., Yuba County, Hydrologic Unit 18020125, Plumas National Forest, in center of dam on North Yuba River, 2.2 mi upstream from Middle Yuba River, and 2.4 mi northwest of North San Juan.
DRAINAGE AREA.--489 mi^2.
PERIOD OF RECORD.--January 1969 to current year.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Yuba County Water Agency).
REMARKS.--Reservoir is formed by concrete-arch dam with a concrete-sidehill spillway. Spill controlled by three 30-ft by 53-ft radial gates. Storage began in January 1969. Usable capacity, 727,380 acre-ft between elevations 1,732.0 ft, minimum power pool, and 1,955.0 ft, normal gross pool. Dead storage, 233,920 acre-ft. Total capacity at normal gross pool, 961,300 acre-ft, elevation, 1,955.0 ft. Water is released to Colgate Powerplant through a tunnel at the dam. Water is diverted into the reservoir from Middle Yuba River via Lohman Ridge Tunnel to Oregon Creek then via Camptonville Tunnel. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Yuba River basin.
COOPERATION.--Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 966,103 acre-ft, June 12, 1982, elevation, 1,956.00 ft; minimum since reservoir first filled, 178,230 acre-ft, Dec. 29, 1980, elevation, 1,700.00 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 703,738 acre-ft, Oct. 1, elevation, 1,895.58 ft; minimum, 506,599 acre-ft, Sept. 30 elevation, 1,839.76 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Yuba County Water Agency in 1969)

1,600	64,900	1,750	270,110
1,630	90,570	1,800	389,977
1,660	122,993	1,850	539,748
1,690	162,983	1,900	721,130
1,720	211,768	1,960	985,471

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	703738	656692	590823	552893	517168	549012	605507	646922	669125	630996	584936	530258
2	703387	654940	588520	551988	516269	551552	606033	648031	668823	628632	583063	529572
3	701906	652185	586812	549847	516462	553396	607141	648586	667841	626419	580571	528268
4	700542	649402	585179	548411	515884	556151	608351	649327	667238	624608	578190	527031
5	698519	647624	583791	547545	515018	560334	609704	650032	666107	621609	576223	525925
6	696812	645665	581436	546779	514665	565284	611059	651999	665090	618979	574543	523687
7	695106	643231	578949	544285	516783	568655	611630	653971	664111	618727	572588	523460
8	693519	640691	582093	542361	518681	571526	613382	655685	663247	616571	571527	523687
9	691780	638085	585665	540574	519615	574028	615029	657813	661821	615567	569202	522716
10	689235	635814	586152	538495	521066	576123	616786	659534	660808	614348	567122	521972
11	687041	633841	586430	536781	522748	579121	617361	661107	660095	613238	565420	521357
12	685159	631431	587230	534809	523234	582162	617901	663397	658822	611738	563484	520486
13	682400	628959	585978	533070	523687	583617	619951	664525	657252	610382	561281	519260
14	679952	625657	586257	531794	523331	585595	620924	665090	656095	609312	559759	518649
15	680334	622945	586152	529833	522618	588101	622692	666408	654977	608208	557566	517201
16	679839	621248	585839	528203	523137	590613	624499	666823	653561	606466	555646	517297
17	678885	619447	585144	526087	524563	592501	626455	668106	651851	605260	553966	516816
18	677588	616894	584936	524530	527064	593973	628487	668559	650737	603770	552457	516333
19	676331	613883	584832	522037	529181	595306	630850	668408	649587	603204	550783	515595
20	674392	611273	582370	520969	531597	596501	632928	669125	648031	601754	548745	514121
21	673064	609384	579570	519969	533956	597380	634863	669617	646774	599705	546779	513385
22	671774	606822	578189	518423	535894	598506	636253	669541	645518	598119	544949	513033
23	670222	604549	575677	519454	537704	599669	637389	669428	644669	597310	543057	512553
24	668785	601753	572623	520098	537967	599705	638232	669428	643120	596360	540906	512298
25	667389	599987	569987	520712	538660	600517	639479	669995	641574	594499	539781	512074
26	665994	597204	568280	520680	540244	600940	641427	670146	640471	593552	538264	510829
27	664149	594288	566406	520680	543223	601188	642420	670412	639038	592361	536781	509014
28	663178	592186	563552	520034	546479	601470	643526	670563	637645	590613	535499	507806
29	660545	591452	560912	520034	---	602283	645075	670563	635850	589181	534251	507329
30	660058	592116	557802	519582	---	603203	645924	670412	634461	587962	532514	506599
31	658673	---	555310	518681	---	604443	---	669844	---	587056	531499	---
MAX	703738	656692	590823	552893	546479	604443	645924	670563	669125	630996	584936	530258
MIN	658673	591452	555310	518423	514665	549012	605507	646922	634461	587056	531499	506599
a	1883.79	1865.40	1854.67	1843.54	1852.03	1868.90	1880.36	1886.76	1877.24	1863.95	1847.49	1839.76
b	-46590	-66557	-36806	-36629	+27798	+57964	+41481	+23920	-35383	-47405	-55557	-24900

CAL YR 1993 b +39234
WTR YR 1994 b -198664

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

C-042239

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°23'26", long 121°08'36", in SE 1/4 NW 1/4 sec.25, T.18 N., R.7 E., Yuba County, Hydrologic Unit 18020125, Plumas National Forest, on right bank at old Colgate Dam, 0.2 mi downstream from New Bullards Bar Dam, and 2.5 mi northwest of North San Juan.

DRAINAGE AREA.--490 mi^2.

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder, and sharp-crested low-water control since Oct. 1, 1986. Elevation of gage is 1,350 ft above sea level, from topographic map. Auxiliary water-stage recorder for high flow 0.9 mi downstream at different datum.

REMARKS.--Records good. Flow regulated by New Bullards Bar Reservoir (station 11413515) since 1969. Prior to 1969, flow regulated by Bullards Bar Reservoir (usable capacity, 31,500 acre-ft). New Colgate Powerplant (station 11413510) diverts at New Bullards Bar Dam 0.2 mi upstream. Water is diverted to Feather River basin through Slate Creek Tunnel (station 11413250). Camptonville Tunnel (station 11409350) diverts water from Middle Yuba River to New Bullards Bar Reservoir. Records include flow over New Bullards Bar Reservoir spillway. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,200 ft^3/s, Jan. 22, 1970, gage height, 35.29 ft, at auxiliary gage, from rating curve extended above 40,000 ft^3/s on basis of computation of flow over old Colgate Dam; minimum daily, 0.42 ft^3/s, Nov. 5, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 49.8 ft, from floodmarks, discharge, 91,600 ft^3/s, at auxiliary gage, from computation of flow over old Colgate Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24 ft^3/s, Aug. 31, gage height, 7.34 ft; minimum daily, 5.9 ft^3/s, for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	6.3	5.9	6.3	6.3	6.3	6.1	6.1	5.9	5.9	6.3	6.2
2	6.5	6.3	5.9	6.3	6.3	6.3	6.1	6.1	5.9	5.9	6.3	6.1
3	6.5	6.1	e6.2	6.3	6.3	6.3	6.1	6.1	5.9	5.9	6.3	6.1
4	6.6	6.1	e6.3	6.3	6.3	6.3	6.1	6.0	5.9	5.9	6.5	6.1
5	6.5	6.1	6.3	6.3	6.3	6.8	6.1	6.1	5.9	5.9	6.4	5.9
6	6.5	6.1	6.3	6.3	6.6	6.2	6.1	6.1	5.9	6.1	6.2	5.9
7	6.5	6.2	6.3	6.3	6.9	6.1	6.1	6.1	5.9	6.9	6.3	5.9
8	6.5	6.3	8.5	6.3	6.6	6.1	6.2	6.1	5.9	6.3	6.3	6.0
9	6.5	6.3	6.7	6.3	6.3	6.1	6.5	5.9	5.9	6.1	6.2	5.9
10	6.5	6.3	6.3	6.3	7.1	6.2	6.3	6.0	5.9	6.1	6.1	5.9
11	6.5	6.3	6.9	6.1	6.7	6.1	6.1	6.0	5.9	6.1	6.1	5.9
12	6.5	6.2	6.5	6.3	6.5	6.1	6.1	5.9	5.9	6.1	6.2	5.9
13	6.5	6.3	6.3	6.3	6.3	6.1	6.1	5.9	5.9	6.3	6.2	5.9
14	6.5	6.2	7.0	6.3	6.3	6.1	6.1	5.9	5.9	6.3	6.1	5.9
15	6.7	6.1	6.5	6.3	6.3	6.1	6.1	5.9	5.9	6.3	6.2	5.9
16	6.5	6.1	6.3	6.3	6.3	6.1	6.1	6.0	5.9	6.3	6.2	5.9
17	6.5	6.3	6.3	6.3	6.9	6.1	6.1	6.1	5.9	6.3	6.1	5.9
18	6.5	6.3	6.3	6.3	6.8	6.0	6.2	6.1	5.9	6.3	6.1	5.9
19	6.5	6.3	6.3	6.3	6.5	5.9	6.3	6.1	5.9	6.3	5.9	6.1
20	6.5	6.3	6.3	6.3	7.0	5.9	6.3	6.1	5.9	6.3	5.9	6.0
21	6.5	6.3	6.3	6.3	8.3	5.9	6.3	6.1	5.9	6.3	5.9	6.0
22	6.5	6.3	6.3	6.3	7.1	5.9	6.3	6.1	5.9	6.3	5.9	6.0
23	6.5	6.3	6.3	6.5	6.6	5.9	6.3	6.1	5.9	6.4	5.9	5.9
24	6.5	6.2	6.5	7.4	6.4	5.9	6.3	6.1	5.9	6.4	5.9	5.9
25	6.5	6.1	6.3	6.7	6.3	5.9	6.6	6.1	5.9	6.3	5.9	5.9
26	6.4	6.1	6.3	6.5	6.4	6.0	6.4	6.0	5.9	6.3	5.9	5.9
27	6.3	6.1	6.3	6.3	6.3	6.1	6.3	5.9	5.9	6.3	5.9	6.5
28	6.3	6.2	6.3	6.3	6.3	6.1	6.3	5.9	5.9	6.3	5.9	5.9
29	6.3	6.7	6.3	6.3	---	6.1	6.4	5.9	6.0	6.3	5.9	5.9
30	6.3	6.2	6.3	6.3	---	6.1	6.3	5.9	5.9	6.3	5.9	5.9
31	6.3	---	6.3	6.3	---	6.1	---	5.9	---	6.3	7.0	---
TOTAL	200.7	187.0	198.9	197.0	184.3	189.2	186.7	186.6	177.1	193.1	189.9	179.1
MEAN	6.47	6.23	6.42	6.35	6.58	6.10	6.22	6.02	5.90	6.23	6.13	5.97
MAX	6.7	6.7	8.5	7.4	8.3	6.8	6.6	6.1	6.0	6.9	7.0	6.5
MIN	6.3	6.1	5.9	6.1	6.3	5.9	6.1	5.9	5.9	5.9	5.9	5.9
AC-FT	398	371	395	391	366	375	370	370	351	383	377	355

e Estimated.

C-042240

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.6	41.7	242	669	846	598	448	412	222	39.7	7.73	8.34
MAX	381	404	3570	8990	7457	4369	4144	4289	3759	759	25.4	45.9
(WY)	1975	1967	1984	1970	1986	1983	1982	1967	1967	1967	1967	1969
MIN	2.60	3.41	4.97	4.65	2.10	5.32	3.09	4.12	1.92	3.48	3.21	2.89
(WY)	1971	1971	1978	1981	1971	1976	1970	1970	1970	1977	1977	1966

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	2536.7		2269.6			
ANNUAL MEAN	6.95		6.22		293	
HIGHEST ANNUAL MEAN					1560	1967
LOWEST ANNUAL MEAN					4.62	1977
HIGHEST DAILY MEAN	12	Jan 20	8.5	Dec 8	48200	Feb 19 1986
LOWEST DAILY MEAN	5.7	Jan 24	5.9	Dec 1	.42	Nov 5 1966
ANNUAL SEVEN-DAY MINIMUM	5.9	Jan 23	5.9	Mar 19	.68	Nov 1 1966
INSTANTANEOUS PEAK FLOW			24	Aug 31	56200	Jan 22 1970
INSTANTANEOUS PEAK STAGE			7.34	Aug 31	35.29	Jan 22 1970
ANNUAL RUNOFF (AC-FT)	5030		4500		212500	
10 PERCENT EXCEEDS	7.9		6.5		45	
50 PERCENT EXCEEDS	6.8		6.2		6.7	
90 PERCENT EXCEEDS	6.1		5.9		4.4	

11413940 KIDD LAKE NEAR SODA SPRINGS, CA

LOCATION.--Lat 39°18'41", long 120°25'54", in SW 1/4 NW 1/4 sec.29, T.17 N., R.14 E., Placer County, Hydrologic Unit 18020125, on outlet structure on Kidd Lake Dam and 3.0 mi west of Soda Springs.

DRAINAGE AREA.--1.00 mi^2.

PERIOD OF RECORD.--July 1991 to current year. Unpublished records for water years 1966-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 6,600.3 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to July 1991, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1855. Usable capacity, 1,505 acre-ft between gage heights 0.0 ft, invert of outlet, and 27.3 ft, crest of spillway. Water is used for power development downstream. Records, including extremes, represent usable contents at 2400 hours.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,558 acre-ft, May 31, 1993, gage height, 27.89 ft; minimum recorded, 112 acre-ft, Dec. 3, 4, 6, 1991, gage height, 3.84 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 821 acre-ft, Oct. 1, gage height, 18.61 ft; minimum recorded, 253 acre-ft, Nov. 4, gage height, 7.86 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated April 1965)

0	0	16	654
4	117	20	918
8	259	28	1568

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	821	309	---	---	---	---	326	608	738	694	643	589
2	800	293	---	---	---	---	334	613	735	692	642	587
3	780	276	---	---	---	---	344	622	735	691	639	589
4	768	253	---	---	---	---	352	631	734	689	637	583
5	758	---	---	---	---	---	359	640	734	688	636	581
6	738	---	---	---	---	---	370	660	735	686	633	580
7	719	---	---	---	---	---	377	670	732	684	632	578
8	702	---	---	---	---	---	386	676	729	682	630	575
9	686	---	---	---	---	---	392	684	725	681	629	573
10	666	---	---	---	---	---	396	692	725	679	626	573
11	653	---	---	---	---	---	399	699	726	678	624	571
12	634	---	---	---	---	---	406	704	726	675	623	571
13	619	---	---	---	---	---	415	709	724	674	622	572
14	607	---	---	---	---	---	424	714	723	672	619	573
15	598	---	---	---	---	---	437	721	722	671	618	571
16	585	---	---	---	---	---	453	727	721	669	618	570
17	568	---	---	---	---	---	469	727	717	668	616	573
18	552	---	---	---	---	---	486	732	715	667	613	571
19	535	---	---	---	---	---	504	734	712	665	612	571
20	520	---	---	---	---	---	520	734	710	664	612	567
21	505	---	---	---	---	---	534	734	709	660	609	565
22	491	---	---	---	---	---	547	734	707	660	608	568
23	475	---	---	---	---	---	560	732	705	658	606	567
24	461	---	---	---	---	---	567	731	703	657	605	568
25	448	---	---	---	---	---	579	729	701	656	603	567
26	431	---	---	---	---	---	580	736	698	654	602	566
27	408	---	---	---	---	---	585	737	696	651	599	566
28	385	---	---	---	---	---	589	738	694	649	598	565
29	364	---	---	---	---	---	594	738	691	648	596	565
30	344	---	---	---	---	---	601	736	696	645	593	565
31	325	---	---	---	---	320	---	737	---	643	592	---
MAX	821	---	---	---	---	---	601	738	738	694	643	589
MIN	325	---	---	---	---	---	326	608	691	643	592	565
a	9.71					9.56	15.12	17.34	16.69	15.83	14.96	14.51
b	-516						+281	+136	-41	-53	-51	-27

WTR YR 1994 b -276

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

C—042242

C-042242

11413945 LOWER CASCADE LAKE NEAR SODA SPRINGS, CA

LOCATION.--Lat 39°18'12", long 120°26'19", in SE 1/4 SE 1/4 sec.30, T.17 N., R.14 E., Placer County, Hydrologic Unit 18020125, Tahoe National Forest, on outlet structure on Lower Cascade Lake Dam and 3.6 mi southwest of Soda Springs.

DRAINAGE AREA.--1.02 mi^2.

PERIOD OF RECORD.--July 1991 to current year. Unpublished records for water years 1966-90 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 6,560.4 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to July 1991, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1860. Usable capacity, 484 acre-ft between gage heights 0.0 ft, invert of outlet, and 21.5 ft, crest of spillway. Water is used for power development downstream. Records, including extremes, represent usable contents at 2400 hours.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 511 acre-ft, May 2, 1993, gage height, 22.33 ft; minimum, 0 acre-ft, Nov. 28, 1991 and many days in 1992, gage height, 0.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 468 acre-ft, May 29 to June 2, gage height, 21.00 ft; minimum, 0 acre-ft, many days, gage height, 0.0 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated April 1965)

0	0	16	318
4	62	20	435
8	133	22	500
12	218	23	530

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	428	313	e0	e80	102	123	195	366	468	445	430	399
2	429	302	e0	e85	102	124	200	372	468	441	428	397
3	429	291	e0	e90	102	124	207	378	467	437	427	395
4	429	283	e0	e95	102	124	212	385	467	433	425	393
5	430	276	e0	95	102	126	216	393	465	428	423	391
6	430	267	e0	95	103	126	221	401	466	424	422	388
7	430	257	e0	95	105	127	223	407	465	418	420	386
8	428	246	e0	96	105	128	228	414	465	413	418	383
9	427	232	e0	96	105	129	231	422	464	408	417	380
10	425	208	e0	96	108	132	234	429	464	403	415	377
11	425	178	e0	96	108	134	236	436	463	398	414	374
12	423	146	e0	96	108	135	240	442	462	393	412	371
13	422	115	e0	96	108	137	246	445	461	388	409	366
14	422	49	e0	96	109	138	253	449	460	386	406	362
15	423	5	e0	97	109	141	262	451	460	387	405	357
16	421	e0	e0	97	109	144	273	454	459	389	403	353
17	418	e0	e5	97	113	146	284	455	458	391	403	347
18	415	e0	e10	97	115	148	296	457	457	392	404	343
19	412	e0	e15	97	116	150	307	459	456	394	405	337
20	409	e0	e20	97	118	153	316	461	456	395	406	332
21	405	e0	e25	97	120	156	324	462	455	400	407	327
22	401	e0	e30	97	120	160	331	463	454	406	407	322
23	397	e0	e35	99	120	162	337	464	453	412	408	317
24	393	e0	e40	101	121	164	341	464	452	417	407	313
25	388	e0	e45	101	121	166	346	465	451	422	407	308
26	380	e0	e50	101	122	167	348	466	449	427	407	303
27	370	e0	e55	101	123	169	351	466	448	432	406	298
28	358	e0	e60	101	123	174	353	466	447	435	405	296
29	347	e0	e65	102	---	179	357	468	446	433	404	292
30	336	e0	e70	102	---	184	361	468	445	433	403	288
31	325	---	e75	102	---	190	---	468	---	431	401	---
MAX	430	313	75	102	123	190	361	468	468	445	430	399
MIN	325	0	0	80	102	123	195	366	445	386	401	288
a	16.24			6.33	7.48	10.72	17.52	21.00	20.30	19.88	18.86	14.83
b	-102	-325	+75	+27	+21	+67	+171	+107	-23	-14	-30	-113

CAL YR 1993 MAX 511 MIN 0 b -27
WTR YR 1994 MAX 468 MIN 0 b -139
e Estimated.
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

C—042243

C-042243

11414000 SOUTH YUBA RIVER NEAR CISCO, CA

LOCATION.--Lat 39°19'17", long 120°33'48", in NW 1/4 SW 1/4 sec.19, T.17 N., R.13 E., Nevada County, Hydrologic Unit 18020125, on right bank 0.9 mi downstream from Rattlesnake Creek, 1.5 mi west of Cisco Grove, and 1.6 mi northwest of Cisco.

DRAINAGE AREA.--51.8 mi^2.

PERIOD OF RECORD.--April 1942 to September 1994 (discontinued). Prior to October 1949, published as South Fork Yuba River near Cisco.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,500 ft above sea level, from topographic map. April 1942 to September 1945, water-stage recorder at site 1,100 ft upstream and October 1945 to Dec. 12, 1988, water-stage recorder at site 900 ft upstream at different datum.

REMARKS.--Records fair including estimated daily discharges. Low flow regulated by several small lakes operated by Pacific Gas & Electric Co. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft^3/s, Jan. 31, 1963, gage height, 19.6 ft from floodmarks in gage house, 20.6 ft from outside floodmarks, site and datum then in use, from rating curve extended above 5,000 ft^3/s on basis of slope-area measurement at gage height 15.8 ft; minimum daily, 0.1 ft^3/s, Nov. 5-7, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 19	2145	*1,270	*4.80				

Minimum daily, 3.2 ft^3/s, Nov. 20, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	30	12	11	e19	68	346	311	134	5.0	6.1	5.2
2	20	29	10	11	19	88	383	384	106	4.7	6.1	5.2
3	20	28	8.6	11	19	101	429	452	89	5.6	6.1	5.2
4	20	29	8.3	25	19	98	326	520	71	5.3	5.7	5.3
5	21	36	8.0	42	17	206	275	508	61	5.0	5.1	5.4
6	21	36	7.6	e25	18	188	274	753	60	4.6	4.9	5.2
7	20	35	7.0	e20	21	157	206	563	58	4.5	4.6	5.1
8	20	33	8.7	19	21	162	199	551	46	5.0	4.6	4.9
9	20	32	30	17	19	182	174	913	40	5.1	4.6	4.8
10	21	31	24	16	21	208	152	821	37	4.9	4.7	4.9
11	21	28	20	15	22	197	171	836	32	4.5	4.6	5.0
12	21	25	15	14	e22	151	260	720	28	4.2	4.6	5.8
13	21	21	15	15	e20	163	373	605	25	4.2	4.5	6.7
14	22	19	e13	16	e20	240	478	506	23	4.0	4.8	6.4
15	29	16	e13	17	20	300	602	368	20	4.1	4.8	6.3
16	36	8.6	e12	17	19	306	712	237	18	4.7	4.4	6.1
17	30	6.0	12	19	e19	211	769	185	17	4.6	4.4	6.1
18	27	4.7	11	22	e19	218	828	170	16	4.6	4.5	6.1
19	24	3.9	e10	25	e19	219	929	181	14	4.4	4.6	5.9
20	23	3.2	e10	27	e19	199	839	181	13	4.2	4.9	5.8
21	22	3.2	e9.6	28	e20	246	727	192	12	4.2	5.3	5.7
22	21	3.4	e9.6	26	e20	248	611	213	11	4.2	5.4	5.7
23	21	3.9	10	29	e21	167	466	225	9.9	4.2	5.4	5.7
24	21	3.6	e10	e28	22	129	271	242	8.8	4.3	5.4	5.7
25	20	3.4	10	27	28	112	223	258	8.2	4.3	5.4	6.1
26	20	3.5	10	25	37	104	196	233	7.5	4.0	5.4	6.0
27	31	3.5	11	22	54	153	208	213	6.8	4.0	5.2	5.7
28	31	4.1	11	e21	56	261	216	185	6.1	3.9	5.2	7.0
29	31	13	11	e20	---	303	243	160	5.9	4.8	5.2	11
30	31	15	11	21	---	350	262	150	5.4	6.0	5.3	7.0
31	31	---	11	e21	---	378	---	166	---	6.1	5.4	---
TOTAL	737	511.0	369.4	652	650	6113	12148	12002	989.6	143.2	157.2	177.0
MEAN	23.8	17.0	11.9	21.0	23.2	197	405	387	33.0	4.62	5.07	5.90
MAX	36	36	30	42	56	378	929	913	134	6.1	6.1	11
MIN	20	3.2	7.0	11	17	68	152	150	5.4	3.9	4.4	4.8
AC-FT	1460	1010	733	1290	1290	12130	24100	23810	1960	284	312	351

e Estimated.

11414000 SOUTH YUBA RIVER NEAR CISCO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.4	90.9	123	121	134	192	426	719	399	78.4	24.6	24.7
MAX	416	837	1011	720	855	672	799	1341	1605	661	92.2	55.9
(WY)	1963	1951	1965	1970	1986	1986	1989	1958	1983	1983	1952	1973
MIN	2.68	2.10	2.47	2.87	8.89	22.9	92.1	178	10.2	4.62	4.25	4.29
(WY)	1978	1991	1991	1991	1991	1977	1967	1992	1992	1994	1984	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1943 - 1994	
ANNUAL TOTAL	108112.3		34649.4			
ANNUAL MEAN	296		94.9		198	
HIGHEST ANNUAL MEAN					390	1982
LOWEST ANNUAL MEAN					41.4	1977
HIGHEST DAILY MEAN	2190	May 31	929	Apr 19	8840	Dec 22 1964
LOWEST DAILY MEAN	3.2	Nov 20	3.2	Nov 20	.10	Nov 5 1954
ANNUAL SEVEN-DAY MINIMUM	3.5	Nov 20	3.5	Nov 20	.16	Nov 1 1954
INSTANTANEOUS PEAK FLOW			1270	Apr 19	18400	Jan 31 1963
INSTANTANEOUS PEAK STAGE			4.80	Apr 19	19.60	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	214400		68730		143100	
10 PERCENT EXCEEDS	932		274		602	
50 PERCENT EXCEEDS	67		20		55	
90 PERCENT EXCEEDS	7.1		4.6		7.9	

C-042245

11414090 FORDYCE LAKE NEAR CISCO, CA

LOCATION.--Lat 39°22'44", long 120°29'40", in NE 1/4 SE 1/4 sec.34, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near left abutment of Fordyce Dam on Fordyce Creek and 5.3 mi northeast of Cisco.
DRAINAGE AREA.--31.7 mi^2.
PERIOD OF RECORD.--October 1977 to current year. Periodic gage heights only for October 1965 to September 1976 and daily contents for water year 1977 are in the files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Datum of gage is 6,290.5 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to Nov. 29, 1976, nonrecording gage on upstream side of dam at same datum.

REMARKS.--Lake is formed by a rockfill dam; storage began in 1926. In 1980 the capacity of Fordyce Lake was increased by the addition of 3 ft of flashboards. Capacity, 49,903 acre-ft between gage heights 0.85 ft, bottom of outlet valve, and 114.6 ft, top of flashboards in spillway. Released water flows down Fordyce Creek (station 11414100) to Lake Spaulding (station 11414140) for use in a power and irrigation system. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 49,903 acre-ft, June 27, July 4, 6, 1982, June 9, 15-17, 1984, and several days in June 1989, gage height, 114.60 ft; minimum, 250 acre-ft, Oct. 31 to Nov. 7, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 33,753 acre-ft, June 8, gage height, 91.48 ft; minimum, 2,647 acre-ft, Sept. 21, gage height, 20.17 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated May 1981)

4	219	20	2,608	40	8,183	80	26,770
5	278	25	3,827	50	11,797	90	32,820
10	774	30	5,170	60	16,174	100	39,342
15	1,570	35	6,628	70	21,196	114.6	49,903

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16863	7238	5995	5597	5153	5017	7297	18858	32996	24991	14453	4917
2	16786	6853	5984	5574	5139	5023	7567	19213	33184	24606	14047	4900
3	16709	6466	5969	5539	5125	5017	7877	19678	33317	24223	13680	4889
4	16656	6315	5960	5551	5099	4984	8155	20168	33336	23844	13258	4875
5	16618	6315	5942	5545	5082	5020	8414	20742	33601	23449	12800	4864
6	16555	6318	5933	5531	5068	5040	8662	21531	33627	23058	12372	4847
7	16336	6324	5915	5513	5079	5045	8836	22014	33728	22675	11918	4831
8	15971	6309	5966	5496	5068	5054	9014	22588	33753	22289	11498	4655
9	15619	6286	5981	5476	5057	5085	9166	23660	33582	21911	11054	4430
10	15271	6274	5978	5459	5068	5153	9285	24555	33241	21558	10889	4205
11	14936	6262	5998	5430	5057	5192	9431	25590	32902	21175	10855	3987
12	14732	6247	5998	5405	5045	5206	9706	26421	32532	20790	10820	3773
13	14592	6224	5981	5382	5026	5229	10097	27167	32157	20439	10782	3483
14	14252	6195	6010	5365	5006	5322	10587	27738	31772	20028	10752	3240
15	13641	6186	6001	5348	4989	5473	11244	28195	31383	19992	10489	3096
16	13344	6162	5992	5322	4967	5603	11990	28510	31057	19951	10030	2997
17	13007	6142	5966	5302	5026	5661	12800	28683	30561	19904	9551	2899
18	12672	6124	5939	5291	5034	5745	13693	28922	30177	19647	9111	2807
19	12315	6107	5904	5277	5029	5804	14610	29054	29771	19243	8679	2720
20	11970	6084	5880	5266	5040	5883	15387	29246	29379	18874	8256	2665
21	11615	6057	5851	5254	5054	5992	16046	29439	28988	18481	7842	2647
22	11236	6060	5821	5229	5051	6086	16627	29759	28594	18122	7436	2760
23	10855	6052	5795	5243	5037	6124	17032	30140	28201	17726	7054	2809
24	10467	6031	5769	5260	5017	6145	17300	30481	27780	17349	6664	2864
25	10056	6010	5745	5260	5012	6156	17569	30934	27373	16955	6262	2913
26	9657	5986	5725	5246	5017	6168	17726	31297	26986	16598	5880	2973
27	9271	5963	5710	5229	5020	6239	17924	31655	26578	16245	5499	3045
28	8856	5954	5687	5223	5017	6386	18102	31996	26183	15872	5139	3157
29	8450	6013	5667	5204	---	6565	18321	32207	25791	15512	4961	3238
30	8042	6010	5635	5181	---	6811	18572	32463	25390	15151	4947	3325
31	7640	---	5611	5167	---	7054	---	32807	---	14795	4928	---
MAX	16863	7238	6010	5597	5153	7054	18572	32807	33753	24991	14453	4917
MIN	7640	5954	5611	5167	4967	4984	7297	18858	25390	14795	4928	2647
a	38.30	32.91	31.55	29.99	29.46	36.41	64.91	89.98	77.61	57.03	29.14	23.00
b	-9291	-1630	-399	-444	-150	+2037	+11518	+14235	-7417	-10595	-9867	-1603

CAL YR 1993 MAX 49826 MIN 2457 b -405
WTR YR 1994 MAX 33753 MIN 2647 b -13606

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

11414100 FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CA

LOCATION.--Lat 39°22'48", long 120°29'54", in NW 1/4 SE 1/4 sec.34, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 850 ft downstream from Fordyce Dam, and 5.3 mi northeast of Cisco.

DRAINAGE AREA.--31.7 mi^2.

PERIOD OF RECORD.--June 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,250 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Fordyce Lake (station 11414090). See schematic diagram of Yuba River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft^3/s, July 9, 1974, gage height, 7.90 ft in gage well, 6.82 ft from high-water marks, from rating curve extended above 1,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft^3/s, Jan. 2-9, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 240 ft^3/s, Oct. 7, gage height, 3.33 ft; minimum daily, 5.8 ft^3/s, Sept. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	217	11	16	14	15	41	18	33	199	190	6.9
2	99	215	11	15	14	15	42	19	33	199	188	6.5
3	99	212	10	15	14	28	43	19	33	198	187	6.4
4	98	90	10	16	14	36	21	20	33	197	213	6.2
5	98	8.8	10	16	14	38	7.4	20	33	197	230	6.2
6	98	8.8	10	15	14	37	7.7	22	33	196	230	6.1
7	171	8.8	10	15	14	37	7.8	22	33	195	228	6.0
8	234	11	10	15	14	37	8.0	22	33	195	227	70
9	233	12	11	15	15	37	8.2	23	133	194	225	110
10	232	12	11	15	15	37	8.3	23	213	193	95	109
11	232	12	10	15	15	37	8.4	24	213	192	13	108
12	231	12	10	15	15	36	8.8	26	212	191	13	107
13	230	12	10	15	15	37	9.2	27	212	190	13	105
14	228	12	10	15	14	37	9.7	28	211	82	13	104
15	228	12	10	15	14	37	11	28	211	21	135	67
16	227	12	14	15	14	37	11	29	210	21	222	45
17	226	12	18	15	15	37	13	29	209	21	221	45
18	225	11	17	15	15	37	14	29	209	131	219	45
19	224	11	17	15	14	38	14	29	208	202	216	44
20	222	11	17	15	15	38	15	29	208	202	216	23
21	230	11	17	15	15	39	16	29	206	201	216	7.3
22	234	11	17	15	15	39	17	29	206	201	213	6.9
23	233	11	17	15	15	39	17	30	205	199	211	7.4
24	232	11	17	15	15	39	18	30	205	198	208	5.8
25	230	11	16	15	15	39	18	30	204	197	206	6.2
26	229	11	16	15	15	39	18	31	203	196	203	6.4
27	227	11	16	15	15	39	19	31	202	195	201	6.4
28	225	11	16	15	15	39	18	31	202	194	198	7.2
29	223	11	17	15	---	40	18	31	201	194	79	12
30	221	11	16	15	---	40	18	32	200	192	7.7	15
31	219	---	16	15	---	41	---	33	---	191	7.2	---
TOTAL	6237	1022.4	418	468	408	1121	485.5	823	4747	5374	5043.9	1114.9
MEAN	201	34.1	13.5	15.1	14.6	36.2	16.2	26.5	158	173	163	37.2
MAX	234	217	18	16	15	41	43	33	213	202	230	110
MIN	98	8.8	10	15	14	15	7.4	18	33	21	7.2	5.8
AC-FT	12370	2030	829	928	809	2220	963	1630	9420	10660	10000	2210

11414100 FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	83.4	36.5	26.7	29.9	59.6	66.1	58.8	157	337	279	215	138
MAX	428	236	173	105	328	353	315	627	784	489	403	497
(WY)	1976	1977	1982	1982	1984	1984	1986	1982	1974	1983	1983	1980
MIN	4.35	3.90	3.75	4.76	4.78	5.07	9.21	17.0	36.4	21.7	11.4	4.84
(WY)	1978	1979	1979	1981	1977	1977	1977	1977	1976	1981	1987	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	61142.0		27262.7			
ANNUAL MEAN	168		74.7		125	
HIGHEST ANNUAL MEAN					288	1982
LOWEST ANNUAL MEAN					49.3	1981
HIGHEST DAILY MEAN	1040	Jun 1	234	Oct 8	1790	Jun 12 1974
LOWEST DAILY MEAN	5.0	Mar 3	5.8	Sep 24	3.5	Jan 2 1979
ANNUAL SEVEN-DAY MINIMUM	6.3	Mar 3	6.3	Sep 1	3.5	Jan 2 1979
INSTANTANEOUS PEAK FLOW			240	Oct 7	4660	Jul 9 1974
INSTANTANEOUS PEAK STAGE			3.33	Oct 7	7.90	Jul 9 1974
ANNUAL RUNOFF (AC-FT)	121300		54080		90280	
10 PERCENT EXCEEDS	434		215		402	
50 PERCENT EXCEEDS	44		24		27	
90 PERCENT EXCEEDS	10		10		6.5	

11414140 LAKE SPAULDING NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'35", long 120°38'32", in SE 1/4 NE 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near center of Spaulding Dam on South Yuba River and 2.5 mi northeast of Emigrant Gap.
DRAINAGE AREA.--118 mi^2.
PERIOD OF RECORD.--October 1964 to current year.
GAGE.--Water-stage recorder. Datum of gage is 4,809.6 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to July 1968, nonrecording gage at same site and datum.
REMARKS.--Lake is formed by three concrete-arch dams with spillway on the middle arch. Storage began in 1913. Capacity, 74,773 acre-ft between gage heights 0.6 ft, bottom of outlet, and 205.0 ft, top of radial gates. Released water flows through Spaulding Powerplants Nos. 1 and 2 (stations 11414154 and 11414155). Flow through Powerplant No. 1 is transported out of Yuba River basin by Drum Canal to Bear River basin. See schematic diagrams of Yuba and Bear River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 75,100 acre-ft, July 13, 1967, gage height, 205.5 ft; minimum, 914 acre-ft, Feb. 28, 1976, gage height, 25.5 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 65,385 acre-ft, May 30, gage height, 191.03 ft; minimum, 15,159 acre-ft, Dec. 30, gage height, 87.53 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated Apr. 23, 1965)

20	566	70	9,632
25	874	100	19,541
30	1,352	150	41,545
40	2,742	200	71,329
50	4,578	206	75,473

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55864	35517	19857	15385	17092	19568	23339	49369	e64270	50107	35940	28586
2	54424	35047	19310	15591	16893	19285	24744	e49763	63446	50317	35723	28185
3	53014	34576	18768	15622	16688	19065	26155	50119	62633	50458	35526	28374
4	51594	34103	18836	15646	16574	18858	26906	50749	62709	50663	35368	28569
5	50425	33182	18923	15772	16758	19358	26961	51365	62753	50175	35243	28968
6	49481	32305	18393	15687	16959	19762	27012	52939	62285	49470	35464	29404
7	48458	31430	18043	15772	17001	19637	26827	54283	61092	48753	35849	29857
8	47643	30733	17972	16036	16869	19549	27151	55411	60444	48019	35791	30349
9	46698	30193	18189	16272	16716	19505	27928	57113	59584	47975	35704	30952
10	45870	29672	18225	16488	16626	19685	28603	58442	58944	47726	35459	31638
11	45135	29146	18425	16522	16581	19754	29085	59806	e59122	46857	34928	32319
12	44614	28811	18526	16474	16803	19663	29566	60917	e59221	45751	34335	33015
13	44049	28789	18454	16643	16998	19611	30318	61831	e58815	44700	33606	33686
14	43529	e28659	18328	16796	16987	19839	30997	e62804	e58204	43603	32872	34363
15	43112	28306	17916	16966	16830	20227	32756	63611	e57476	42257	32305	34981
16	42691	28318	17367	17138	16678	20554	34904	e63822	56709	41504	31984	35512
17	42210	28142	17212	17307	16782	20569	37079	e63886	56211	40772	31670	36037
18	41680	27349	17303	17359	16921	20588	39171	e63567	e56271	39935	31362	36576
19	41158	26525	17331	17138	17134	20524	41096	63503	56313	39181	31056	36913
20	40705	25870	17022	16924	17261	20439	42744	63528	e55984	36494	30760	37153
21	40317	25202	16609	16883	17384	20494	44001	63777	55483	37937	30438	37153
22	39981	24627	16241	17092	17476	20491	45286	64071	54878	37695	30145	37084
23	39646	24027	15844	17352	17575	20286	46676	64289	e53667	37873	29848	37502
24	39327	23473	15626	17441	17689	19979	47494	64436	53521	38091	29540	37947
25	38900	22885	15622	17345	18043	19993	48091	64655	e53346	37769	29238	38370
26	38385	22304	15636	17197	18695	20554	48219	64822	53364	37231	29382	38569
27	37932	21741	15557	17005	19494	21270	48402	64945	52892	36722	29764	38469
28	37458	21251	15415	16942	19798	21703	48597	65158	52169	36231	30109	38430
29	36976	20850	15280	17134	---	21893	48831	65301	51474	35820	30016	38355
30	36488	20405	15159	17314	---	22177	49072	65385	50783	36037	29452	38504
31	35998	---	15179	17292	---	22535	---	64971	---	36216	29159	---
MAX	55864	35517	19857	17441	19798	22535	49072	65385	64270	50663	35940	38569
MIN	35998	20405	15159	15385	16574	18858	23339	49369	50783	35820	29159	28185
a	138.82	102.34	87.59	93.74	100.70	107.95	163.87	190.39	167.00	139.37	124.05	144.02
b	-20536	-15593	-5226	+2113	+2506	+2737	+26537	+15899	-14188	-14567	-7057	+9345
c	32560	24460	10400	3210	4830	20660	12420	26420	34990	28130	27950	5480
d	5030	4790	2650	2320	1780	1680	2200	2500	3210	3900	4310	3420

CAL YR 1993 MAX 74892 MIN 5421 b -538 c 253100 d 57680
WTR YR 1994 MAX 65385 MIN 15159 b -18030 c 231500 d 37800
e Estimated.
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.
c Diversion, in acre-feet, to Spaulding No. 1 Powerplant, provided by Pacific Gas & Electric Co.
d Diversion, in acre-feet, to Spaulding No. 2 Powerplant, provided by Pacific Gas & Electric Co.

C—042249

C-042249

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'03", long 120°39'08", in SE 1/4 SW 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, 100 ft downstream from tunnel outlet, 1.0 mi downstream from Spaulding No. 1 Powerplant, and 1.7 mi northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year. Prior to October 1972, published as "Drum Canal at intake."

GAGE.--Water-stage recorder. Elevation of gage is 4,880 ft above sea level, from topographic map. Prior to Oct. 1, 1968, in powerplant 0.7 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Canal diverts from Spaulding No. 1 Powerplant (station 11414154) at Lake Spaulding Dam. Most of the water from Drum Canal enters the Bear River via Drum No. 1 and 2 Powerplant (station 11414196) at Drum Afterbay. Some of the water is diverted out of Drum Forebay to Alta Powerplant (station 11421725). See schematic diagrams of Yuba and Bear River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 860 ft^3/s, May 17, 1986; no flow for several days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	416	606	468	3.7	194	468	265	422	730	684	483	543
2	812	602	463	3.7	197	463	3.3	471	726	215	512	454
3	809	599	457	110	196	459	3.4	513	685	212	516	128
4	799	595	135	203	144	455	290	515	229	212	515	128
5	825	589	152	206	3.0	406	536	515	230	576	515	16
6	818	584	455	204	2.9	461	536	429	537	685	350	1.2
7	813	577	377	102	123	461	536	314	724	682	252	1.3
8	818	493	304	2.9	185	459	247	317	722	676	461	1.3
9	820	412	306	2.9	192	458	6.0	455	719	316	521	1.2
10	817	411	257	2.9	191	421	5.8	517	717	315	520	1.2
11	732	409	169	99	114	461	138	516	325	595	518	1.2
12	647	333	155	136	3.6	460	226	514	306	669	564	1.2
13	644	164	240	20	3.5	460	228	445	575	664	625	1.2
14	641	175	303	2.5	109	462	230	310	717	658	621	1.2
15	639	336	389	2.6	192	464	131	312	715	627	615	1.2
16	636	99	446	2.6	192	467	4.6	439	713	330	613	1.2
17	633	207	254	2.6	190	470	4.7	500	618	328	611	1.2
18	630	530	105	80	170	470	114	500	318	496	609	1.2
19	629	524	107	212	127	470	230	500	318	508	607	11
20	626	520	272	211	180	470	234	439	532	506	605	121
21	624	514	306	121	180	470	228	312	643	503	603	231
22	623	509	303	2.9	179	470	127	312	710	461	601	170
23	622	504	300	2.9	173	470	7.3	373	707	214	598	7.9
24	620	500	244	105	178	468	7.4	413	606	217	595	7.9
25	619	495	113	194	75	275	201	414	309	493	592	7.9
26	616	490	113	194	3.4	3.3	415	414	316	612	342	153
27	613	485	162	199	3.8	3.2	418	399	578	609	226	289
28	613	481	191	125	260	293	419	309	700	607	227	289
29	612	477	191	3.2	---	484	420	309	696	533	421	288
30	611	474	190	3.1	---	486	421	310	692	227	539	172
31	609	---	94	114	---	490	---	597	---	228	389	---
TOTAL	20986	13694	8021	2673.5	3761.2	13077.5	6632.5	13105	17113	14658	15766	3032.5
MEAN	677	456	259	86.2	134	422	221	423	570	473	509	101
MAX	825	606	468	212	260	490	536	597	730	685	625	543
MIN	416	99	94	2.5	2.9	3.2	3.3	309	229	212	226	1.2
AC-FT	41630	27160	15910	5300	7460	25940	13160	25990	33940	29070	31270	6010
a	41820	26970	15820	5270	8030	27380	13120	26040	32120	26510	27630	4810
b	1230	1110	730	716	599	335	726	865	587	1460	1430	1210

a Discharge, in acre-feet, to Drum No. 1 and 2 Powerplant, provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, to Alta Powerplant, provided by Pacific Gas & Electric Co.

C-042250

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	414	430	456	459	460	504	586	617	609	596	559	364
MAX	817	824	835	837	833	838	837	842	844	820	804	661
(WY)	1983	1984	1984	1984	1984	1984	1984	1978	1978	1983	1983	1986
MIN	.000	29.5	31.1	30.7	.000	22.6	22.9	5.77	166	178	.000	.000
(WY)	1966	1987	1977	1991	1991	1988	1988	1976	1977	1977	1965	1965

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	230174.00		132520.2			
ANNUAL MEAN	631		363		505	
HIGHEST ANNUAL MEAN					796	1984
LOWEST ANNUAL MEAN					101	1977
HIGHEST DAILY MEAN	859	Jun 15	825	Oct 5	860	May 17 1986
LOWEST DAILY MEAN	.00	Sep 13	1.2	Sep 6	.00	Jul 31 1965
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 13	1.2	Sep 9	.00	Jul 31 1965
ANNUAL RUNOFF (AC-FT)	456600		262900		365700	
ANNUAL DISCHARGE (AC-FT) a			255500			
ANNUAL DISCHARGE (AC-FT) b	12330		10990			
10 PERCENT EXCEEDS	834		640		823	
50 PERCENT EXCEEDS	732		409		555	
90 PERCENT EXCEEDS	201		4.3		29	

a Discharge, in acre-feet, to Drum No. 1 and 2 Powerplant, provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, to Alta Powerplant, provided by Pacific Gas & Electric Co.

C-042251

11414200 SOUTH YUBA CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°18'49", long 120°39'43", in SE 1/4 NE 1/4 sec.30, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank of concrete flume 400 ft downstream from Bowman Lake Road and 2.5 mi northeast of Emigrant Gap.
PERIOD OF RECORD.--October 1964 to current year.
GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,590 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Canal diverts from Spaulding No. 2 Powerplant (station 11414155) at Lake Spaulding Dam. Downstream from the gage, some flow is diverted to Bear River. The remainder of the water enters Deer Creek at Deer Creek Powerplant (station 11414205). See schematic diagrams of Yuba and Bear River basins.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 165 ft^3/s, Aug. 3, 1965; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	107	78	43	42	35	35	46	49	68	69	67
2	66	106	79	42	41	35	36	47	47	67	69	68
3	64	106	79	42	40	35	36	47	47	68	69	70
4	64	105	78	41	41	35	36	47	47	67	69	70
5	65	104	77	40	41	32	34	46	48	68	69	70
6	79	104	62	40	41	34	34	45	48	67	69	66
7	91	103	42	40	41	34	33	44	48	65	70	64
8	100	91	44	41	40	34	33	44	52	68	71	61
9	104	78	40	42	39	34	35	45	55	73	71	60
10	104	78	42	43	38	30	35	45	54	70	71	60
11	102	78	41	43	39	34	33	45	57	69	71	60
12	102	78	40	43	42	33	34	44	61	69	71	54
13	102	77	41	43	41	33	35	44	64	68	71	61
14	102	80	42	43	40	33	37	45	67	68	71	61
15	98	81	42	43	39	47	40	45	67	69	70	62
16	100	79	43	43	39	60	40	45	66	68	70	64
17	104	79	42	43	39	33	41	45	66	68	71	64
18	106	79	42	43	38	34	42	46	67	68	71	64
19	105	79	44	43	38	33	44	45	66	68	71	67
20	105	80	45	43	38	33	44	45	66	67	71	70
21	105	79	44	43	38	35	45	47	66	68	71	68
22	98	79	43	43	41	35	47	47	68	70	70	62
23	88	78	43	43	42	35	47	47	66	72	70	63
24	86	78	43	43	36	35	45	46	68	71	69	64
25	85	79	43	42	36	34	45	47	69	71	69	64
26	105	79	43	42	37	34	44	47	67	71	69	65
27	109	79	43	42	35	35	44	48	68	72	71	64
28	108	71	42	43	36	35	45	49	68	69	72	62
29	108	78	42	43	---	34	46	48	68	69	70	64
30	107	74	42	43	---	34	46	48	67	69	69	65
31	107	---	42	43	---	34	---	49	---	70	69	---
TOTAL	2938	2546	1513	1314	1098	1091	1191	1428	1817	2135	2174	1924
MEAN	94.8	84.9	48.8	42.4	39.2	35.2	39.7	46.1	60.6	68.9	70.1	64.1
MAX	109	107	79	43	42	60	47	49	69	73	72	70
MIN	64	71	40	40	35	30	33	44	47	65	69	54
AC-FT	5830	5050	3000	2610	2180	2160	2360	2830	3600	4230	4310	3820
a	637	4370	2730	2330	1920	2350	2280	3060	3260	3820	3880	3280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

MEAN	82.0	71.2	71.8	77.5	76.8	78.8	69.9	104	107	95.9	93.6	91.0
MAX	158	157	157	155	151	147	146	156	163	160	155	152
(WY)	1966	1966	1966	1984	1984	1980	1967	1980	1965	1965	1965	1965
MIN	35.9	27.3	33.4	40.3	36.9	31.2	11.3	27.2	46.9	46.1	41.7	38.0
(WY)	1978	1978	1978	1991	1988	1977	1979	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	30929		21169			
ANNUAL MEAN	84.7		58.0		85.1	
HIGHEST ANNUAL MEAN					124	1967
LOWEST ANNUAL MEAN					47.2	1977
HIGHEST DAILY MEAN	140	Apr 17	109	Oct 27	165	Aug 3 1965
LOWEST DAILY MEAN	20	Mar 12	30	Mar 10	.00	Apr 20 1966
ANNUAL SEVEN-DAY MINIMUM	27	Mar 8	33	Mar 8	.00	Apr 5 1986
ANNUAL RUNOFF (AC-FT)	61350		41990		61630	
TOTAL DISCHARGE (AC-FT) a	7740		33930			
10 PERCENT EXCEEDS	138		79		141	
50 PERCENT EXCEEDS	79		52		79	
90 PERCENT EXCEEDS	37		35		40	

a Discharge, in acre-feet, to Deer Creek Powerplant, provided by Pacific Gas & Electric Co.

C-042252

11414210 SOUTH YUBA RIVER BELOW SPAULDING NO. 2 POWERPLANT, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'28", long 120°38'42", in NE 1/4 SE 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank 200 ft downstream from Spaulding No. 2 Powerplant, 0.2 mi downstream from Spaulding Dam, and 2.3 mi northeast of Emigrant Gap.

DRAINAGE AREA.--118 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1965-85 in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir and steel-lipped rectangular weir. Elevation of gage is 4,670 ft above sea level, from topographic map. Prior to June 1988, at same site and different datum.

REMARKS.--No estimated daily discharges. Flow regulated by Lake Spaulding (station 11414140) 0.2 mi upstream. Water is released at the intake to South Yuba Canal (station 11414200) 100 ft upstream. See schematic diagrams of Yuba and Bear River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 194 ft^3/s, Apr. 14, June 8, 1986, gage height, 3.37 ft, from rating curve extended above 45 ft^3/s, on basis of weir formula; minimum daily, 0.09 ft^3/s, Nov. 5-7, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9.7 ft^3/s, Dec. 8, 9, gage height, 1.35 ft; minimum daily, 1.6 ft^3/s, Mar. 26, May 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	4.8	4.8	2.9	2.8	2.8	2.4	2.0	3.0	5.1	6.7	5.0
2	4.8	4.6	4.8	2.9	2.8	2.7	2.1	2.1	3.0	5.3	6.5	5.0
3	4.8	4.5	4.8	3.0	2.7	2.7	2.5	2.1	3.0	5.3	6.5	5.0
4	4.8	4.5	4.6	3.8	2.8	2.7	2.4	2.1	3.3	6.3	6.4	5.0
5	4.8	4.5	4.5	3.4	2.8	3.7	2.4	2.6	3.8	6.8	6.2	5.0
6	4.8	4.9	4.4	3.1	2.8	2.6	2.9	2.9	4.2	6.8	6.2	5.4
7	4.8	5.3	4.1	3.0	3.3	2.5	2.9	2.8	4.5	6.5	6.2	5.9
8	4.9	5.3	6.2	3.0	3.0	2.4	2.8	2.2	4.5	6.5	6.2	6.0
9	5.0	5.3	6.5	3.0	2.9	2.3	2.7	1.7	4.5	6.5	6.2	6.3
10	5.0	5.3	4.7	3.0	2.9	2.3	2.6	1.7	4.5	6.5	6.2	6.5
11	4.9	5.3	3.8	3.0	2.9	2.6	2.6	1.7	4.3	6.5	6.2	6.5
12	4.8	5.3	3.0	3.0	2.8	2.3	2.6	1.6	4.3	6.5	6.2	5.9
13	4.8	5.1	2.3	2.9	2.8	2.3	2.6	1.9	4.5	6.5	6.2	6.4
14	4.8	1.9	1.9	2.9	2.8	2.3	2.6	2.2	4.7	6.5	6.2	6.5
15	5.0	3.4	1.9	2.9	2.8	2.3	2.6	2.2	4.8	6.5	6.2	6.5
16	5.0	4.8	1.9	2.9	2.8	2.3	2.6	2.2	4.8	6.5	6.2	5.7
17	5.0	4.9	1.8	2.9	3.7	2.3	2.6	2.2	4.8	6.5	6.2	4.9
18	5.0	4.8	1.8	2.9	2.9	2.3	2.7	2.3	4.8	7.1	6.2	4.8
19	5.0	4.8	1.8	3.0	2.8	2.3	2.9	2.4	4.8	7.0	6.2	4.9
20	5.0	4.8	1.8	3.0	2.8	2.2	2.9	2.3	4.9	6.6	6.2	5.5
21	5.0	4.8	1.8	2.9	2.8	2.2	2.8	2.2	5.0	6.2	6.2	6.3
22	5.0	4.9	2.1	2.9	2.8	2.2	2.8	2.1	5.0	6.2	6.2	6.5
23	4.8	5.0	2.5	3.1	2.8	2.2	3.1	2.1	4.9	6.2	6.2	6.5
24	4.8	5.0	2.7	3.3	2.3	2.2	3.5	2.5	4.9	6.2	6.2	6.5
25	4.8	5.0	2.9	3.6	2.0	2.0	3.3	2.9	5.0	6.2	6.2	6.5
26	4.8	5.0	2.9	3.6	2.4	1.6	3.0	2.9	5.0	6.1	5.8	5.9
27	4.8	5.0	3.1	3.3	2.6	2.2	2.5	2.9	5.0	5.9	5.3	5.3
28	4.8	4.4	3.0	2.7	2.6	3.2	2.2	2.9	5.0	5.9	5.3	5.2
29	4.8	5.5	3.0	2.8	---	3.2	2.1	2.9	5.0	5.9	5.3	5.3
30	4.8	4.9	3.0	2.8	---	2.8	2.0	2.9	5.0	5.9	5.3	5.2
31	4.8	---	2.9	2.8	---	2.7	---	3.0	---	6.4	5.2	---
TOTAL	150.8	143.6	101.3	94.3	78.2	76.4	79.7	72.5	134.8	194.9	188.5	171.9
MEAN	4.86	4.79	3.27	3.04	2.79	2.46	2.66	2.34	4.49	6.29	6.08	5.73
MAX	5.0	5.5	6.5	3.8	3.7	3.7	3.5	3.0	5.0	7.1	6.7	6.5
MIN	4.6	1.9	1.8	2.7	2.0	1.6	2.0	1.6	3.0	5.1	5.2	4.8
AC-FT	299	285	201	187	155	152	158	144	267	387	374	341

C-042253

11414210 SOUTH YUBA RIVER BELOW SPAULDING NO. 2 POWERPLANT, NEAR EMIGRANT GAP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.86	3.66	3.09	2.77	9.51	17.7	21.0	20.4	24.2	3.78	4.22	4.03
MAX	5.85	5.32	5.15	4.97	61.4	111	118	85.8	111	6.29	6.08	5.86
(WY)	1993	1991	1991	1991	1986	1986	1986	1986	1986	1994	1994	1989
MIN	1.50	1.52	1.72	1.70	2.13	1.95	2.05	1.75	1.71	1.71	1.55	1.58
(WY)	1986	1986	1987	1989	1989	1988	1987	1987	1987	1986	1986	1987

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1986 - 1994	
ANNUAL TOTAL	4339.1		1486.9			
ANNUAL MEAN	11.9		4.07		9.83	
HIGHEST ANNUAL MEAN					41.3	1986
LOWEST ANNUAL MEAN					2.05	1988
HIGHEST DAILY MEAN	60	Jun 4	7.1	Jul 18	166	Jun 14 1986
LOWEST DAILY MEAN	1.6	Jul 5	1.6	Mar 26	.09	Nov 5 1985
ANNUAL SEVEN-DAY MINIMUM	1.6	Jul 5	1.8	Dec 15	.64	Nov 4 1985
INSTANTANEOUS PEAK FLOW			9.7	Dec 8	194	Apr 14 1986
INSTANTANEOUS PEAK STAGE			1.35	Dec 8	3.37	Apr 14 1986
ANNUAL RUNOFF (AC-FT)	8610		2950		7120	
10 PERCENT EXCEEDS	41		6.2		13	
50 PERCENT EXCEEDS	4.8		4.3		3.1	
90 PERCENT EXCEEDS	1.9		2.2		1.6	

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'07", long 120°39'24", in SW 1/4 SW 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank 50 ft downstream from road bridge, 0.8 mi downstream from Spaulding Nos. 1 and 2 Powerplants, and 1.6 mi northeast of Emigrant Gap.

DRAINAGE AREA.--120 mi^2.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,432.44 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--No estimated daily discharges. Flow regulated by Lake Spaulding (station 11414140) 0.8 mi upstream. Lake Spaulding receives water from Canyon Creek via the Bowman-Spaulding Canal (station 11416100). Most of the water is diverted out of the Yuba River just downstream from Spaulding Dam via Drum Canal (station 11414170) and South Yuba Canal (station 11414200). See schematic diagrams of Yuba and Bear River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,400 ft^3/s, Feb. 18, 1986, gage height, 19.95 ft, from rating curve extended above 8,800 ft^3/s on basis of spillway rating at Spaulding Dam; minimum daily, 2.1 ft^3/s, on several days during July and September 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 53 ft^3/s, Dec. 9, gage height, 3.00 ft; minimum daily, 3.7 ft^3/s, Nov. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	5.5	8.6	7.2	6.3	19	6.4	5.8	5.7	6.4	6.6	5.9
2	6.4	5.3	7.6	6.9	6.0	19	5.7	5.7	5.7	6.6	6.5	6.0
3	6.5	5.3	7.1	6.4	6.0	18	6.1	5.5	5.6	6.3	6.5	5.8
4	6.5	5.3	6.8	8.6	6.1	17	6.0	5.4	6.1	6.4	6.2	5.7
5	6.5	5.3	6.4	9.0	6.3	29	5.5	5.9	6.8	7.4	5.8	5.6
6	6.4	5.5	6.3	9.2	7.2	23	6.1	7.6	7.0	7.5	5.7	6.0
7	6.4	5.9	6.2	8.0	11	18	6.0	8.8	6.9	7.4	5.6	7.0
8	6.2	5.9	21	8.6	10	15	6.6	7.6	6.8	7.5	5.8	7.2
9	6.0	5.9	33	8.2	9.8	14	7.9	6.7	6.6	7.1	5.9	7.6
10	6.0	5.9	15	8.0	9.9	14	7.1	6.1	6.4	7.1	5.9	7.7
11	6.0	6.0	12	7.0	9.3	16	6.6	5.7	6.3	7.2	5.9	7.7
12	5.9	6.2	9.8	6.3	8.7	13	6.2	5.4	6.2	7.2	5.9	7.7
13	5.9	5.9	8.4	6.8	8.2	12	6.0	5.6	6.4	7.1	5.9	8.1
14	6.2	3.7	8.1	6.5	7.9	11	6.0	5.9	6.4	7.3	5.8	8.1
15	7.9	4.2	7.6	6.5	7.8	11	5.8	5.8	6.4	7.3	5.8	8.0
16	7.1	5.6	7.1	6.5	7.6	9.9	5.7	6.0	6.5	7.2	6.0	7.0
17	6.8	5.8	6.8	6.5	17	9.2	5.6	6.6	6.3	7.0	5.9	5.8
18	6.4	5.7	6.5	6.5	13	8.6	5.5	6.9	6.1	7.5	6.0	6.0
19	6.2	5.7	6.3	6.5	11	8.3	5.6	7.4	6.3	7.5	6.0	6.2
20	6.1	5.7	5.9	6.6	11	8.1	5.5	6.7	6.6	6.8	6.1	6.9
21	6.0	5.7	5.9	6.3	10	7.5	5.4	6.2	6.3	6.2	6.0	8.1
22	5.9	6.2	5.9	6.3	9.4	7.3	5.3	5.9	6.2	6.0	5.7	8.2
23	5.7	5.9	5.9	6.0	9.2	7.2	5.8	5.7	6.2	5.8	6.3	8.2
24	5.6	5.9	6.5	5.7	8.9	6.9	6.5	5.8	6.2	5.8	7.2	8.3
25	5.5	5.9	6.8	8.0	9.8	6.6	7.9	6.3	6.3	5.7	7.2	8.3
26	5.5	5.8	6.8	8.2	14	5.9	9.2	6.2	6.4	5.7	6.8	7.5
27	5.6	5.9	8.2	7.8	21	6.2	8.9	6.0	6.4	5.7	6.0	6.2
28	5.6	5.9	7.8	6.8	20	7.1	7.5	5.9	6.4	5.6	6.0	8.6
29	5.6	13	7.7	6.5	---	7.2	6.8	5.8	6.4	5.5	6.0	7.4
30	5.7	11	7.5	6.5	---	6.7	6.1	5.9	6.4	5.3	6.0	6.9
31	5.7	---	7.7	6.5	---	6.5	---	5.9	---	5.8	5.9	---
TOTAL	190.0	181.5	273.2	220.4	282.4	368.2	191.3	192.7	190.3	204.9	188.9	213.7
MEAN	6.13	6.05	8.81	7.11	10.1	11.9	6.38	6.22	6.34	6.61	6.09	7.12
MAX	7.9	13	33	9.2	21	29	9.2	8.8	7.0	7.5	7.2	8.6
MIN	5.5	3.7	5.9	5.7	6.0	5.9	5.3	5.4	5.6	5.3	5.6	5.6
AC-FT	377	360	542	437	560	730	379	382	377	406	375	424

C-042255

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.26	48.1	48.7	55.4	82.9	67.6	69.2	247	378	56.3	6.07	6.28
MAX	18.8	683	685	583	1626	1304	620	1593	2613	822	9.44	10.3
(WY)	1972	1984	1982	1970	1986	1986	1982	1982	1983	1983	1971	1986
MIN	2.68	4.51	5.44	4.51	5.58	5.10	3.41	5.29	3.05	2.34	2.43	2.73
(WY)	1978	1978	1977	1976	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	51306.9		2697.5			
ANNUAL MEAN	141		7.39		91.7	
HIGHEST ANNUAL MEAN					369	1982
LOWEST ANNUAL MEAN					4.35	1977
HIGHEST DAILY MEAN	2510	Jun 1	33	Dec 9	18000	Feb 18 1986
LOWEST DAILY MEAN	3.7	Nov 14	3.7	Nov 14	2.1	Jul 15 1977
ANNUAL SEVEN-DAY MINIMUM	5.2	Nov 14	5.2	Nov 14	2.1	Sep 22 1977
INSTANTANEOUS PEAK FLOW			53	Dec 9	20400	Feb 18 1986
INSTANTANEOUS PEAK STAGE			3.00	Dec 9	19.95	Feb 18 1986
ANNUAL RUNOFF (AC-FT)	101800		5350		66450	
10 PERCENT EXCEEDS	340		9.6		55	
50 PERCENT EXCEEDS	11		6.4		7.3	
90 PERCENT EXCEEDS	5.9		5.7		5.2	

11414400 FRENCH LAKE NEAR CISCO, CA

LOCATION.--Lat 39°25'16", long 120°32'28", in SE 1/4 SW 1/4 sec.17, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank near French Lake Dam on Canyon Creek, 0.5 mi upstream from Weil Lake, and 8.2 mi north of Cisco.

DRAINAGE AREA.--4.60 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1966-86 available in the files of the U.S. Geological Survey.

GAGE.--Staff gages, observed approximately weekly except during the winter months. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed on natural lake by rock-filled dam completed in 1859. Usable capacity, 13,940 acre-ft between elevations 6,594.90 ft, invert of outlet gate, and 6,660.28 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

6,610	1,805	6,640	8,006
6,620	3,636	6,650	10,701
6,630	5,677	6,662	14,542

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	3579	---
2	---	---	---	---	6152	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	8831	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	6951	---	---	---	---	---	---	---	---	4247	---	---
7	---	---	---	---	---	---	7071	---	5826	---	---	---
8	---	5501	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	3380	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	4098	---	---
13	6242	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	7335	---	---	---	---	2835
15	---	---	---	---	---	---	---	---	4686	---	3236	---
16	---	---	---	---	---	---	---	---	---	---	---	2814
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	3942	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	5656	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	4630	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	3032	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	7595	---	---	---	---
26	---	---	---	---	---	---	---	---	---	3737	---	---
27	5615	---	---	---	---	---	8546	---	4480	---	---	2731
28	---	---	---	---	---	---	---	---	---	---	---	2727
29	---	---	---	---	---	---	---	---	---	---	2980	2727
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	648	---	6855	---	---	2980	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

C-042257

11414410 CANYON CREEK BELOW FRENCH LAKE, NEAR CISCO, CA

LOCATION.--Lat 39°25'16", long 120°32'30", in SE 1/4 SW 1/4 sec.17, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 10 ft downstream from outlet at French Lake Dam on Canyon Creek, 0.5 mi upstream from Weil Lake, and 8.2 mi north of Cisco.

DRAINAGE AREA.--4.60 mi^2.

PERIOD OF RECORD.--January 1989 to current year (low flow records only). Unpublished records for water years 1967-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,590 ft above sea level, from topographic map. Prior to January 1989, nonrecording gages at three sites and datums.

REMARKS.--No estimated daily discharges. No records computed above 3.2 ft^3/s. Flow regulated by French Lake (station 11414400). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	3.0
2	---	---	---	---	---	---	---	---	---	---	---	3.0
3	---	---	---	---	---	---	---	---	---	---	---	3.0
4	---	---	---	---	---	---	---	---	---	---	---	3.0
5	---	---	---	---	---	---	---	---	---	---	---	3.0
6	---	---	---	---	---	---	---	---	---	---	---	3.0
7	---	---	---	---	---	---	---	---	---	---	---	3.0
8	---	---	---	---	---	---	---	---	---	---	---	3.0
9	---	---	---	---	---	---	---	---	---	---	---	3.0
10	---	---	---	---	---	---	---	---	---	---	---	3.0
11	---	---	---	---	---	---	---	---	---	---	---	3.0
12	---	---	---	---	---	---	---	---	---	---	---	3.0
13	---	---	---	---	---	---	---	---	---	---	---	3.0
14	---	---	---	---	---	---	---	---	---	---	---	3.0
15	---	---	---	---	---	---	---	---	---	---	---	3.0
16	---	---	---	---	---	---	---	---	---	---	---	3.0
17	---	---	---	---	---	---	---	---	---	---	---	3.0
18	---	---	---	---	---	---	---	---	---	---	---	3.0
19	---	---	---	---	---	---	---	---	---	---	---	3.0
20	---	---	---	---	---	---	---	---	---	---	---	3.0
21	---	---	---	---	---	---	---	---	---	---	---	3.0
22	---	---	---	---	---	---	---	---	---	---	---	3.0
23	---	---	---	---	---	---	---	---	---	---	---	3.0
24	---	---	---	---	---	---	---	---	---	---	---	3.0
25	---	---	---	---	---	---	---	---	---	---	---	3.0
26	---	---	---	---	---	---	---	---	---	---	---	3.0
27	---	---	---	---	---	---	---	---	---	---	---	3.0
28	---	---	---	---	---	---	---	---	---	---	---	3.0
29	---	---	---	---	---	---	---	---	---	---	---	3.0
30	---	---	---	---	---	---	---	---	---	---	---	3.0
31	---	---	---	---	---	---	---	---	---	---	3.0	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	90.0
MEAN	---	---	---	---	---	---	---	---	---	---	---	3.00
MAX	---	---	---	---	---	---	---	---	---	---	---	3.0
MIN	---	---	---	---	---	---	---	---	---	---	---	3.0
AC-FT	---	---	---	---	---	---	---	---	---	---	---	179

C-042258

11414440 FAUCHERIE LAKE NEAR CISCO, CA

LOCATION.--Lat 39°25'45", long 120°34'04", in SE 1/4 NE 1/4 sec.13, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, near right bank end of Faucherie Dam on Canyon Creek, 8.5 mi north of Cisco.

DRAINAGE AREA.--8.97 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1965-86 available in files of the U.S. Geological Survey.

GAGE.--Staff gages, observed approximately weekly during the summer months. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed on natural lake by earth-filled dam initially constructed prior to 1880 and enlarged in 1964. Usable capacity, 3,740 acre-ft between elevations 6,090.00 ft, invert of outlet gate, and 6,123.00 ft, crest of spillway. Dead storage, below elevation 6,090 ft, 240 acre-ft. Figures given represent total contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

6,090	240	6,110	2,216
6,095	628	6,115	2,854
6,100	1,095	6,120	3,540
6,105	1,629	6,125	4,280

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	4025	---	---	---
2	---	3953	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	4019	2987	---	---
6	---	---	---	---	---	---	---	---	---	2942	---	---
7	4013	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	4040	---	---	1529	957
9	---	3950	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	2696	---	---
12	---	---	---	---	---	---	---	---	4010	---	---	---
13	4013	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	4007	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	953
16	---	3947	---	---	---	---	---	---	3986	2478	1461	951
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	4004	---	---	---	---
19	---	---	---	---	---	---	---	---	3801	2347	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	3988	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	4028	3589	---	1403	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	4031	---	2119	---	---
26	---	---	---	---	---	---	---	---	---	---	---	957
27	---	---	---	---	---	---	---	---	---	---	---	---
28	3965	---	---	---	---	---	---	---	---	---	---	---
29	---	3950	---	---	---	---	---	---	3287	---	---	---
30	---	---	---	---	---	---	---	---	---	---	1204	---
31	---	---	---	---	---	---	---	---	---	1881	---	---

C-042259

11414450 CANYON CREEK BELOW FAUCHERIE LAKE, NEAR CISCO, CA

LOCATION.--Lat 39°25'46", long 120°34'06", in SE 1/4 NE 1/4 sec.13, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 80 ft downstream from Faucherie Dam on Canyon Creek, 8.5 mi north of Cisco.

DRAINAGE AREA.--8.97 mi^2.

PERIOD OF RECORD.--January 1989 to current year (low flow records only). Unpublished records for water years 1965-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,080 ft above sea level, from topographic map. October 1964 to July 1988, nonrecording gage at site 10 ft downstream at different datum. July 1988 to January 1989, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. No records computed above 3.2 ft^3/s. Flow regulated by Faucherie Lake (station 11414440). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---
2	---	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---
3	---	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---
4	---	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---
5	---	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---
6	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	---
7	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	---
8	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	---
9	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	2.9
10	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	2.9
11	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	2.9
12	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	2.9
13	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	2.9
14	---	---	---	2.9	2.8	2.8	2.8	2.7	2.7	---	---	2.9
15	---	---	---	2.9	2.8	2.8	2.7	2.7	2.7	---	---	2.9
16	---	---	---	2.9	2.8	2.8	2.7	2.7	---	---	---	2.8
17	---	---	---	2.9	2.8	2.8	2.7	2.7	---	---	---	2.8
18	---	---	---	2.9	2.8	2.8	2.7	2.7	---	---	---	2.8
19	---	---	---	2.9	2.8	2.8	2.7	2.7	---	---	---	2.8
20	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
21	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
22	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
23	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
24	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
25	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
26	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
27	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
28	---	---	---	2.8	2.8	2.8	2.7	2.7	---	---	---	2.8
29	---	---	---	2.8	---	2.8	2.7	2.7	---	---	---	2.8
30	---	---	---	2.8	---	2.8	2.7	2.7	---	---	---	2.8
31	---	---	---	2.8	---	2.8	---	2.7	---	---	---	---
TOTAL	---	---	---	---	78.4	86.8	82.4	83.7	---	---	---	---
MEAN	---	---	---	---	2.80	2.80	2.75	2.70	---	---	---	---
MAX	---	---	---	---	2.8	2.8	2.8	2.7	---	---	---	---
MIN	---	---	---	---	2.8	2.8	2.7	2.7	---	---	---	---
AC-FT	---	---	---	---	156	172	163	166	---	---	---	---

C-042260

11414465 SAWMILL LAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°26'44", long 120°36'02", in NW 1/4 NW 1/4 sec.11, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, near right bank end of Sawmill Lake Dam on Canyon Creek, 0.8 mi upstream from Bowman Lake, and 7.2 mi east of Graniteville.

DRAINAGE AREA.--16.4 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1986-86 available in files of the U.S. Geological Survey.

GAGE.--Staff gages, observed approximately weekly during the summer months. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed by a rock-filled dam initially constructed prior to 1880 and enlarged in 1941. Usable capacity, 3,030 acre-ft between elevations 5,805 ft, base of dam, and 5,860 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

5,805	0	5,850	2,000
5,820	110	5,860	3,030
5,830	430	5,863	3,375
5,840	1,130		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	3094	---	---	---
2	---	3009	---	---	---	---	---	---	3094	---	---	---
3	---	---	---	---	---	3030	---	---	---	---	---	---
4	---	---	---	---	---	---	---	3099	---	---	---	---
5	---	---	---	3030	---	---	---	---	3088	3053	---	---
6	---	---	---	---	---	---	---	---	---	3065	---	---
7	3065	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	3053	1965
9	---	2968	---	---	---	---	---	---	---	---	---	---
10	---	2966	---	---	---	---	---	3111	---	---	---	---
11	---	---	---	---	---	---	---	3111	---	3053	---	---
12	---	---	---	3030	---	---	---	---	3076	---	---	1739
13	3065	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	3094	---	3076	---	2876	---
15	---	---	3030	---	---	---	---	---	---	---	---	1574
16	---	2956	---	---	---	---	---	---	---	3065	2793	1522
17	---	---	---	---	---	---	---	---	---	---	---	---
18	3036	2952	---	---	---	---	---	3099	---	---	---	---
19	---	---	---	3030	---	---	---	---	3065	3053	---	---
20	---	---	---	---	---	---	---	---	---	---	---	1261
21	3036	---	3088	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	3088	3053	---	2577	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	3099	---	3053	---	---
26	---	---	---	---	---	---	---	---	---	---	---	1025
27	---	---	---	---	---	---	---	---	---	---	---	1018
28	3030	---	---	---	---	---	---	---	---	---	---	---
29	---	2979	---	---	---	---	---	---	3053	---	---	---
30	---	---	---	---	---	---	---	---	---	---	2309	---
31	---	---	---	---	---	---	---	---	---	3053	---	---

C-042261

11414470 CANYON CREEK BELOW SAWMILL LAKE, NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°26'44", long 120°36'05", in NW 1/4 NW 1/4 sec.11, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 130 ft downstream from outlet at Sawmill Lake Dam on Canyon Creek, 0.8 mi upstream from Bowman Lake, and 7.2 mi east of Graniteville.

DRAINAGE AREA.--16.4 mi^2.

PERIOD OF RECORD.--October 1989 to current year. Unpublished records for water years 1965-89 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir in concrete control. Elevation of gage is 5,790 ft above sea level, from topographic map. September 1964 to July 6, 1988, nonrecording gage at two sites 470 ft downstream at different datum. July 7, 1988, to January 1989, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Flow completely regulated by Sawmill Lake (station 11414465). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 128 ft^3/s, Mar. 8-11, 1993, gage height, 2.02 ft; minimum daily, 2.5 ft^3/s, Oct. 7, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34 ft^3/s, Aug. 30, gage height, 1.54 ft; minimum daily, 2.9 ft^3/s, on several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	6.1	4.4	4.5	4.5	4.5	4.2	4.2	3.5	4.0	4.5	34
2	6.1	6.1	4.4	4.5	4.5	4.5	4.2	4.2	3.8	4.0	4.1	34
3	6.1	6.1	4.4	4.5	4.5	4.4	4.2	4.2	3.8	4.0	2.9	34
4	6.1	6.1	4.4	4.5	4.5	4.2	4.2	4.2	3.8	4.0	2.9	34
5	6.1	6.1	4.5	4.5	4.5	4.2	4.2	4.2	3.8	4.0	2.9	33
6	6.1	6.1	4.5	4.5	4.5	4.2	4.2	4.2	3.8	4.0	2.9	33
7	6.1	6.1	4.5	4.5	4.5	4.2	4.2	4.2	3.8	4.0	2.9	33
8	6.1	6.1	4.5	4.5	4.5	4.2	4.2	4.2	3.8	4.0	14	32
9	6.1	5.2	4.5	4.5	4.5	4.2	4.2	4.2	3.8	4.0	29	30
10	6.1	3.9	4.5	4.5	4.5	4.2	4.2	3.8	3.8	4.0	28	30
11	6.1	4.0	4.5	4.5	4.5	4.2	4.2	3.4	3.8	4.0	27	30
12	6.1	4.0	4.5	4.5	4.5	4.2	4.2	3.4	3.8	4.0	27	30
13	6.1	4.0	4.5	4.5	4.5	4.2	4.2	3.4	3.8	4.0	28	29
14	6.1	4.0	4.5	4.5	4.5	4.2	4.2	3.4	3.8	4.0	29	29
15	6.1	4.0	4.5	4.5	4.5	4.2	4.2	3.3	3.8	4.0	29	29
16	6.1	4.0	4.5	4.5	4.5	4.2	4.2	3.3	3.8	4.0	30	28
17	6.1	4.0	4.5	4.5	4.5	4.2	4.2	3.3	3.8	4.0	30	28
18	6.7	4.1	4.5	4.5	4.5	4.2	4.2	3.1	3.8	4.0	30	28
19	7.0	4.3	4.5	4.5	4.5	4.2	4.2	2.9	3.9	4.0	30	28
20	6.5	4.4	4.5	4.5	4.5	4.2	4.2	2.9	4.0	4.0	30	28
21	6.5	4.4	4.5	4.5	4.5	4.2	4.2	2.9	4.0	4.0	30	28
22	6.5	4.3	4.5	4.5	4.5	4.2	4.2	2.9	4.0	4.0	30	28
23	6.5	4.2	4.5	4.5	4.5	4.2	4.2	2.9	4.0	4.0	29	27
24	6.5	4.2	4.5	4.5	4.5	4.2	4.2	2.9	4.0	4.0	29	27
25	6.1	4.2	4.5	4.5	4.5	4.2	4.2	3.1	4.0	4.1	29	27
26	6.1	4.2	4.5	4.5	4.5	4.2	4.2	3.2	4.0	4.3	29	14
27	6.1	4.2	4.5	4.5	4.5	4.2	4.2	3.2	4.0	4.4	29	4.1
28	6.1	4.2	4.5	4.5	4.5	4.2	4.2	3.2	3.9	4.4	29	4.4
29	6.1	4.3	4.5	4.5	---	4.2	4.2	3.2	4.0	4.5	29	4.1
30	6.1	4.4	4.5	4.5	---	4.2	4.2	3.2	4.0	4.5	32	4.1
31	6.1	---	4.5	4.5	---	4.2	---	3.2	---	4.5	34	---
TOTAL	192.6	141.3	139.1	139.5	126.0	131.0	126.0	107.9	115.9	126.7	713.1	781.7
MEAN	6.21	4.71	4.49	4.50	4.50	4.23	4.20	3.48	3.86	4.09	23.0	26.1
MAX	7.0	6.1	4.5	4.5	4.5	4.5	4.2	4.2	4.0	4.5	34	34
MIN	6.1	3.9	4.4	4.5	4.5	4.2	4.2	2.9	3.5	4.0	2.9	4.1
AC-FT	382	280	276	277	250	260	250	214	230	251	1410	1550

C-042262

C-042262

11414470 CANYON CREEK BELOW SAWMILL LAKE, NEAR GRANITEVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.0	17.5	21.4	15.8	8.09	22.9	22.7	18.1	4.98	4.57	8.78	18.7
MAX	33.6	37.1	61.4	56.7	17.6	95.1	96.0	88.6	7.62	6.50	23.0	51.2
(WY)	1992	1991	1990	1990	1990	1993	1993	1993	1993	1993	1994	1992
MIN	3.72	3.14	3.83	3.73	4.20	4.23	3.40	2.68	3.42	3.10	3.78	4.17
(WY)	1991	1993	1992	1992	1992	1994	1990	1989	1992	1990	1992	1990

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1989 - 1994	
ANNUAL TOTAL	10421.2		2840.8			
ANNUAL MEAN	28.6		7.78		14.9	
HIGHEST ANNUAL MEAN					28.8	1993
LOWEST ANNUAL MEAN					7.78	1994
HIGHEST DAILY MEAN	128	Mar 8	34	Aug 31	128	Mar 8 1993
LOWEST DAILY MEAN	3.9	Nov 10	2.9	May 19	2.5	Oct 7 1989
ANNUAL SEVEN-DAY MINIMUM	4.0	Nov 10	2.9	May 18	2.6	Apr 23 1989
INSTANTANEOUS PEAK FLOW			34	Aug 30	128	Mar 8 1993
INSTANTANEOUS PEAK STAGE			1.54	Aug 30	2.02	Mar 8 1993
ANNUAL RUNOFF (AC-FT)	20670		5630		10820	
10 PERCENT EXCEEDS	96		28		59	
50 PERCENT EXCEEDS	6.5		4.4		4.6	
90 PERCENT EXCEEDS	4.5		3.8		3.2	

11414690 JACKSON LAKE NEAR SIERRA CITY, CA

LOCATION.--Lat 39°27'52", long 120°33'44", in SW 1/4 SW 1/4 sec.31, T.19 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on outlet structure on Jackson Lake Dam on Jackson Creek, 3.0 mi upstream from Bowman Lake, and 8.0 mi southeast of Sierra City.

DRAINAGE AREA.--0.65 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1965-86 available in files of U.S. Geological Survey.

GAGE.--Staff gage, observed approximately weekly except during the winter months. Datum of gage is 6,570 ft above sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed on natural lake by earth-filled dam completed in 1859. Usable capacity, 974 acre-ft between gage height 0.0 ft, invert of outlet, and 22.67 ft, crest of spillway. Dead storage below gage height 0.0 ft, 360 acre-ft. Figures given represent total contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

0	360	15	958
5	545	20	1,185
10	730	24	1,407

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	1049	---	853	---
2	---	---	---	---	---	---	---	---	1049	---	849	719
3	---	---	---	---	---	---	---	799	---	---	---	---
4	---	912	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	981	---	---	---	---	---	---	---	---	949	---	---
7	---	---	---	---	---	---	---	---	1044	---	---	---
8	---	890	---	---	---	---	---	---	1044	---	821	---
9	---	---	---	---	---	---	---	---	---	---	821	697
10	---	---	---	---	---	---	---	---	---	---	817	688
11	---	---	---	---	---	---	---	912	---	---	---	---
12	---	---	---	---	---	---	---	---	---	921	---	682
13	967	---	---	---	---	---	---	---	1031	---	---	---
14	---	---	---	---	---	---	678	---	---	---	808	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	781	675
17	---	867	---	---	---	---	---	---	---	---	781	671
18	---	---	---	---	---	---	---	---	---	899	---	---
19	---	---	---	---	---	---	---	---	---	---	776	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	963	---	---	---	---	---	---	---	1008	---	---	---
22	---	---	---	---	---	---	---	---	---	---	758	---
23	---	---	---	---	---	---	---	---	---	---	753	---
24	---	---	---	---	---	---	---	---	---	---	750	---
25	---	---	---	---	---	---	---	1008	---	---	---	---
26	---	---	---	---	---	---	---	---	---	872	---	---
27	935	---	---	---	---	---	---	---	981	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	972	---	735	---
30	---	---	---	---	---	---	---	---	---	---	730	---
31	---	---	---	---	---	---	---	---	---	---	---	---

C-042264

11414700 JACKSON CREEK BELOW JACKSON LAKE, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°27'53", long 120°33'46", in SW 1/4 SW 1/4 sec.31, T.19 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 75 ft downstream from Jackson Lake Dam on Jackson Creek, 3.0 mi upstream from Bowman Lake, and 8.0 mi southeast of Sierra City.

DRAINAGE AREA.--0.65 mi^2.

PERIOD OF RECORD.--January 1989 to September 1992, April 1993 to current year (low-flow records only). Unpublished records for water years 1965-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,570 ft above sea level, from topographic map. October 1964 to October 1986, nonrecording gage at site 25 ft downstream at different datum. October 1986 to January 1989, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. No records computed above 2.9 ft^3/s. Flow regulated by Jackson Lake (station 11414690). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.6	1.6
2	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.7	1.6	1.7	1.6	1.6
3	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.7	1.8	1.6
4	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.8	1.6	1.7	1.8	1.6
5	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.8	1.6	1.7	2.0	1.6
6	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.8	1.6	1.7	2.1	1.6
7	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.8	1.6	1.7	2.2	1.6
8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.8	1.7	1.7	2.0	1.6
9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.8	1.7	1.7	1.7	1.7
10	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.8	1.7	1.7	1.7	2.1
11	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.8	1.7	1.7	1.9	2.0
12	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.9	1.7
13	1.8	1.7	1.7	1.6	1.7	1.6	1.6	1.7	1.7	1.7	1.9	1.6
14	1.8	1.7	1.7	1.6	1.7	1.6	1.6	1.7	1.7	1.7	2.0	1.5
15	1.8	1.7	1.7	1.6	1.7	1.6	1.6	1.7	1.7	1.7	2.0	1.6
16	1.8	1.7	1.7	1.5	1.7	1.6	1.6	1.7	1.7	1.7	1.9	1.7
17	1.8	1.7	1.7	1.5	1.7	1.6	1.6	1.7	1.7	1.6	1.6	1.7
18	1.8	1.7	1.7	1.5	1.7	1.6	1.6	1.7	1.7	1.6	1.7	1.7
19	1.8	1.7	1.7	1.6	1.7	1.6	1.6	1.7	1.7	1.6	1.8	1.7
20	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.7	1.6	1.9	1.7
21	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.9	1.7
22	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.9	1.6
23	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.8	1.6
24	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6
25	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6
26	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6
27	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.5	1.6
28	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.5	1.7
29	1.8	1.7	1.7	1.7	---	1.6	1.6	1.7	1.6	1.6	1.5	1.9
30	1.8	1.7	1.7	1.7	---	1.6	1.6	1.7	1.7	1.6	1.7	1.9
31	1.8	---	1.7	1.7	---	1.6	---	1.7	---	1.6	1.7	---
TOTAL	55.8	52.0	52.7	51.7	47.6	50.6	48.0	53.5	49.5	51.2	55.4	50.3
MEAN	1.80	1.73	1.70	1.67	1.70	1.63	1.60	1.73	1.65	1.65	1.79	1.68
MAX	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.8	1.7	1.7	2.2	2.1
MIN	1.8	1.7	1.7	1.5	1.7	1.6	1.6	1.7	1.6	1.6	1.5	1.5
AC-FT	111	103	105	103	94	100	95	106	98	102	110	100

WTR YR 1994 TOTAL 618.3 MEAN 1.69 MAX 2.2 MIN 1.5 AC-FT 1230

11415500 BOWMAN LAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'01", long 120°39'09", in SE 1/4 SW 1/4 sec.5, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank near rockfill portion of Bowman Dam on Canyon Creek, 4.6 mi east of Graniteville, and 8 mi south of Sierra City.
DRAINAGE AREA.--27.1 mi^2.
PERIOD OF RECORD.--December 1926 to current year.
REVISED RECORDS.--WSP 1931: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Nevada Irrigation District). Prior to Oct. 8, 1964, nonrecording gage at same site and datum.
REMARKS.--Lake is formed by one rockfill and one concrete-arch dam; storage began in November 1926. Total capacity, 68,700 acre-ft between elevations 5,400 ft, bottom of outlet tunnel, and 5,563.6 ft, top of radial spillway gates and crest of concrete-arch dam. Flashboards are occasionally added, increasing elevation to 5,565.8 ft and capacity to 70,400 acre-ft, all of which is available for release. Lake receives water from Middle Yuba River via Milton-Bowman Tunnel (station 11408000), and releases it through Bowman-Spaulding Canal (station 11416000) which conveys it to reservoirs of Pacific Gas & Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. Records, including extremes, represent total contents. See schematic diagram of Yuba River basin.
COOPERATION.--Selected gage-height readings provided by Nevada Irrigation District.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,000 acre-ft, May 30, 1965, elevation, 5,566.5 ft; lake completely drained for inspection and repair Nov. 25 to Dec. 9, 1949, Oct. 1-20, 1966, Oct. 4-29, 1972, and Sept. 21-30, 1981.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 53,900 acre-ft, June 1-4, elevation, 5,545.26 ft; minimum, 25,100 acre-ft, Nov. 1-3, elevation, 5,501.99 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated Nov. 24, 1926)

5,419.6	0	5,470	10,200
5,430	900	5,480	14,200
5,440	2,100	5,510	30,000
5,450	4,100	5,540	49,800
5,460	6,900	5,570	73,800

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31400	25100	33600	42700	41300	38200	42800	48800	53900	48800	49800	42100
2	31500	25100	33900	42700	41200	38200	42900	48800	53900	48600	49500	41900
3	31600	25100	34100	42700	41100	38200	43100	48800	53900	48500	49200	41600
4	31700	25300	34400	42800	41000	38200	43300	48800	53900	48300	49000	41400
5	31600	25500	34600	42900	41000	38700	43300	49000	53800	48200	48700	41200
6	31300	25900	34900	42800	40900	38900	43400	49400	53800	48100	48400	40900
7	31000	26200	35200	42800	41000	39100	43400	49700	53800	48000	48100	40700
8	30700	26600	35800	42700	40900	39300	43600	49900	53700	48000	47800	40400
9	30500	27000	36300	42600	40900	39500	43700	50400	53600	47900	47600	40200
10	30300	27500	36800	42500	40900	39800	43800	50700	53600	48100	47300	39900
11	30200	27900	37300	42500	40900	40000	43900	51100	53500	48400	47100	39600
12	29900	28300	37700	42300	40800	40000	44000	51400	53400	48700	46900	39400
13	29700	28700	38100	42300	40700	40200	44200	51600	53200	49000	46600	39100
14	e29600	29100	38500	42200	40600	40300	44500	51800	53100	49300	46400	38900
15	e29600	29500	38900	42200	40500	40600	44800	51900	52900	49600	46200	38600
16	e29600	29900	39300	42100	40400	40800	45300	52000	52600	49900	45900	38400
17	e29500	30300	39600	42000	40500	40900	45800	52200	52400	50200	45700	38100
18	e29400	30600	40000	42000	40400	41100	46400	52400	52100	50500	45500	37900
19	e29000	30900	40500	41900	40100	41200	46900	52500	51900	50800	45300	37800
20	e28300	31100	40900	41900	40000	41300	47400	52700	51600	51100	45000	37500
21	e27700	31300	41400	41800	39800	41400	47700	52800	51300	51200	44800	37300
22	e27100	31500	41900	41800	39600	41500	48000	52900	51000	51100	44500	37200
23	e26700	31700	42100	41800	39300	41600	48300	53000	50800	51000	44300	37000
24	e26200	31900	42300	41800	39000	41700	48400	53100	50500	50900	44100	36700
25	25900	32100	42400	41700	38700	41700	48600	53200	50200	50700	43800	36500
26	e25700	32300	42600	41700	38500	41800	48600	53400	50000	50600	43600	36200
27	25400	32400	42700	41600	38300	41800	48700	53500	49700	50500	43400	35800
28	25300	32600	42800	41500	38200	42000	48700	53600	49400	50400	43100	35700
29	25200	33000	42900	41500	---	42200	48700	53700	49200	50200	42900	35400
30	25200	33300	42800	41400	---	42400	48800	53800	48900	50100	42600	35100
31	25200	---	42800	41300	---	42600	---	53800	---	50000	42400	---
MAX	31700	33300	42900	42900	41300	42600	48800	53800	53900	51200	49800	42100
MIN	25200	25100	33600	41300	38200	38200	42800	48800	48900	47900	42400	35100
a	5502.04	5515.64	5529.98	5527.92	5523.31	5529.75	5538.59	5545.16	5538.77	5540.22	5529.44	5518.51
b	-6200	+8100	+9500	-1500	-3100	+4400	+6200	+5000	-4900	+1100	-7600	-7300

CAL YR 1993 MAX 68700 MIN 17100 b +17500
WTR YR 1994 MAX 53900 MIN 25100 b +3700

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

11416000 BOWMAN-SPAULDING CANAL INTAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°26'26", long 120°39'29", in NW 1/4 SW 1/4 sec.8, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 0.6 mi downstream from Bowman Dam, 4.2 mi east of Graniteville, and 8.5 mi south of Sierra City.
PERIOD OF RECORD.--October 1927 to current year. Prior to October 1970, published as Bowman-Spaulding Canal at intake or Bowman-Spaulding Canal intake, near Sierra City.
REVISED RECORDS.--WSP 1395: 1935-36, 1940.
GAGE.--Water-stage recorder. Datum of gage is 5,390.39 ft above sea level. Prior to July 1965 at site 0.3 mi upstream at different datum.
REMARKS.--Records good. Canal diverts from left bank of Canyon Creek at diversion dam 500 ft downstream from Bowman Dam. Water is diverted to Lake Spaulding (station 11414140) and after passing through several powerplants is used for irrigation by Nevada Irrigation District. See schematic diagram of Yuba River basin.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	231	221	96	64	78	100	123	152	172	238	270
2	2.5	232	221	97	64	69	100	162	154	175	287	270
3	2.5	232	221	97	63	69	77	178	156	178	279	269
4	4.1	206	222	100	63	69	95	200	157	178	265	269
5	145	180	222	94	63	41	126	196	163	178	267	269
6	233	181	222	101	63	36	126	191	164	177	269	269
7	232	182	193	99	63	26	96	177	164	177	269	268
8	225	182	177	99	63	5.4	58	181	163	177	268	268
9	219	183	178	100	62	5.6	58	177	164	178	268	271
10	218	154	172	99	63	20	58	171	158	76	268	278
11	218	184	173	100	64	38	58	173	166	e.05	268	278
12	218	183	172	99	67	58	58	175	166	e.05	267	268
13	218	183	173	73	66	56	58	175	166	e.05	267	274
14	218	184	172	59	66	56	58	176	166	e.05	267	270
15	219	184	171	59	67	56	58	176	166	e.05	267	269
16	218	169	172	59	89	56	59	144	171	e.05	267	270
17	217	181	177	59	106	56	59	119	176	e.05	266	271
18	217	181	135	60	165	56	59	124	176	e.05	266	258
19	238	209	97	60	166	56	57	131	175	e.05	268	188
20	279	252	99	60	168	56	56	131	175	4.8	270	274
21	279	252	100	60	179	56	57	131	175	107	270	225
22	278	253	100	60	180	56	58	137	174	197	269	208
23	277	252	101	61	180	56	58	142	174	200	269	271
24	276	252	101	81	180	56	57	142	174	204	263	266
25	198	252	101	83	179	56	97	142	174	206	273	271
26	236	253	102	65	180	55	122	144	173	206	272	271
27	226	253	102	64	180	56	122	146	173	206	272	270
28	226	253	103	64	150	56	122	146	173	206	271	244
29	226	239	103	64	---	56	121	148	172	206	271	273
30	226	224	101	65	---	56	121	151	172	206	271	272
31	227	---	96	64	---	74	---	152	---	205	271	---
TOTAL	6218.5	6356	4700	2401	3063	1596.0	2409	4861	5032	3820.25	8323	7892
MEAN	201	212	152	77.5	109	51.5	80.3	157	168	123	268	263
MAX	279	253	222	101	180	78	126	200	176	206	287	278
MIN	2.4	154	96	59	62	5.4	56	119	152	.05	238	188
AC-FT	12330	12610	9320	4760	6080	3170	4780	9640	9980	7580	16510	15650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1994, BY WATER YEAR (WY)

MEAN	201	195	170	150	132	132	88.2	73.4	97.3	213	231	234
MAX	304	302	298	261	253	257	246	239	282	303	307	308
(WY)	1975	1975	1975	1985	1974	1980	1970	1970	1970	1972	1971	1989
MIN	35.6	4.71	.000	.000	.000	.50	.000	.000	.043	1.41	1.05	7.96
(WY)	1973	1965	1932	1932	1932	1952	1928	1928	1965	1952	1952	1952

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1928 - 1994	
ANNUAL TOTAL	72161.30		56671.75			
ANNUAL MEAN	198		155		160	
HIGHEST ANNUAL MEAN					236	1970
LOWEST ANNUAL MEAN					64.4	1952
HIGHEST DAILY MEAN	306	Aug 19	287	Aug 2	345	Sep 5 1986
LOWEST DAILY MEAN	.16	Jul 11	.05	Jul 11	.00	Apr 1 1928
ANNUAL SEVEN-DAY MINIMUM	.16	Jul 11	.05	Jul 11	.00	Apr 1 1928
ANNUAL RUNOFF (AC-FT)	143100		112400		116200	
10 PERCENT EXCEEDS	293		269		270	
50 PERCENT EXCEEDS	208		172		199	
90 PERCENT EXCEEDS	99		56		1.9	

e Estimated.

C-042267

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°20'32", long 120°38'26", in SW 1/4 NW 1/4 sec.16, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, at outlet of Jordan Creek Siphon, 0.6 mi downstream from Fuller Lake and 3.5 mi northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and Venturi section. Elevation of gage is 5,340 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records show water diverted from Bowman Lake (station 11415500) plus numerous small tributaries before it enters Lake Spaulding (station 11414140). Most of the water at this gage flows downstream through Spaulding No. 3 Powerplant (station 11416200). See schematic diagram of Yuba River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 335 ft^3/s, Dec. 25, 1983; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	230	228	106	65	105	169	170	174	172	205	275
2	36	235	225	105	66	77	126	193	172	177	262	276
3	36	237	224	104	64	81	110	239	171	179	284	275
4	36	228	226	106	66	82	165	247	170	178	285	274
5	175	192	225	109	66	85	175	261	173	179	273	274
6	241	183	224	108	68	83	172	283	178	178	272	274
7	237	182	214	108	69	71	148	284	177	180	273	274
8	234	180	186	106	69	51	116	270	177	179	260	274
9	223	184	192	106	67	49	111	266	176	177	293	274
10	220	160	184	107	68	46	107	259	170	64	281	279
11	219	183	179	107	68	72	103	256	172	.00	277	282
12	219	186	177	106	75	96	102	255	175	.00	275	281
13	221	184	174	92	71	96	105	249	176	.00	274	277
14	224	180	176	81	70	98	107	242	176	.00	274	279
15	233	181	173	79	72	103	112	237	174	.00	274	278
16	231	160	171	77	79	146	118	227	175	.00	274	277
17	227	174	171	78	95	125	125	184	181	.00	274	276
18	222	177	134	79	141	111	140	173	182	.00	273	278
19	223	193	107	78	166	85	146	180	181	.00	273	205
20	268	243	105	78	165	91	141	181	180	.00	274	255
21	286	256	104	78	165	94	135	174	179	111	274	270
22	289	261	105	79	169	96	129	169	178	193	274	176
23	290	262	105	80	172	96	124	173	181	192	274	265
24	289	259	106	88	172	93	120	173	179	193	271	276
25	251	257	106	101	172	91	140	176	177	197	271	272
26	242	256	106	92	172	88	170	174	177	197	281	276
27	235	257	107	85	175	88	174	175	176	208	281	275
28	231	258	107	84	176	91	173	174	175	205	279	267
29	230	262	107	82	---	95	173	171	174	202	277	275
30	229	248	106	84	---	97	173	172	172	201	276	281
31	230	---	106	75	---	111	---	174	---	200	276	---
TOTAL	6563	6448	4861	2848	3043	2793	4109	6561	5278	3762.00	8464	8070
MEAN	212	215	157	91.9	109	90.1	137	212	176	121	273	269
MAX	290	262	229	109	176	146	175	284	182	208	293	282
MIN	36	160	104	75	64	46	102	169	170	.00	205	176
AC-FT	13020	12790	9640	5650	6040	5540	8150	13010	10470	7460	16790	16010
a	12480	12530	9110	4790	5970	5540	7990	13260	10410	7380	16780	16160

a Discharge, in acre-feet, through Spaulding No. 3 Powerplant, provided by Pacific Gas & Electric Co.

C-042268

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	193	204	204	193	176	200	212	224	224	213	245	259
MAX	306	308	312	313	309	311	311	319	315	305	316	311
(WY)	1983	1984	1984	1984	1984	1983	1980	1983	1983	1983	1993	1983
MIN	29.5	.000	41.9	37.8	21.4	26.3	19.3	33.9	.000	45.6	40.2	143
(WY)	1973	1965	1978	1977	1991	1977	1977	1965	1965	1991	1988	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	90557.00		62800.00			
ANNUAL MEAN	248		172		212	
HIGHEST ANNUAL MEAN					304	1983
LOWEST ANNUAL MEAN					77.9	1977
HIGHEST DAILY MEAN	323	May 1	293	Aug 9	335	Dec 25 1983
LOWEST DAILY MEAN	.00	Jul 13	.00	Jul 11	.00	Oct 29 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 13	.00	Jul 11	.00	Oct 29 1964
ANNUAL RUNOFF (AC-FT)	179600		124600		153800	
ANNUAL TOTAL (AC-FT) a	174900		122400			
10 PERCENT EXCEEDS	315		274		305	
50 PERCENT EXCEEDS	285		175		246	
90 PERCENT EXCEEDS	107		76		60	

C-042269

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA

LOCATION.--Lat 39°26'23", long 120°39'37", in NE 1/4 SE 1/4 sec.7, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank 1 mi downstream from Bowman Dam, 3.5 mi upstream from Texas Creek, and 8.8 mi south of Sierra City.

DRAINAGE AREA.--28.3 mi^2.

PERIOD OF RECORD.--January 1927 to current year.

REVISED RECORDS.--WSP 1315-A: 1930(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,300 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Bowman Lake (station 11415500), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (station 11416000). See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,970 ft^3/s, Mar. 8, 1986, gage height, 9.08 ft, from rating curve extended above 1,500 ft^3/s, on basis of computation of flow over Bowman Dam; maximum gage height, 9.42 ft in gage well, 10.32 ft from floodmarks, Jan. 22, 1970; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44 ft^3/s, Mar. 5, gage height, 3.53 ft; minimum daily, 1.8 ft^3/s, Apr. 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	4.8	3.3	2.7	2.1	6.9	3.3	4.6	4.2	3.8	5.3	3.5
2	5.0	2.5	2.8	2.9	2.1	6.7	3.2	4.6	4.2	3.8	3.7	3.4
3	4.9	2.5	2.7	3.2	2.1	5.8	3.0	4.5	4.1	3.8	3.7	3.5
4	4.9	2.4	3.2	7.4	2.1	6.1	2.8	4.6	4.1	3.8	3.6	3.5
5	5.8	2.1	2.8	5.7	2.1	23	2.6	5.4	4.2	3.8	3.5	3.5
6	6.4	2.2	2.6	3.4	2.4	9.5	2.5	8.3	4.3	3.9	3.6	3.1
7	6.4	2.3	2.5	2.8	3.5	7.6	2.6	8.4	4.2	3.9	3.7	3.0
8	6.4	2.4	4.5	2.7	3.3	6.6	3.8	5.9	4.2	3.9	3.7	3.0
9	6.4	2.4	16	2.5	3.1	6.5	6.7	5.5	4.1	3.9	3.7	3.0
10	6.4	2.2	7.1	2.5	3.1	7.5	4.1	5.0	4.1	3.7	3.6	3.1
11	6.5	2.4	5.2	2.3	2.7	8.6	3.0	4.7	4.0	5.3	3.6	3.1
12	6.6	2.6	3.9	2.3	2.6	5.8	2.6	4.6	4.1	6.5	3.5	3.1
13	6.7	2.5	3.4	2.3	2.5	6.3	2.4	4.5	4.1	5.5	3.5	3.4
14	7.0	2.5	3.3	2.3	2.5	7.3	2.2	4.4	4.1	5.3	3.5	3.7
15	8.1	2.3	2.9	2.3	2.5	7.5	2.0	4.5	4.1	5.2	3.5	3.8
16	7.3	2.3	2.9	2.3	2.5	6.2	2.0	4.7	4.1	5.2	3.4	3.7
17	7.0	2.3	2.7	2.3	4.8	4.8	1.8	5.1	4.1	5.3	3.4	3.6
18	6.9	2.3	2.6	2.3	4.4	4.7	1.8	5.2	4.0	5.4	3.4	3.7
19	6.9	2.4	2.5	2.3	3.3	4.8	2.3	5.5	3.9	5.5	3.4	3.4
20	6.9	2.8	2.5	2.3	3.6	4.3	4.1	5.4	3.9	4.9	3.5	3.7
21	6.9	2.7	2.5	2.3	3.6	4.7	4.1	4.8	3.8	5.0	3.4	3.7
22	6.9	3.0	2.5	2.2	3.0	4.2	4.1	4.6	3.8	5.7	3.4	3.6
23	6.9	2.7	2.5	3.5	2.7	3.3	4.2	4.5	3.9	5.7	3.3	4.1
24	6.9	2.7	2.5	3.7	2.9	3.0	4.2	4.4	4.0	5.7	3.2	4.1
25	6.7	2.7	2.5	3.1	4.3	3.0	5.1	4.3	4.0	5.7	3.3	4.1
26	6.9	2.7	2.5	2.9	7.2	3.1	8.7	4.3	4.0	5.6	3.3	4.1
27	6.9	2.8	2.8	2.7	9.3	3.4	8.7	4.3	4.0	5.6	3.3	4.1
28	6.9	3.5	2.9	2.3	6.9	3.6	6.5	4.3	3.9	5.5	3.3	4.7
29	6.9	6.5	2.7	2.3	---	3.7	5.4	4.2	3.8	5.6	3.3	4.4
30	6.9	4.7	2.7	2.3	---	3.6	4.9	4.2	3.8	5.7	3.3	4.1
31	6.9	---	2.7	2.3	---	3.6	---	4.3	---	5.7	3.3	---
TOTAL	203.4	84.3	108.2	88.4	97.2	185.7	114.7	153.6	121.1	153.9	109.2	108.8
MEAN	6.56	2.81	3.49	2.85	3.47	5.99	3.82	4.85	4.04	4.96	3.52	3.63
MAX	8.1	6.5	16	7.4	9.3	23	8.7	8.4	4.3	6.5	5.3	4.7
MIN	4.9	2.1	2.5	2.2	2.1	3.0	1.8	4.2	3.8	3.7	3.2	3.0
AC-FT	403	167	215	175	193	368	228	305	240	305	217	216

C-042270

C-042270

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.90	6.31	16.8	17.2	15.1	23.9	38.5	121	143	13.4	2.50	2.28
MAX	24.1	195	360	438	198	629	325	773	542	314	37.3	17.0
(WY)	1973	1984	1965	1970	1965	1986	1940	1963	1952	1952	1952	1952
MIN	.13	.19	.20	.20	.50	.58	.46	.43	.30	.029	.000	.000
(WY)	1935	1940	1937	1937	1933	1935	1934	1947	1977	1935	1934	1963

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1927 - 1994	
ANNUAL TOTAL	13282.3		1528.5			
ANNUAL MEAN	36.4		4.19		33.1	
HIGHEST ANNUAL MEAN					165	1965
LOWEST ANNUAL MEAN					.81	1931
HIGHEST DAILY MEAN	303	May 3	23	Mar 5	3120	Mar 8 1986
LOWEST DAILY MEAN	2.1	Nov 5	1.8	Apr 17	.00	Apr 16 1934
ANNUAL SEVEN-DAY MINIMUM	2.3	Nov 4	2.1	Apr 13	.00	Apr 16 1934
INSTANTANEOUS PEAK FLOW			44	Mar 5	3970	Mar 8 1986
INSTANTANEOUS PEAK STAGE			3.53	Mar 5	9.42	Jan 22 1970
ANNUAL RUNOFF (AC-FT)	26350		3030		24000	
10 PERCENT EXCEEDS	181		6.7		33	
50 PERCENT EXCEEDS	5.3		3.8		2.9	
90 PERCENT EXCEEDS	2.7		2.4		.30	

11416620 TEXAS CREEK TRIBUTARY BELOW CULBERTSON LAKE, NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°25'17", long 120°37'21", in SW 1/4 SW 1/4 sec.15, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 150 ft downstream from outlet structure on Culbertson Lake Dam, 0.15 mi upstream from Texas Creek, and 6.4 mi east of Graniteville.

DRAINAGE AREA.--0.44 mi^2.

PERIOD OF RECORD.--October 1988 to current year (low-flow records only). Unpublished records for water years 1965-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,420 ft above sea level. October 1965 to August 1988, nonrecording gage at site 10 ft downstream at different datum. August to September 1988, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records not computed for winter months or above 1.2 ft^3/s. Low and medium flow regulated by Culbertson Lake (capacity, 953 acre-ft). See schematic diagram of Yuba River basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	1.2	1.2	.95	.99
2	---	1.2	---	---	---	---	---	---	1.2	1.2	.98	1.0
3	---	1.2	---	---	---	---	---	---	---	1.2	.99	1.0
4	---	---	---	---	---	---	---	---	---	1.2	.99	.99
5	---	---	---	---	---	---	---	---	1.2	1.2	.99	.99
6	---	---	---	---	---	---	---	---	1.2	1.2	1.0	.98
7	1.2	---	---	---	---	---	---	---	1.2	1.1	.99	1.1
8	1.2	---	---	---	---	---	---	---	1.2	1.1	.99	1.1
9	1.2	---	---	---	---	---	---	---	1.2	1.2	.99	1.1
10	1.2	---	---	---	---	---	---	---	1.2	1.2	.99	1.1
11	1.2	---	---	---	---	---	---	---	1.2	1.1	.99	1.1
12	1.2	---	---	---	---	---	---	---	1.2	1.1	1.0	1.1
13	1.2	---	---	---	---	---	---	---	1.2	.98	1.0	1.1
14	1.2	---	---	---	---	---	---	---	1.2	.91	1.0	1.1
15	1.2	---	---	---	---	---	---	---	1.2	.97	1.0	1.1
16	1.0	---	---	---	---	---	---	---	1.1	.98	1.0	1.1
17	1.1	---	---	---	---	---	---	---	1.1	.95	.99	1.1
18	1.2	---	---	---	---	---	---	---	1.2	1.0	.99	1.1
19	1.2	---	---	---	---	---	---	---	1.2	1.1	.99	1.0
20	1.2	---	---	---	---	---	---	---	---	1.0	.99	1.0
21	1.1	---	---	---	---	---	---	---	---	1.0	.97	1.0
22	1.1	---	---	---	---	---	---	---	---	.99	1.0	1.0
23	1.1	---	---	---	---	---	---	---	---	.97	1.0	1.0
24	1.1	---	---	---	---	---	---	---	---	1.0	1.0	1.0
25	1.2	---	---	---	---	---	---	---	---	1.1	1.0	1.0
26	---	---	---	---	---	---	---	---	---	1.0	.99	.99
27	---	---	---	---	---	---	---	---	---	1.0	.99	.99
28	---	---	---	---	---	---	---	1.2	1.2	.99	.96	1.0
29	---	---	---	---	---	---	---	1.2	1.2	.99	.98	1.0
30	---	---	---	---	---	---	---	1.2	1.2	.96	.98	.99
31	---	---	---	---	---	---	---	1.2	---	.96	.96	---
TOTAL	---	---	---	---	---	---	---	---	---	32.85	30.64	31.12
MEAN	---	---	---	---	---	---	---	---	---	1.06	.99	1.04
MAX	---	---	---	---	---	---	---	---	---	1.2	1.0	1.1
MIN	---	---	---	---	---	---	---	---	---	.91	.95	.98
AC-FT	---	---	---	---	---	---	---	---	---	65	61	62

C-042272

11416700 LINDSEY CREEK BELOW LOWER LINDSEY LAKE, NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°24'43", long 120°38'35", in NE 1/4 SE 1/4 sec.20, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 10 ft downstream from outlet structure on Lower Lindsey Lake Dam and 5.5 mi east of Graniteville.

DRAINAGE AREA.--0.91 mi^2.

PERIOD OF RECORD.--October 1988 to current year (low-flow records only). Unpublished records for water years 1965-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,225 ft above sea level, from topographic map. October 1965 to July 1984, nonrecording gage at same site and different datum. July 1984 to August 1988, nonrecording gage at same site and different datum.

REMARKS.--Records not computed for winter months or above 1.2 ft^3/s. Low and medium flow regulated by Lower Lindsey Lake, capacity, 293 acre-ft. Spillway flows bypass this station. See schematic diagram of Yuba River basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	1.1	.59	e.54
2	---	---	---	---	---	---	---	---	---	1.1	.69	e.54
3	---	---	---	---	---	---	---	---	---	1.1	.70	e.54
4	---	---	---	---	---	---	---	---	---	1.2	.70	e.54
5	---	---	---	---	---	---	---	---	1.1	1.2	.72	e.53
6	---	---	---	---	---	---	---	---	1.0	1.1	.71	e.52
7	---	---	---	---	---	---	---	---	1.1	.96	.70	e.51
8	---	---	---	---	---	---	---	---	1.2	.98	.70	e.53
9	---	---	---	---	---	---	---	---	1.1	.94	.70	e.56
10	---	---	---	---	---	---	---	---	1.1	1.1	.68	e.59
11	---	---	---	---	---	---	---	---	1.0	1.1	.64	e.64
12	---	---	---	---	---	---	---	---	---	.83	.64	e.61
13	---	---	---	---	---	---	---	---	---	.54	.64	e.51
14	---	---	---	---	---	---	---	---	---	.53	.63	e.51
15	---	---	---	---	---	---	---	---	---	.59	.62	e.51
16	---	---	---	---	---	---	---	---	---	.59	.61	e.51
17	---	---	---	---	---	---	---	---	---	.58	.61	e.52
18	---	.99	---	---	---	---	---	---	---	.54	.60	e.52
19	---	.98	---	---	---	---	---	---	1.0	.54	.59	e.53
20	---	.93	---	---	---	---	---	---	.96	.54	.59	e.53
21	---	1.1	---	---	---	---	---	---	.78	.54	.59	e.54
22	---	---	---	---	---	---	---	---	1.1	.54	.59	e.54
23	---	---	---	---	---	---	---	---	1.2	.51	.59	e.56
24	---	---	---	---	---	---	---	---	1.2	.51	.59	e.56
25	---	---	---	---	---	---	---	---	1.1	.53	.58	e.55
26	---	---	---	---	---	---	---	---	---	.51	.57	e.54
27	---	---	---	---	---	---	---	---	---	.50	.56	e.54
28	---	---	---	---	---	---	---	---	1.1	.50	.56	e.54
29	---	---	---	---	---	---	---	---	1.0	.50	.56	e.54
30	---	---	---	---	---	---	---	---	1.1	.50	e.55	e.54
31	---	---	---	---	---	---	---	---	---	.50	e.55	---
TOTAL	---	---	---	---	---	---	---	---	---	22.80	19.35	16.24
MEAN	---	---	---	---	---	---	---	---	---	.74	.62	.54
MAX	---	---	---	---	---	---	---	---	---	1.2	.72	.64
MIN	---	---	---	---	---	---	---	---	---	.50	.55	.51
AC-FT	---	---	---	---	---	---	---	---	---	45	38	32

e Estimated.

C-042273

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA

LOCATION.--Lat 39°17'32", long 121°06'13", in NW 1/4 SE 1/4 sec.32, T.17 N., R.8 E., Nevada County, Hydrologic Unit 18020125, on left bank at Jones Bar, 100 ft upstream from Rush Creek, 0.9 mi downstream from bridge on State Highway 49, and 5 mi northwest of Grass Valley.

DRAINAGE AREA.--308 mi^2.

PERIOD OF RECORD.--October 1940 to September 1948, April 1959 to current year. Published as South Fork Yuba River at Jones Bar 1940-48, and as South Yuba River at Jones Bar 1959-63. Yearly discharge for the 1947 water year published in WSP 1315-A.
SEDIMENT DATA: Water years 1966-74.
WATER TEMPERATURE: Water years 1965-79 (daily records).

REVISED RECORDS.--WSP 1315-A: 1942-43(M), drainage area at former site. WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,060 ft above sea level, from river-profile map. Oct. 1, 1940, to Sept. 30, 1948, at site 150 ft upstream at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Spaulding, Fordyce Lake, and Bowman Lake (stations 11414140, 11414090, and 11415500) and many smaller reservoirs. Diversions into and out of basin for several powerplants and for irrigation. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,600 ft^3/s, Dec. 22, 1964, gage height, 25.0 ft, from floodmarks, from rating curve extended above 23,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 1.0 ft^3/s, Sept. 10-13, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 30.7 ft, from floodmarks, present datum, at site 100 ft upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,180 ft^3/s, Dec. 9, gage height, 7.33 ft; minimum daily, 24 ft^3/s, many days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	45	124	87	89	456	159	144	64	32	26	24
2	36	44	84	85	86	428	154	134	61	32	26	24
3	36	42	72	85	83	410	154	127	59	32	28	24
4	36	41	67	91	81	381	157	126	57	32	27	25
5	36	41	69	155	79	635	147	126	55	32	26	25
6	38	41	64	137	105	673	140	170	59	32	26	25
7	39	41	61	110	540	485	141	201	63	32	25	25
8	40	41	253	99	414	411	142	191	58	32	24	24
9	39	41	905	92	258	371	203	173	54	31	24	25
10	40	41	352	87	245	354	171	157	52	30	25	25
11	42	42	274	83	328	453	149	143	49	30	25	26
12	43	57	310	80	224	370	141	133	47	35	25	27
13	44	52	181	77	187	323	139	123	46	36	25	28
14	49	47	456	76	162	315	139	112	48	34	25	30
15	101	44	286	74	147	319	142	106	46	33	24	29
16	126	85	184	73	135	309	146	106	46	32	24	28
17	82	45	148	71	509	281	149	118	45	32	24	27
18	65	44	127	71	566	257	148	123	45	29	24	27
19	55	44	114	70	371	244	148	133	42	28	24	26
20	52	44	104	69	406	229	146	131	40	29	24	26
21	50	44	97	68	406	216	139	114	40	29	24	25
22	49	48	92	67	380	211	130	103	39	29	24	25
23	48	58	88	96	320	199	126	94	38	29	25	26
24	48	54	85	208	287	183	138	87	37	28	25	26
25	48	49	83	205	292	172	187	83	37	28	25	28
26	47	47	83	153	344	163	246	80	36	27	24	29
27	45	47	90	138	530	164	197	76	35	27	24	28
28	44	49	99	120	504	162	181	73	35	27	25	29
29	45	101	95	107	---	165	166	70	34	27	24	42
30	45	353	90	98	---	163	154	67	33	27	24	45
31	45	---	88	93	---	164	---	64	---	27	24	---
TOTAL	1555	1772	5225	3125	8078	9666	4679	3688	1400	940	769	823
MEAN	50.2	59.1	169	101	288	312	156	119	46.7	30.3	24.8	27.4
MAX	126	353	905	208	566	673	246	201	64	36	28	45
MIN	36	41	61	67	79	162	126	64	33	27	24	24
AC-FT	3080	3510	10360	6200	16020	19170	9280	7320	2780	1860	1530	1630

C—042274

C-042274

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	84.7	213	469	673	741	719	667	821	621	107	37.2	37.7
MAX	1197	1350	3756	2964	4078	3029	2804	3323	3618	996	84.9	132
(WY)	1963	1984	1965	1970	1986	1986	1982	1963	1967	1983	1983	1965
MIN	11.7	24.2	37.4	45.0	64.0	67.2	51.1	68.3	31.8	11.6	3.05	1.42
(WY)	1945	1960	1960	1991	1977	1977	1977	1992	1977	1947	1947	1947

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1941 - 1994	
ANNUAL TOTAL	194401		41720			
ANNUAL MEAN	533		114		437	
HIGHEST ANNUAL MEAN					1099	1982
LOWEST ANNUAL MEAN					42.6	1977
HIGHEST DAILY MEAN	4560	Jan 22	905	Dec 9	22800	Dec 22 1964
LOWEST DAILY MEAN	36	Sep 12	24	Aug 8	1.0	Sep 10 1944
ANNUAL SEVEN-DAY MINIMUM	37	Sep 23	24	Aug 15	1.0	Sep 9 1944
INSTANTANEOUS PEAK FLOW			1180	Dec 9	53600	Dec 22 1964
INSTANTANEOUS PEAK STAGE			7.33	Dec 9	25.00	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	385600		82750		316600	
10 PERCENT EXCEEDS	1430		286		1050	
50 PERCENT EXCEEDS	297		67		120	
90 PERCENT EXCEEDS	40		25		25	

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA

LOCATION.--Lat 39°14'07", long 121°16'23", in NW 1/4 NW 1/4 sec.23, T.16 N., R.6 E., Yuba County, Hydrologic Unit 18020125, on right bank 2,000 ft downstream from Englebright Dam, 0.5 mi upstream from Deer Creek, and 2.3 mi northeast of Smartville.

DRAINAGE AREA.--1,108 mi^2.

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1953, published as "at Narrows Dam." October 1953 to Sept. 30, 1969, published as "at Englebright Dam." If records for Deer Creek near Smartville (station 11418500) since 1941 are added to records at this station, records equivalent to those published from 1903 to 1941 as Yuba River at Smartville (station 11419000) can be obtained.
WATER TEMPERATURE: Water years 1973-78.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 278.68 ft above sea level (levels by International Engineering Co.). Prior to Sept. 19, 1958, at site 2,000 ft upstream at datum 248.31 ft higher, and Sept. 19, 1958, to Sept. 30, 1969, at datum 278.68 ft lower. Supplementary gage 2,000 ft upstream since Oct. 1, 1969, at Englebright Dam at datum 248.31 ft higher.

REMARKS.--No estimated daily discharges. Records good. Diversions up to 1,800 ft^3/s (see stations 11413250, 11414190, and 11414200) out of basin for power and irrigation upstream from station Flow regulation by Lake Spaulding (station 11414140), Jackson Meadows and New Bullards Bar Reservoirs (stations 11407800 and 11413515), Englebright Reservoir beginning in 1941, capacity, 70,000 acre-ft, Bowman and Fordyce Lakes (stations 11415500 and 11414090), and many smaller reservoirs. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 171,000 ft^3/s, Dec. 22, 1964, gage height, 546.14 ft, site and datum then in use, from rating curve extended above 25,000 ft^3/s on basis of computation of peak flow over spillway of dam at gage heights 544.72 and 546.14 ft; no flow at times in 1942, 1949, 1956, 1958-61, 1968-69.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,740 ft^3/s, Mar. 31, gage height, 8.77 ft; minimum daily, 487 ft^3/s, Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	703	1500	1300	1310	925	928	1010	900	1020	906	1070	742
2	764	1500	1290	1310	925	931	934	907	1030	902	1190	750
3	762	1500	1290	1290	929	934	938	1000	1050	898	1150	748
4	1050	1510	1280	1290	924	932	838	1050	1080	890	1140	751
5	1080	1510	1290	1300	918	929	711	1040	1110	887	1140	752
6	1480	1500	1290	1300	921	933	687	1000	1090	863	1120	748
7	1520	1490	1300	1300	921	931	688	980	1070	840	1110	672
8	1510	1490	1310	1310	925	929	687	977	1070	846	1080	619
9	1510	1500	1310	1310	925	933	688	963	1070	877	1070	571
10	1500	1490	1310	1300	921	932	686	1120	1080	878	1070	570
11	1500	1490	1290	1300	921	933	690	1130	1080	869	1070	565
12	1490	1490	1300	1300	920	933	692	1100	1080	865	1070	550
13	1500	1490	1300	1300	919	932	690	1130	1090	869	1080	544
14	1500	1490	1300	1300	920	936	687	1130	1110	863	1060	544
15	1500	1500	1300	1300	925	932	692	1070	1100	870	1050	540
16	1500	1490	1300	1300	919	932	688	1060	1080	880	1040	509
17	1520	1490	1310	1300	916	931	777	1060	1070	880	1010	494
18	1520	1490	1300	1300	924	933	825	1050	1080	867	1030	489
19	1510	1490	1300	1310	921	929	920	1050	1080	864	1080	487
20	1510	1490	1290	1260	921	928	1000	1050	1060	865	1090	500
21	1500	1490	1310	1040	917	927	1020	1030	1040	864	1080	509
22	1500	1490	1310	930	920	926	1040	1010	1020	867	1080	509
23	1500	1490	1310	920	921	924	1070	995	1020	866	1050	526
24	1510	1490	1300	913	954	929	1070	924	1010	864	1010	597
25	1500	1490	1290	918	930	930	1010	866	1010	863	933	617
26	1510	1490	1280	921	928	930	959	866	1000	859	888	628
27	1510	1490	1290	916	932	931	923	848	1010	846	871	646
28	1500	1490	1300	919	929	933	873	877	1010	851	860	645
29	1500	1470	1300	916	---	930	805	905	1000	858	801	644
30	1510	1370	1300	915	---	932	848	955	996	854	727	644
31	1510	---	1310	921	---	1150	---	987	---	853	722	---
TOTAL	43479	44660	40260	36219	25871	29073	25146	31030	31616	26924	31742	18110
MEAN	1403	1489	1299	1168	924	938	838	1001	1054	869	1024	604
MAX	1520	1510	1310	1310	954	1150	1070	1130	1110	906	1190	752
MIN	703	1370	1280	913	916	924	686	848	996	840	722	487
AC-FT	86240	88580	79860	71840	51320	57670	49880	61550	62710	53400	62960	35920

C-042276

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	946	1237	2690	3228	3730	3373	3751	3863	2564	1259	1180	989
MAX	5206	8964	18100	14750	17330	11680	11950	13330	9017	4034	3140	3144
(WY)	1963	1951	1965	1970	1986	1983	1982	1952	1983	1983	1980	1980
MIN	207	41.3	175	283	211	199	437	367	501	430	326	202
(WY)	1960	1942	1960	1977	1977	1977	1976	1977	1977	1977	1944	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1942 - 1994	
ANNUAL TOTAL	1020126		384130			
ANNUAL MEAN	2795		1052		2394	
HIGHEST ANNUAL MEAN					5251	1982
LOWEST ANNUAL MEAN					414	1977
HIGHEST DAILY MEAN	11500	Jan 22	1520	Oct 7	124000	Dec 23 1964
LOWEST DAILY MEAN	657	Sep 28	487	Sep 19	.00	Nov 8 1941
ANNUAL SEVEN-DAY MINIMUM	661	Sep 24	500	Sep 16	.00	Nov 8 1941
INSTANTANEOUS PEAK FLOW			1740	Mar 31	171000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			8.77	Mar 31	546.14	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	2023000		761900		1734000	
10 PERCENT EXCEEDS	4410		1490		5100	
50 PERCENT EXCEEDS	2100		1010		1170	
90 PERCENT EXCEEDS	1290		708		430	

11418500 DEER CREEK NEAR SMARTVILLE, CA

LOCATION.--Lat 39°13'28", long 121°16'03", in SW 1/4 SE 1/4 sec.23, T.16 N., R.6 E., Nevada County, Hydrologic Unit 18020125, on left bank 400 ft upstream from county road bridge, 0.9 mi upstream from mouth, and 2 mi northeast of Smartville.

DRAINAGE AREA.--84.6 mi^2.

PERIOD OF RECORD.--June 1935 to current year.
WATER TEMPERATURE: Water years 1974-79.
SEDIMENT DATA: Water years 1974-79.

REVISED RECORDS.--WSP 1395: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 630 ft above sea level, from river-profile map. June 21, 1935, to Nov. 30, 1938, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream is affected by Scotts Flat Reservoir beginning in 1949, usable capacity, 26,300 acre-ft, increased to 49,000 acre-ft in July 1964; Deer Creek Reservoir, capacity, 1,400 acre-ft beginning 1949; Lake Wildwood, capacity, 3,840 acre-ft beginning in 1970, power developments, and diversion for irrigation. At times water from South Yuba River is diverted to Deer Creek and water from Deer Creek is diverted to Bear River. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,100 ft^3/s, Feb. 17, 1986, gage height, 14.05 ft, from rating curve extended above 5,200 ft^3/s; minimum daily, 0.06 ft^3/s, Aug. 5, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1928 reached a stage of 14.5 ft from floodmarks, discharge, 14,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft^3/s, Dec. 14, gage height, 6.42 ft; minimum daily, 2.2 ft^3/s, July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	32	19	15	19	42	15	14	3.9	2.9	3.0	3.5
2	6.4	34	13	15	18	37	14	12	4.1	3.1	2.8	3.8
3	6.7	57	12	14	17	35	13	10	4.7	3.7	2.9	3.8
4	5.7	69	12	16	16	33	13	11	4.3	3.7	2.8	4.1
5	7.0	73	12	18	15	83	11	11	4.1	3.2	2.7	4.4
6	7.7	60	11	16	39	183	8.6	13	4.0	3.0	2.8	4.3
7	7.4	35	11	14	628	63	8.8	19	4.5	2.7	3.0	4.2
8	7.5	41	116	13	224	45	11	18	6.0	2.5	2.8	4.0
9	6.8	61	208	13	83	39	37	14	4.5	2.6	2.9	3.8
10	7.1	71	26	13	90	38	33	13	4.8	2.8	2.7	4.0
11	8.5	53	93	12	96	57	22	12	5.4	2.5	3.0	4.5
12	9.1	33	61	12	53	38	18	8.3	4.8	2.2	2.6	4.8
13	8.6	23	21	12	42	33	15	6.3	4.1	2.3	2.9	4.9
14	10	17	591	12	37	34	13	6.0	4.0	2.5	3.1	4.8
15	48	15	178	12	33	32	15	5.4	3.6	2.5	3.3	4.5
16	51	14	63	12	30	29	16	5.8	3.4	2.5	3.3	4.3
17	77	13	40	11	223	27	14	9.2	3.4	2.9	3.3	4.1
18	306	16	31	11	462	26	11	12	4.0	2.7	3.3	3.9
19	286	27	26	11	167	25	9.3	16	3.8	2.7	3.4	3.9
20	270	43	22	11	312	24	10	15	3.3	3.2	3.5	3.7
21	253	44	21	10	232	24	10	10	2.8	3.3	3.5	3.7
22	235	25	20	9.9	153	23	10	8.5	3.1	3.3	3.5	3.7
23	201	11	19	27	89	21	11	5.5	3.2	3.5	3.4	3.6
24	97	8.1	18	329	66	21	19	6.4	3.4	3.8	3.4	3.8
25	63	7.2	16	172	54	22	79	6.2	3.6	3.6	3.4	3.9
26	69	6.5	16	106	62	22	238	6.5	4.1	3.2	3.5	4.8
27	71	6.7	15	56	58	21	49	6.6	3.9	3.5	3.7	3.5
28	70	8.7	16	36	48	20	31	7.0	3.4	3.4	3.6	3.3
29	68	25	16	29	---	19	22	7.0	3.1	3.4	3.6	3.9
30	69	78	16	25	---	17	16	6.6	2.8	3.5	3.3	3.7
31	59	---	15	22	---	16	---	4.4	---	3.3	3.4	---
TOTAL	2396.6	1007.2	1754	1084.9	3366	1149	792.7	305.7	118.1	94.0	98.4	121.2
MEAN	77.3	33.6	56.6	35.0	120	37.1	26.4	9.86	3.94	3.03	3.17	4.04
MAX	306	78	591	329	628	183	238	19	6.0	3.8	3.7	4.9
MIN	5.1	6.5	11	9.9	15	16	8.6	4.4	2.8	2.2	2.6	3.3
AC-FT	4750	2000	3480	2150	6680	2280	1570	606	234	186	195	240

C—042278

C-042278

11418500 DEER CREEK NEAR SMARTVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.6	65.3	164	280	358	317	182	63.5	18.1	6.24	4.90	5.83
MAX	373	388	960	998	1399	1162	887	299	107	23.2	14.2	19.1
(WY)	1963	1951	1956	1956	1986	1938	1982	1957	1942	1974	1969	1980
MIN	1.07	2.25	2.89	5.25	14.5	10.5	3.91	3.58	.48	.36	.33	.27
(WY)	1989	1940	1977	1991	1991	1977	1977	1981	1977	1940	1940	1937

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1936 - 1994	
ANNUAL TOTAL	47493.9		12287.8			
ANNUAL MEAN	130		33.7		123	
HIGHEST ANNUAL MEAN					327	1983
LOWEST ANNUAL MEAN					5.48	1977
HIGHEST DAILY MEAN	2640	Jan 20	628	Feb 7	10200	Feb 17 1986
LOWEST DAILY MEAN	3.4	Aug 10	2.2	Jul 12	.06	Aug 5 1977
ANNUAL SEVEN-DAY MINIMUM	3.7	Aug 7	2.5	Jul 10	.16	Aug 3 1940
INSTANTANEOUS PEAK FLOW			1360	Dec 14	12100	Feb 17 1986
INSTANTANEOUS PEAK STAGE			6.42	Dec 14	14.05	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	94200		24370		89170	
10 PERCENT EXCEEDS	336		70		301	
50 PERCENT EXCEEDS	27		12		17	
90 PERCENT EXCEEDS	4.7		3.2		2.6	

C-042279

11421000 YUBA RIVER NEAR MARYSVILLE, CA

LOCATION.--Lat 39°10'33", long 121°31'26", in New Helvetia Grant, Yuba County, Hydrologic Unit 18020107, on left bank 4.2 mi northeast of Marysville and 5 mi downstream from Dry Creek.

DRAINAGE AREA.--1,339 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year (prior to October 1943, low-water periods only). Published as "at Marysville" October 1940 to September 1957. Separate records published for two sites August 1954 to September 1955. Yearly discharge for the 1945 water year published in WSP 1315-A.

REVISED RECORDS.--WSP 1715: 1956(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.95 ft below sea level. Prior to August 1954 and Oct. 1, 1956, to Sept. 30, 1957, at Simpson Lane Bridge in Marysville 4.2 mi downstream at same datum. Sept. 3, 1963, to Sept. 23, 1968, auxiliary water-stage recorder at Simpson Lane Bridge at same datum.

REMARKS.--Records good except for estimated daily discharges which are fair. Flow regulated by New Bullards Bar Reservoir since January 1969, and several other reservoirs. Many diversions upstream from station for power and for irrigation. See schematic diagrams of Yuba and lower Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944, 1947-93), 180,000 ft^3/s, Dec. 22, 1964, gage height, 90.15 ft, from floodmarks, from rating curve extended above 91,000 ft^3/s on basis of U.S. Army Corps of Engineers flood-routing study; minimum recorded, 10 ft^3/s, July 2, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,510 ft^3/s, Dec. 14, gage height, 61.78 ft; minimum daily, 83 ft^3/s, July 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	492	1370	e1200	1210	1010	1070	1110	305	306	e222	186	461
2	525	1360	e1190	1210	1010	1060	876	280	288	e165	404	e490
3	517	1370	e1160	1190	1000	1060	871	303	295	e155	403	494
4	680	1410	1140	1200	986	1050	800	320	293	e150	388	496
5	833	1420	1120	1210	981	1100	679	314	315	e150	398	e504
6	1140	1370	1120	1210	1010	1360	606	329	296	139	393	e505
7	1360	1330	1130	1200	1810	1160	575	352	282	116	397	506
8	1360	1320	1250	1200	1490	1110	570	371	287	e100	386	e486
9	1370	1360	1630	1200	1220	1090	598	371	278	e98	365	429
10	1360	1390	1310	1200	1160	1080	599	483	288	121	372	e450
11	1360	1400	1320	1200	1180	1100	584	580	290	116	366	472
12	1340	1390	1380	1200	1100	1070	572	525	279	97	372	e470
13	1330	1390	1270	1200	1070	1050	e515	513	266	99	376	462
14	1320	1390	e1800	1200	1050	1050	e440	559	287	101	388	e460
15	1370	1400	e1530	1200	1050	1040	e392	564	277	92	380	447
16	1380	1400	e1350	1280	1040	1040	e380	517	284	97	376	421
17	1360	1380	1320	1360	1140	1030	e380	544	272	105	407	e410
18	1570	1370	1290	1360	1570	1030	e380	564	e278	108	405	397
19	1570	1380	1280	1370	1300	1020	e360	562	283	83	465	e390
20	1560	1390	1260	1370	e1450	1020	e350	562	283	101	475	e385
21	1540	1400	1260	1160	e1350	1010	e345	561	284	104	477	e380
22	1510	1400	1270	1000	1270	1010	329	536	275	116	492	e375
23	1480	1390	1250	1040	1190	1010	e340	523	275	114	512	371
24	1440	1390	1240	1400	1160	1010	353	419	259	117	532	e380
25	1380	e1390	1220	1450	1120	1010	408	332	262	111	518	405
26	1390	e1390	1200	1310	1120	998	592	298	271	125	490	e410
27	1420	e1390	1210	1170	1120	976	e450	288	e269	111	476	408
28	1430	e1390	1220	1090	1090	962	376	269	e259	104	516	e405
29	1410	e1370	1230	1050	---	960	323	267	254	106	540	e400
30	1390	e1300	1230	1030	---	949	294	273	264	113	518	e400
31	1400	---	1220	1010	---	952	---	278	---	114	e480	---
TOTAL	39587	41400	39600	37480	33047	32437	15447	12962	8399	3650	13253	13069
MEAN	1277	1380	1277	1209	1180	1046	515	418	280	118	428	436
MAX	1570	1420	1800	1450	1810	1360	1110	580	315	222	540	506
MIN	492	1300	1120	1000	981	949	294	267	254	83	186	371
AC-FT	78520	82120	78550	74340	65550	64340	30640	25710	16660	7240	26290	25920

e Estimated.

C-042280

11421000 YUBA RIVER NEAR MARYSVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1968, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	507	846	3323	3574	4555	3928	4965	5064	2610	514	218	240
MAX	6222	8586	18650	13160	12470	7321	10400	13750	8712	2669	551	458
(WY)	1963	1951	1965	1956	1958	1958	1952	1952	1952	1952	1967	1952
MIN	50.5	116	157	573	965	1360	2139	1264	265	30.5	35.3	47.9
(WY)	1962	1960	1960	1960	1948	1964	1961	1947	1959	1959	1959	1961

SUMMARY STATISTICS	WATER YEARS 1944 - 1968	
ANNUAL MEAN	2518	
HIGHEST ANNUAL MEAN	5393	1952
LOWEST ANNUAL MEAN	882	1961
HIGHEST DAILY MEAN	136000	Dec 23 1955
LOWEST DAILY MEAN	15	Nov 7 1959
ANNUAL SEVEN-DAY MINIMUM	15	Nov 5 1959
INSTANTANEOUS PEAK FLOW	180000	Dec 22 1964
INSTANTANEOUS PEAK STAGE	90.15	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	1824000	
10 PERCENT EXCEEDS	6450	
50 PERCENT EXCEEDS	822	
90 PERCENT EXCEEDS	108	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1195	1543	2438	3554	3964	4018	2745	1772	1650	1174	1399	1414
MAX	2731	4475	11430	17080	20970	15100	14280	7276	8633	3735	2829	2900
(WY)	1976	1984	1984	1970	1986	1983	1982	1983	1983	1983	1984	1980
MIN	132	182	371	230	211	188	173	166	155	88.4	71.7	85.8
(WY)	1970	1970	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1970 - 1994	
ANNUAL TOTAL	1064328		290331			
ANNUAL MEAN	2916		795		2230	
HIGHEST ANNUAL MEAN					5818	1982
LOWEST ANNUAL MEAN					229	1977
HIGHEST DAILY MEAN	15300	Jan 22	1810	Feb 7	101000	Feb 19 1986
LOWEST DAILY MEAN	455	Sep 15	83	Jul 19	62	Jul 19 1977
ANNUAL SEVEN-DAY MINIMUM	460	Sep 14	98	Jul 13	65	Jul 31 1977
INSTANTANEOUS PEAK FLOW			2510	Dec 14	111000	Feb 19 1986
INSTANTANEOUS PEAK STAGE			61.78	Dec 14	85.92	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	2111000		575900		1616000	
10 PERCENT EXCEEDS	5360		1390		4710	
50 PERCENT EXCEEDS	1820		680		1230	
90 PERCENT EXCEEDS	1190		263		293	

C-042281

11421000 YUBA RIVER NEAR MARYSVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-52, 1973-80, 1990 to current year. Published as Yuba River at Marysville (station 11421500) during water years 1966, 1973-76.
CHEMICAL DATA: Water years 1951-52, 1973-80. Published as Yuba River at Marysville (station 11421500) during water years 1966, 1973-76.
WATER TEMPERATURE: Water years 1973-78, 1990 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1972 to September 1978, October 1989 to current year.

INSTRUMENTATION.--Temperature recorder November 1972 to September 1978, October 1989 to current year.

REMARKS.--Water temperatures can be affected by releases from Englebright Reservoir located approximately 13 mi upstream from station. Interruption in record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 28.5°C, July 16, 30, 1977, Aug. 11, 1992; minimum recorded, 4.5°C, Dec. 22, 23, 29-31, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 26.5°C, July 6, 31; minimum recorded, 6.0°C, Dec. 24.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	14.0	13.5	11.0	---	---	8.5	7.5	9.5	7.0	12.5	9.0
2	18.0	14.0	13.5	10.5	---	---	8.5	8.0	9.5	7.0	13.0	9.0
3	18.0	14.0	13.0	10.5	9.5	---	8.5	8.0	10.0	7.5	12.5	9.5
4	16.0	13.5	13.0	10.5	10.0	8.0	8.5	8.0	10.5	8.0	12.5	9.5
5	14.5	12.5	12.5	10.0	9.5	7.5	9.5	8.0	9.5	7.5	12.5	10.0
6	15.5	12.5	12.5	10.0	9.5	7.5	9.0	7.0	9.0	8.5	13.5	9.5
7	16.0	12.5	12.0	10.0	9.0	8.0	9.0	7.5	9.5	8.5	13.5	9.5
8	15.5	12.0	12.0	9.5	9.0	8.5	8.5	8.0	11.0	8.5	13.5	9.5
9	14.5	12.5	11.5	9.5	10.0	8.5	9.5	8.0	10.5	8.0	13.5	10.0
10	14.5	12.5	10.5	10.0	10.0	8.5	9.0	7.5	10.5	8.5	13.5	10.5
11	14.0	12.5	11.5	10.0	9.0	8.5	9.5	7.5	10.0	7.5	14.0	10.0
12	15.0	12.0	---	9.5	9.5	7.5	9.5	7.0	10.5	7.0	14.0	9.5
13	14.0	12.0	---	---	9.5	8.0	9.5	7.5	10.5	7.5	14.0	9.5
14	13.5	12.0	---	---	9.0	8.5	9.0	7.5	10.5	7.0	14.5	10.5
15	14.0	12.0	---	---	9.5	8.0	9.5	7.5	10.0	7.5	13.5	10.5
16	14.0	12.0	---	---	9.0	7.5	9.5	7.0	10.5	8.5	13.0	11.0
17	14.5	11.0	---	---	8.5	7.5	10.0	7.5	10.0	8.5	14.0	10.0
18	14.5	11.0	---	---	9.0	7.0	10.0	7.5	10.0	8.0	14.0	10.5
19	14.5	11.5	---	---	8.5	7.0	10.0	7.5	8.5	8.0	14.0	10.5
20	14.5	11.5	---	---	7.5	7.5	10.0	7.5	---	---	14.5	10.0
21	13.5	12.0	---	---	7.5	7.0	10.0	8.0	---	---	13.5	10.0
22	14.5	11.5	---	---	7.5	6.5	10.0	8.0	11.0	---	12.5	10.0
23	14.5	11.5	---	---	8.0	6.5	10.5	9.0	11.0	8.0	12.5	9.5
24	14.5	11.5	---	---	7.0	6.0	9.5	8.5	11.5	8.0	13.0	9.5
25	14.5	11.0	---	---	7.0	6.5	9.0	8.0	11.0	8.5	12.5	10.5
26	14.5	11.0	---	---	7.5	7.0	10.0	8.5	10.5	9.0	14.5	9.5
27	14.0	11.0	---	---	9.0	7.0	10.0	7.5	12.0	9.0	14.5	10.0
28	13.5	11.0	---	---	8.5	7.0	10.0	7.5	12.5	8.5	14.5	10.5
29	14.0	11.5	---	---	9.0	7.0	10.0	7.5	---	---	13.0	10.5
30	14.0	11.0	---	---	9.0	7.5	9.5	7.5	---	---	15.0	10.5
31	13.5	11.5	---	---	8.5	7.5	10.0	7.0	---	---	15.0	10.0
MONTH	18.5	11.0	---	---	---	---	10.5	7.0	---	---	15.0	9.0

C-042282

11421000 YUBA RIVER NEAR MARYSVILLE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.0	10.0	19.0	13.5	22.0	15.0	25.5	17.0	26.0	19.0	20.5	15.5
2	14.5	11.0	20.0	13.5	22.5	15.5	26.0	18.5	22.5	16.5	20.0	15.5
3	16.0	11.0	18.0	14.0	22.0	15.0	26.0	18.5	22.5	16.5	20.0	15.0
4	15.5	11.0	19.0	14.0	22.5	15.0	26.0	18.5	22.5	16.5	20.5	15.0
5	14.5	10.5	17.5	14.5	19.0	15.0	26.0	18.5	22.5	16.5	19.5	15.5
6	14.0	11.5	15.5	13.5	21.5	15.0	26.5	19.0	22.5	16.0	20.5	15.0
7	15.0	11.0	18.5	13.0	22.0	15.0	---	---	22.5	16.5	20.0	15.5
8	13.5	12.0	20.0	13.5	22.5	15.0	---	---	22.5	16.5	20.0	15.0
9	16.0	11.5	20.5	14.0	23.0	15.5	---	---	22.0	16.0	20.0	15.5
10	16.5	11.0	20.0	14.5	23.5	16.5	---	---	22.0	16.0	19.5	15.0
11	17.0	11.5	20.0	14.0	24.0	16.5	---	---	22.0	16.0	19.5	15.0
12	17.5	12.0	20.0	14.0	23.0	16.5	---	---	22.0	16.0	19.5	15.0
13	17.5	12.5	20.5	14.5	23.0	16.5	---	---	22.0	16.0	19.5	15.0
14	18.5	12.5	19.0	14.0	22.5	15.5	---	---	22.0	16.0	20.0	15.0
15	19.0	13.0	17.5	13.5	22.0	15.0	---	---	22.0	16.0	20.5	15.5
16	18.0	14.0	17.5	13.5	21.5	15.0	---	---	22.0	16.0	20.5	15.5
17	19.0	13.5	18.5	13.0	22.5	15.0	---	---	21.5	16.0	20.0	16.0
18	19.5	13.5	17.5	13.0	22.5	15.5	---	---	22.0	16.0	20.5	15.5
19	19.5	13.5	16.5	13.5	23.0	15.5	---	---	21.0	15.5	20.5	16.0
20	19.5	13.0	18.5	12.5	22.5	16.0	---	---	21.0	15.0	21.0	16.0
21	19.5	13.0	19.0	13.0	22.5	15.5	---	---	21.0	15.5	21.0	16.0
22	19.0	13.5	19.5	13.5	23.0	16.0	---	---	20.5	15.5	21.0	16.5
23	15.0	13.0	20.0	13.5	23.0	15.5	---	---	20.5	15.0	20.0	16.0
24	17.0	12.5	21.0	14.5	22.5	16.5	---	---	20.5	15.0	21.0	16.5
25	15.0	12.0	22.0	15.0	23.0	16.0	---	---	20.5	15.0	21.0	16.5
26	17.5	12.0	21.0	15.5	23.0	16.5	---	---	19.5	15.0	21.0	16.5
27	17.5	12.5	21.5	15.0	23.5	17.0	---	---	20.5	15.0	19.0	16.0
28	19.0	12.5	22.5	15.5	25.0	16.5	---	---	20.0	15.0	18.5	16.0
29	18.0	13.0	23.0	16.0	24.5	17.0	---	---	20.5	15.0	19.5	15.5
30	19.5	13.5	22.0	16.0	24.0	16.5	26.0	19.5	20.5	15.5	19.5	15.5
31	---	---	21.5	15.5	---	---	26.5	19.0	21.0	15.5	---	---
MONTH	19.5	10.0	23.0	12.5	25.0	15.0	---	---	26.0	15.0	21.0	15.0

C-042284

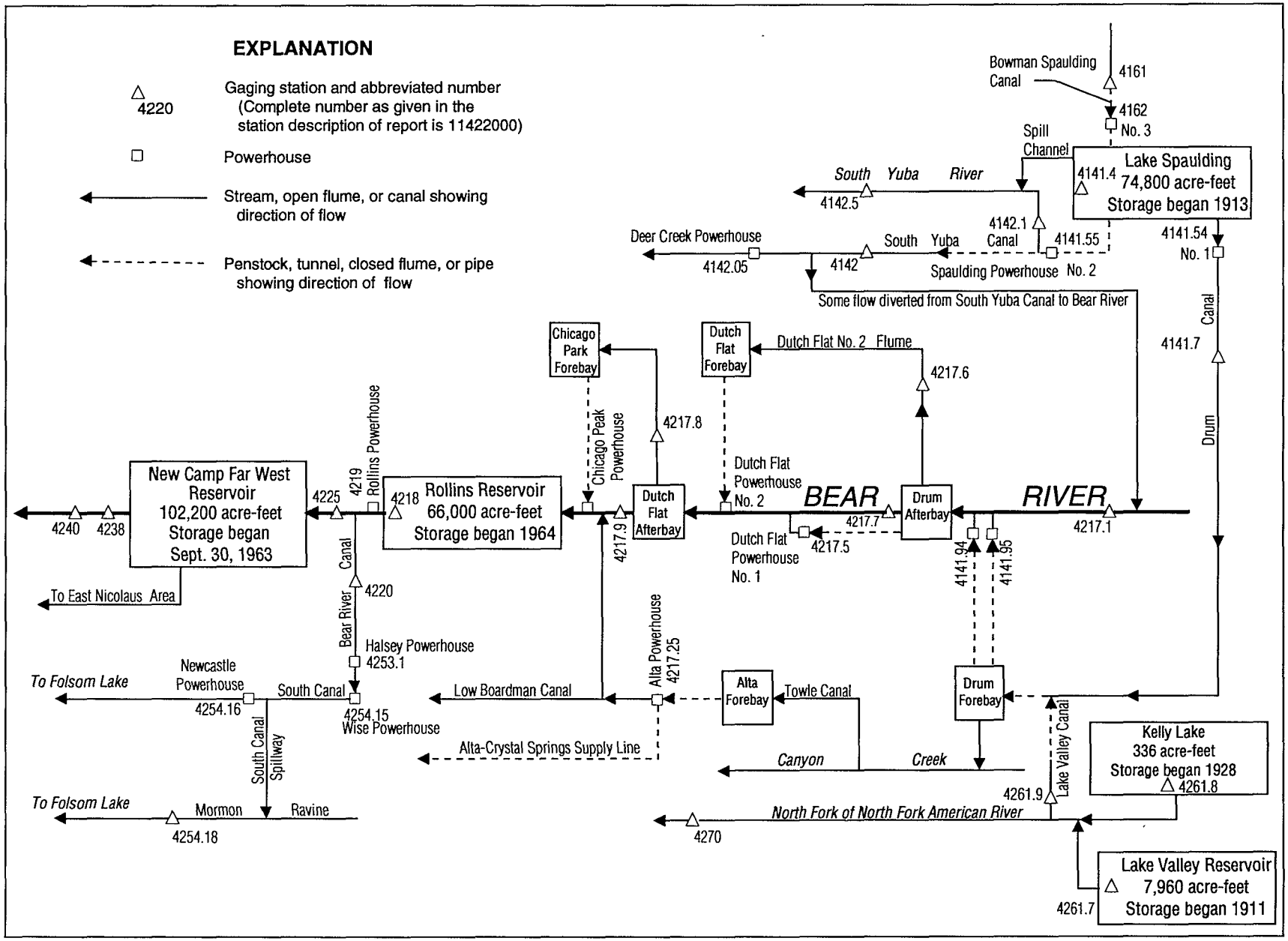

Figure 35. Diversions and storage in Bear River basin.

C—042284

11421710 BEAR RIVER NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°18'23", long 120°40'41", in NW 1/4 SW 1/4 sec.30, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020126, on left bank 20 ft upstream from Highway 20 Bridge and 0.7 mi northwest of Emigrant Gap.

DRAINAGE AREA.--0.76 mi^2.

PERIOD OF RECORD.--October 1987 to current year (low-flow records only). Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete culvert. Elevation of gage is 4,550 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. No records computed above 160 ft^3/s. Some water is diverted into stream from South Yuba Canal (station 11414200). See schematic diagram of Bear River basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	5.2	7.3	7.0	6.7	13	6.5	5.8	5.9	7.0	6.1	6.3
2	7.5	5.2	6.9	6.4	5.9	13	5.7	5.7	6.0	6.4	5.8	6.9
3	6.2	5.8	6.5	6.8	6.0	12	5.5	5.7	6.2	6.5	5.8	6.8
4	6.1	6.1	6.2	9.2	5.8	12	5.8	5.6	6.1	6.3	5.7	6.2
5	5.9	5.7	5.7	8.9	5.7	23	6.3	5.8	6.1	6.9	7.0	5.6
6	6.1	5.5	6.4	7.1	6.3	17	6.4	7.5	6.4	6.7	7.2	5.6
7	5.8	5.2	6.4	6.3	10	15	6.5	7.6	6.5	6.6	6.7	5.9
8	5.6	5.7	24	6.1	9.1	14	7.0	6.0	6.7	8.1	6.7	6.7
9	5.9	5.7	25	6.1	6.9	13	7.6	6.1	6.3	7.9	6.3	6.4
10	5.7	5.5	7.8	6.1	7.8	14	6.2	5.9	6.6	6.7	6.0	5.9
11	6.0	6.0	6.7	6.4	7.7	16	5.7	5.7	7.1	7.4	5.9	6.0
12	6.3	7.0	5.7	6.3	7.9	12	5.6	5.4	6.7	7.3	5.9	6.5
13	6.0	5.8	5.8	5.9	6.1	12	5.4	5.2	7.2	6.8	6.1	6.3
14	6.3	5.3	5.9	5.7	5.6	11	5.3	5.5	7.2	6.7	6.0	5.9
15	8.8	6.5	6.0	5.7	5.2	12	6.1	5.3	6.5	7.0	5.9	5.5
16	6.9	5.7	6.5	5.9	5.8	10	5.7	5.6	6.8	7.3	5.9	5.8
17	5.9	5.6	5.9	5.7	12	9.5	5.6	6.8	7.4	7.0	5.9	5.8
18	5.8	6.5	6.9	6.0	8.2	8.8	5.6	8.5	7.3	6.6	6.1	5.9
19	5.9	6.5	8.1	6.7	8.1	8.7	5.7	7.6	6.2	6.1	6.1	10
20	5.7	6.3	6.9	6.5	8.0	8.2	5.6	5.7	7.3	6.1	6.1	12
21	5.5	6.2	6.8	6.9	7.6	8.1	5.7	5.2	7.2	6.2	6.1	9.9
22	5.5	7.1	6.5	6.5	7.3	7.8	6.6	5.5	7.0	7.3	5.9	5.3
23	6.7	6.5	6.2	6.7	7.0	7.7	6.4	6.1	7.0	6.6	5.8	5.6
24	7.0	6.4	6.3	6.7	6.5	7.3	5.9	5.9	8.0	6.4	5.8	6.1
25	6.2	6.1	6.2	6.2	6.0	6.7	6.5	6.4	7.8	7.1	5.8	6.4
26	5.6	6.1	7.0	5.8	7.3	5.8	7.9	6.9	6.9	6.7	5.8	7.1
27	5.2	6.0	7.5	7.0	12	5.9	8.6	6.5	7.0	6.4	5.9	6.5
28	5.2	6.4	5.7	7.5	12	6.5	7.5	5.9	7.4	6.3	5.7	6.9
29	5.5	14	6.8	6.9	---	6.9	6.8	5.7	7.2	6.5	6.0	5.9
30	5.3	9.5	6.6	6.9	---	6.9	6.1	6.2	7.1	6.1	5.7	5.8
31	5.3	---	7.1	7.3	---	6.9	---	6.3	---	6.1	8.0	---
TOTAL	188.8	191.1	239.3	205.2	210.5	330.7	187.8	189.6	205.1	209.1	189.7	197.5
MEAN	6.09	6.37	7.72	6.62	7.52	10.7	6.26	6.12	6.84	6.75	6.12	6.58
MAX	8.8	14	25	9.2	12	23	8.6	8.5	8.0	8.1	8.0	12
MIN	5.2	5.2	5.7	5.7	5.2	5.8	5.3	5.2	5.9	6.1	5.7	5.3
AC-FT	374	379	475	407	418	656	373	376	407	415	376	392

WTR YR 1994 TOTAL 2544.4 MEAN 6.97 MAX 25 MIN 5.2 AC-FT 5050

11421750 DUTCH FLAT NO. 1 POWERPLANT NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°13'02", long 120°50'04", in SE 1/4 SE 1/4 sec.27, T.16 N., R.10 E., Placer County, Hydrologic Unit 18020126, in powerplant on left bank of Dutch Flat Afterbay and 0.8 mi north of Dutch Flat.
PERIOD OF RECORD.--October 1964 to current year.
GAGE.--Discharge computed from powerplant output. Elevation of gage is 2,740 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. Water is diverted from Drum Afterbay through Dutch Flat Tunnel and discharges into Dutch Flat Afterbay. See schematic diagram of Bear River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 571 ft^3/s, Apr. 13, May 9, 1982, Nov. 17, 1983, and June 24, 1987; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	270	234	132	.00	212	181	88	352	278	219	164	440
2	296	181	152	.00	127	140	.00	374	282	132	198	381
3	341	218	131	154	173	276	.00	224	239	176	113	44
4	308	176	.00	178	99	195	296	239	216	180	116	.00
5	195	191	.00	217	.00	218	131	338	198	206	198	.00
6	220	213	109	217	.00	296	198	329	183	271	166	.00
7	353	187	318	41	.00	445	220	342	247	257	132	.00
8	244	222	339	.00	.00	497	154	308	262	329	334	.00
9	220	184	291	.00	.00	511	.00	206	271	154	176	.00
10	220	99	155	66	.00	396	.00	132	257	310	201	.00
11	176	149	74	98	.00	160	.00	176	129	347	154	.00
12	217	245	199	105	.00	154	.00	154	176	259	155	.00
13	298	110	183	.00	.00	262	.00	245	248	325	280	.00
14	256	119	274	.00	.00	240	.00	242	289	326	174	.00
15	220	165	264	.00	.00	176	.00	286	329	197	204	.00
16	214	217	132	41	.00	132	.00	220	229	286	154	.00
17	196	.00	111	.00	.00	246	.00	202	252	228	299	.00
18	209	189	113	154	.00	154	.00	153	241	159	171	.00
19	176	314	66	200	.00	268	.00	145	260	206	198	.00
20	237	165	277	168	.00	233	.00	190	.00	217	179	.00
21	242	231	265	64	.00	132	209	256	159	153	173	154
22	235	299	288	.00	.00	167	131	245	215	130	176	44
23	271	277	304	.00	.00	187	.00	220	276	110	182	.00
24	231	176	234	140	.00	149	.00	110	290	201	176	.00
25	256	176	124	198	.00	204	264	132	242	187	197	.00
26	192	154	84	154	22	.00	387	176	264	190	176	110
27	183	154	179	238	84	.00	440	201	205	176	168	240
28	209	152	196	126	267	154	242	88	286	198	185	270
29	218	132	181	.00	---	176	198	225	230	185	144	257
30	207	132	145	.00	---	176	330	261	176	174	154	158
31	235	---	82	88	---	145	---	334	---	154	232	---
TOTAL	7345	5461.00	5402.00	2647.00	984.00	6670.00	3288.00	7105	6929.00	6640	5729	2098.00
MEAN	237	182	174	85.4	35.1	215	110	229	231	214	185	69.9
MAX	353	314	339	238	267	511	440	374	329	347	334	440
MIN	176	.00	.00	.00	.00	.00	.00	88	.00	110	113	.00
AC-FT	14570	10830	10710	5250	1950	13230	6520	14090	13740	13170	11360	4160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

MEAN	154	199	212	238	214	247	278	290	273	234	199	139
MAX	371	408	472	534	508	532	540	532	528	517	380	377
(WY)	1976	1966	1982	1965	1965	1965	1965	1986	1965	1965	1975	1976
MIN	.000	.000	13.0	9.32	.000	.000	8.53	1.16	.000	.000	.000	.000
(WY)	1987	1987	1977	1991	1991	1968	1968	1976	1968	1970	1965	1965

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	87491.90		60298.00			
ANNUAL MEAN	240		165		223	
HIGHEST ANNUAL MEAN					384	1965
LOWEST ANNUAL MEAN					67.8	1977
HIGHEST DAILY MEAN	528	Mar 25	511	Mar 9	571	Apr 13 1982
LOWEST DAILY MEAN	.00	Jul 27	.00	Nov 17	.00	Dec 11 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 27	.00	Feb 5	.00	Aug 1 1965
ANNUAL RUNOFF (AC-FT)	173500		119600		161700	
10 PERCENT EXCEEDS	398		293		432	
50 PERCENT EXCEEDS	270		176		220	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042286

11421760 DUTCH FLAT NO. 2 FLUME NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'28", in SE 1/4 NE 1/4 sec.18, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on left bank 600 ft downstream from Drum Afterbay and 3.6 mi west of Blue Canyon.
PERIOD OF RECORD.--October 1965 to current year.
GAGE.--Water-stage recorder. Datum of gage is 3,348.09 ft above sea level (levels by Nevada Irrigation District).
REMARKS.--Records good except discharges less than 5 ft^3/s, which are fair. Water is diverted from Drum Afterbay through the flume to Dutch Flat No. 2 Powerplant and then to Dutch Flat Afterbay. See schematic diagram of Bear River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 626 ft^3/s, Sept. 29, 1983; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	355	332	e3.6	e1.1	333	111	e1.4	370	378	244	4.6
2	495	302	297	e3.6	e1.1	307	e1.1	133	403	e2.0	290	4.8
3	487	262	267	e3.6	e1.1	234	e1.1	240	305	e2.0	254	4.8
4	387	418	151	21	e1.1	316	159	281	12	e1.4	302	4.8
5	582	359	147	e1.1	e1.1	359	377	177	e1.1	304	235	4.8
6	577	321	306	e1.1	e1.1	233	328	132	351	348	107	5.2
7	371	330	30	e1.1	229	13	283	e1.1	393	391	4.2	5.4
8	539	263	e1.3	e1.1	227	e1.6	135	e1.1	382	258	181	5.1
9	536	163	150	e1.1	203	e1.5	e1.1	200	397	37	226	5.1
10	536	326	190	e1.1	197	171	e1.1	402	401	e2.0	288	5.1
11	514	189	95	e1.1	192	373	208	316	161	214	273	4.9
12	407	140	e1.1	e1.1	3.0	417	207	340	17	338	275	4.8
13	383	6.9	e1.1	e1.1	e2.0	299	282	226	300	231	219	4.8
14	418	5.7	e2.1	e1.1	152	301	228	e1.2	399	287	392	4.8
15	393	177	161	e1.1	211	313	150	e1.1	357	341	324	4.6
16	417	37	287	e1.1	222	377	4.8	199	402	3.7	316	4.5
17	392	e2.8	44	e1.1	202	319	4.8	262	299	e2.6	232	4.3
18	404	246	e3.6	e1.1	198	346	171	338	3.0	301	316	4.2
19	422	212	e2.8	e1.1	172	242	242	327	e2.0	248	324	4.0
20	367	316	e2.0	e1.1	230	239	225	234	356	255	357	3.0
21	372	258	e2.9	e1.1	192	311	14	10	582	283	335	2.2
22	347	178	e3.6	e1.1	190	319	e1.3	e1.4	421	257	334	e2.0
23	368	180	e3.0	e1.1	164	360	e1.1	165	374	8.8	327	e2.0
24	352	296	e3.6	e1.1	182	291	e1.1	254	342	e2.0	270	e1.5
25	323	280	e2.6	e1.1	45	123	e1.1	226	8.8	265	317	e1.1
26	380	295	e2.0	e1.1	e1.1	e1.1	e1.1	208	e2.0	364	4.1	e1.1
27	388	307	e2.0	e1.1	e1.1	e1.1	e1.1	197	357	339	3.9	e1.1
28	370	268	e2.0	e1.1	167	266	186	e1.1	374	338	3.9	e1.1
29	355	266	e2.0	e1.1	---	321	244	e1.1	366	229	221	e1.1
30	365	331	e2.8	e1.1	---	277	9.5	e1.1	393	14	295	e1.1
31	348	---	e3.6	e1.1	---	332	---	282	---	3.7	88	---
TOTAL	12809	7090.4	2501.1	61.5	3388.8	7797.3	3580.3	5159.6	8530.9	6048.2	7358.1	107.9
MEAN	413	236	80.7	1.98	121	252	119	166	284	195	237	3.60
MAX	582	418	332	21	230	417	377	402	582	391	392	5.4
MIN	214	2.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.4	3.9	1.1
AC-FT	25410	14060	4960	122	6720	15470	7100	10230	16920	12000	14590	214

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

MEAN	276	255	287	287	306	329	356	359	343	350	351	216
MAX	554	553	581	569	596	589	587	597	578	543	559	514
(WY)	1975	1984	1984	1984	1984	1984	1979	1984	1984	1984	1970	1967
MIN	3.53	6.40	11.4	1.98	1.98	.43	.000	.000	26.5	14.7	19.6	3.60
(WY)	1992	1987	1977	1994	1977	1986	1986	1986	1986	1977	1977	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	144247.4		64433.1			
ANNUAL MEAN	395		177		313	
HIGHEST ANNUAL MEAN					544	1984
LOWEST ANNUAL MEAN					23.8	1977
HIGHEST DAILY MEAN	586	Feb 19	582	Oct 5	626	Sep 29 1983
LOWEST DAILY MEAN	1.1	Dec 12	1.1	Dec 12	.00	Dec 31 1965
ANNUAL SEVEN-DAY MINIMUM	2.4	Dec 24	1.1	Jan 5	.00	Dec 31 1965
ANNUAL RUNOFF (AC-FT)	286100		127800		226900	
10 PERCENT EXCEEDS	566		377		560	
50 PERCENT EXCEEDS	442		192		367	
90 PERCENT EXCEEDS	5.8		1.1		2.5	

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'26", in SW 1/4 NW 1/4 sec.17, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on left bank 60 ft downstream from Drum Afterbay Dam and 3.5 mi west of Blue Canyon.

DRAINAGE AREA.--12.3 mi^2.

PERIOD OF RECORD.--April 1966 to current year, low flows only April to September 1966.

GAGE.--Water-stage recorder and 4-ft steel Cipolletti weir set in a concrete broad-crested weir. Elevation of gage is 3,300 ft above sea level, from topographic map. April 1966 to May 25, 1967, water-stage recorder at present site at different datum. May 26, 1967, to Feb. 11, 1968, water-stage recorder at site 1,000 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Water for Dutch Flat No. 1 Powerplant (station 11421750) and Dutch Flat No. 2 Flume (station 11421760) is diverted from Drum Afterbay just upstream from station. See schematic diagram of Bear River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,530 ft^3/s, Apr. 11, 1982, gage height, 4.64 ft, from rating curve extended above 1,200 ft^3/s; minimum daily, 1.0 ft^3/s, Dec. 9, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13 ft^3/s, Oct. 1-4, gage height, 1.02 ft; minimum daily, 5.4 ft^3/s, Dec. 23, 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	5.9	5.9	5.7	6.1	6.0	5.9	5.7	5.8	5.9	6.1	6.4
2	13	5.9	5.9	5.7	6.0	5.9	5.9	5.7	5.8	5.8	6.2	6.4
3	13	6.0	5.8	5.6	6.0	5.9	5.9	5.7	5.9	5.8	6.2	6.4
4	10	5.9	5.8	5.6	6.1	5.9	5.9	5.8	5.9	6.0	6.2	6.3
5	6.2	5.9	5.7	5.7	6.1	5.9	5.9	5.8	5.9	6.0	6.1	6.3
6	6.2	5.9	5.9	5.7	6.1	5.9	5.9	5.7	5.9	6.0	6.2	6.2
7	6.2	5.9	5.7	5.8	6.1	5.9	5.9	5.7	5.9	5.9	6.2	6.1
8	6.2	5.9	5.9	5.8	6.1	5.9	5.9	5.7	5.9	6.0	6.2	6.1
9	6.2	5.9	5.8	5.8	6.1	5.9	6.0	5.7	5.9	6.0	6.1	6.1
10	6.1	5.9	5.8	5.8	6.1	5.9	6.0	5.7	5.9	5.9	6.2	6.2
11	6.2	5.9	5.9	5.8	6.0	5.9	5.9	5.7	5.8	5.9	6.2	6.1
12	6.1	5.9	5.9	5.7	6.1	5.9	5.8	5.7	5.9	5.9	6.2	6.1
13	6.2	5.8	5.8	5.9	6.1	5.9	5.9	5.7	5.9	6.0	6.1	6.1
14	6.2	5.9	6.0	5.9	6.1	5.9	5.9	5.7	5.9	5.9	6.2	6.1
15	6.2	5.9	5.9	5.8	6.1	5.9	5.9	5.7	5.9	5.9	6.2	6.2
16	6.2	5.9	5.9	5.8	6.0	5.9	5.7	5.8	5.9	5.9	6.2	6.1
17	6.2	5.8	5.9	5.9	6.1	5.9	5.9	5.8	5.9	5.9	6.3	6.2
18	6.2	5.9	5.8	5.9	6.0	5.9	5.9	5.8	5.9	5.9	6.3	6.2
19	6.1	5.9	5.8	5.9	6.0	5.9	5.7	5.8	5.8	6.0	6.3	6.2
20	5.9	5.9	5.8	5.9	6.1	5.9	5.8	5.8	6.0	6.0	6.3	6.2
21	5.9	5.8	5.9	5.9	6.1	5.9	5.7	5.7	5.9	6.0	6.3	6.2
22	5.9	5.9	5.6	5.9	6.1	5.9	5.8	5.8	5.9	6.0	6.3	6.2
23	5.9	5.9	5.4	5.9	6.0	5.9	5.8	5.8	5.9	6.0	6.3	6.1
24	5.9	6.0	5.4	5.9	6.0	5.9	5.8	5.8	5.9	6.0	6.3	6.2
25	5.9	5.9	5.5	5.9	6.0	5.9	5.8	5.8	5.9	6.0	6.3	6.2
26	5.9	5.9	5.5	5.9	6.0	6.0	5.7	5.7	5.9	6.0	6.3	6.2
27	5.9	5.9	5.6	5.9	5.9	5.9	5.7	5.8	5.9	6.0	6.3	6.2
28	5.9	5.8	5.6	6.0	5.9	5.9	5.8	5.7	5.8	6.0	6.3	6.2
29	5.9	5.9	5.6	6.1	---	5.9	5.8	5.8	5.9	6.1	6.3	6.1
30	5.9	5.9	5.7	6.1	---	5.9	5.7	5.8	5.9	6.2	6.3	6.1
31	5.9	---	5.6	6.1	---	5.9	---	5.9	---	6.2	6.3	---
TOTAL	212.5	176.8	178.3	181.3	169.4	183.1	175.2	178.3	176.6	185.1	193.3	185.7
MEAN	6.85	5.89	5.75	5.85	6.05	5.91	5.84	5.75	5.89	5.97	6.24	6.19
MAX	13	6.0	6.0	6.1	6.1	6.0	6.0	5.9	6.0	6.2	6.3	6.4
MIN	5.9	5.8	5.4	5.6	5.9	5.9	5.7	5.7	5.8	5.8	6.1	6.1
AC-FT	421	351	354	360	336	363	348	354	350	367	383	368

C-042288

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.03	8.09	11.4	15.9	33.4	36.4	45.5	26.9	12.1	10.1	9.69	9.62
MAX	11.9	35.2	82.3	116	306	364	411	320	94.9	34.5	26.6	13.2
(WY)	1987	1984	1984	1980	1986	1986	1986	1982	1986	1986	1986	1986
MIN	2.68	2.58	2.44	5.13	4.03	2.47	2.49	2.50	2.43	2.58	2.45	2.77
(WY)	1978	1978	1978	1981	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	4593.4		2195.6			
ANNUAL MEAN	12.6		6.02		18.7	
HIGHEST ANNUAL MEAN					122	1986
LOWEST ANNUAL MEAN					3.54	1977
HIGHEST DAILY MEAN	412	Mar 17	13	Oct 1	1930	Feb 17 1986
LOWEST DAILY MEAN	5.1	Jan 8	5.4	Dec 23	1.0	Dec 9 1967
ANNUAL SEVEN-DAY MINIMUM	5.2	Jan 8	5.5	Dec 22	2.3	Aug 25 1977
INSTANTANEOUS PEAK FLOW			13	Oct 1	7530	Apr 11 1982
INSTANTANEOUS PEAK STAGE			1.02	Oct 1	4.64	Apr 11 1982
ANNUAL RUNOFF (AC-FT)	9110		4350		13540	
10 PERCENT EXCEEDS	13		6.2		12	
50 PERCENT EXCEEDS	12		5.9		6.8	
90 PERCENT EXCEEDS	5.7		5.7		5.1	

11421780 CHICAGO PARK FLUME NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NW 1/4 NE 1/4 sec.34, T.16 N., R.10 E., Nevada County, Hydrologic Unit 18020126, on left bank 670 ft downstream from Dutch Flat Afterbay and 0.6 mi north of Dutch Flat.
PERIOD OF RECORD.--November 1965 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 2,600 ft above sea level, from topographic map. Prior to Sept. 8, 1968, at site 420 ft upstream at same datum.
REMARKS.--Records excellent except for discharges below 70 ft^3/s, which are poor. Water is diverted from Dutch Flat Afterbay through the flume to Chicago Park Powerplant and then to Bear River. See schematic diagram of Bear River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,130 ft^3/s, Nov. 19, 1983; no flow for several days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271	617	485	e1.8	235	627	309	344	807	730	388	490
2	776	617	456	e1.8	235	563	29	463	694	238	549	532
3	835	615	449	196	220	617	29	538	776	227	515	69
4	748	563	131	215	157	624	417	557	236	220	401	e.00
5	815	599	203	226	29	668	529	571	220	437	468	e.00
6	815	585	405	261	29	618	548	466	546	750	304	e.00
7	772	585	347	164	222	786	571	350	798	709	197	e.00
8	814	532	395	e1.8	313	627	404	329	726	655	487	e.00
9	816	430	687	e1.8	214	388	29	348	762	288	516	e.00
10	817	432	277	47	288	586	29	518	762	268	513	e.00
11	728	444	299	118	266	577	161	542	313	579	418	e.00
12	664	380	180	138	92	641	287	541	305	691	464	e.00
13	697	150	229	e1.8	29	565	262	496	556	644	582	e.00
14	639	150	292	e1.8	85	561	251	296	806	624	568	e.00
15	638	346	438	e1.8	238	561	167	296	810	651	595	e.00
16	722	316	544	81	337	560	29	397	688	293	605	e.00
17	619	105	281	e1.8	206	560	29	445	754	287	421	e.00
18	627	395	116	94	311	561	197	561	315	400	536	e.00
19	649	561	121	231	239	552	228	473	315	528	547	e.00
20	676	561	260	235	251	496	228	439	379	501	543	e.00
21	634	517	298	159	206	478	229	317	723	452	539	e.00
22	618	563	299	30	207	525	228	292	804	420	522	46
23	669	470	358	30	305	620	29	367	781	183	517	e1.8
24	668	434	283	178	242	485	29	357	654	193	517	e1.8
25	668	453	133	308	129	311	318	445	287	508	517	e1.8
26	608	518	134	221	29	29	425	437	286	597	290	e1.8
27	544	485	172	222	211	29	431	421	593	586	191	252
28	593	509	211	202	448	387	430	253	805	624	194	281
29	635	449	212	29	---	579	477	294	652	450	354	315
30	625	491	210	29	---	528	459	296	722	238	547	183
31	617	---	132	96	---	515	---	583	---	239	373	---
TOTAL	21017	13872	9037	3524.4	5773	16224	7788	13032	17875	14210	14178	2175.20
MEAN	678	462	292	114	206	523	260	420	596	458	457	72.5
MAX	835	617	687	308	448	786	571	583	810	750	605	532
MIN	271	105	116	1.8	29	29	29	253	220	183	191	.00
AC-FT	41690	27520	17920	6990	11450	32180	15450	25850	35460	28190	28120	4310

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

MEAN	429	479	518	572	575	644	689	716	660	625	600	386
MAX	877	1033	1084	1082	1084	1081	1063	1069	982	964	889	683
(WY)	1984	1984	1984	1984	1984	1983	1978	1983	1983	1983	1983	1967
MIN	.000	.000	36.5	30.5	15.8	67.8	52.1	25.9	177	205	114	72.5
(WY)	1987	1987	1977	1991	1991	1977	1976	1976	1977	1977	1977	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	256737.00		138705.60			
ANNUAL MEAN	703		380		579	
HIGHEST ANNUAL MEAN					949	1984
LOWEST ANNUAL MEAN					109	1977
HIGHEST DAILY MEAN	1020	Mar 17	835	Oct 3	1130	Nov 19 1983
LOWEST DAILY MEAN	.00	Sep 18	.00	Sep 4	.00	Nov 21 1965
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 18	.00	Sep 4	.00	Nov 21 1965
ANNUAL RUNOFF (AC-FT)	509200		275100		419800	
10 PERCENT EXCEEDS	993		668		1020	
50 PERCENT EXCEEDS	790		395		608	
90 PERCENT EXCEEDS	248		29		20	

C-042290

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NE 1/4 NW 1/4 sec.34, T.16 N., R.10 E., Placer County, Hydrologic Unit 18020126, at left bank downstream end of spillway on Dutch Flat Afterbay Dam, 0.6 mi north of Dutch Flat.

DRAINAGE AREA.--21.5 mi^2.

PERIOD OF RECORD.--December 1965 to current year.

REVISED RECORDS.--WDR CA-82-4: 1978, 1979(M), 1980.

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

REMARKS.--No estimated daily discharges. Records excellent except for discharges above 20 ft^3/s, which are good. Water is imported from South Yuba River basin via Drum Canal above forebay (station 11414190). Chicago Park Flume (station 11421780) diverts upstream from station to Chicago Park Powerplant. Records include spill over Dutch Flat Afterbay Dam. See schematic diagram of Bear River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,240 ft^3/s, Feb. 17, 1986; minimum daily, 0.08 ft^3/s, Mar. 8-19, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51 ft^3/s, Sept. 4-6, gage height, 1.84 ft; minimum daily, 5.5 ft^3/s, Mar. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.1	5.7	5.7	5.7	5.7	5.7	11	11	11	11	11
2	12	5.7	5.7	5.7	5.7	5.7	5.7	11	11	11	11	11
3	12	5.7	5.7	5.7	5.7	5.7	5.7	11	11	11	11	21
4	12	5.7	5.7	5.7	5.7	5.7	5.7	11	11	11	11	43
5	12	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	50
6	12	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	27
7	12	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	12
8	12	5.7	5.7	5.7	5.7	5.5	5.8	11	11	11	11	12
9	12	5.7	5.7	5.7	5.7	5.6	5.9	11	11	11	11	12
10	12	5.7	5.7	5.7	5.7	5.7	5.9	11	11	11	11	12
11	12	5.7	5.7	5.7	5.7	5.7	5.9	11	11	11	11	12
12	12	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	12
13	12	5.7	5.7	5.7	5.7	5.7	5.7	11	11	11	11	12
14	12	5.7	5.7	5.7	5.7	5.7	5.7	11	11	11	11	12
15	12	5.7	5.7	5.7	5.7	5.7	5.7	11	11	11	11	12
16	12	5.7	5.7	5.7	5.7	5.7	5.7	11	11	11	11	12
17	11	5.7	5.7	5.7	5.7	5.7	5.7	11	11	11	11	12
18	12	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	12
19	12	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	12
20	12	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	12
21	11	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	12
22	12	5.7	5.7	5.7	5.7	5.7	5.9	11	11	11	11	13
23	11	5.6	5.7	5.7	5.7	5.7	5.9	11	11	11	11	13
24	11	5.7	5.7	5.7	5.7	5.7	5.9	11	11	11	11	13
25	11	5.7	5.7	5.7	5.7	5.7	5.9	11	11	11	11	12
26	11	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	11
27	11	5.6	5.7	5.7	5.7	5.7	5.8	11	11	11	11	11
28	12	5.7	5.7	5.7	5.7	5.7	5.8	11	11	11	11	11
29	11	5.7	5.7	5.7	---	5.8	5.9	11	11	11	11	11
30	11	5.7	5.7	5.7	---	5.7	8.3	11	11	11	11	11
31	11	---	5.7	5.7	---	5.7	---	11	---	11	11	---
TOTAL	361	173.2	176.7	176.7	159.6	176.5	176.4	341	330	341	341	449
MEAN	11.6	5.77	5.70	5.70	5.70	5.69	5.88	11.0	11.0	11.0	11.0	15.0
MAX	12	8.1	5.7	5.7	5.7	5.8	8.3	11	11	11	11	50
MIN	11	5.6	5.7	5.7	5.7	5.5	5.7	11	11	11	11	11
AC-FT	716	344	350	350	317	350	350	676	655	676	676	891

C-042291

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.9	11.7	38.3	37.5	54.5	52.8	58.4	17.0	11.2	10.8	10.4	14.2
MAX	266	71.1	242	221	380	395	601	49.4	27.4	22.0	13.1	21.3
(WY)	1968	1984	1966	1970	1986	1966	1969	1983	1974	1970	1969	1983
MIN	4.81	2.65	2.42	4.94	4.10	4.26	3.94	5.30	5.13	5.00	5.00	5.00
(WY)	1978	1968	1968	1975	1974	1973	1973	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	11173.1		3202.1			
ANNUAL MEAN	30.6		8.77		26.2	
HIGHEST ANNUAL MEAN					80.1	1982
LOWEST ANNUAL MEAN					5.53	1977
HIGHEST DAILY MEAN	626	Mar 24	50	Sep 5	3400	Feb 17 1986
LOWEST DAILY MEAN	5.6	Nov 23	5.5	Mar 8	.08	Mar 8 1968
ANNUAL SEVEN-DAY MINIMUM	5.7	Nov 21	5.7	Mar 3	.08	Mar 8 1968
INSTANTANEOUS PEAK FLOW			51	Sep 4	4240	Feb 17 1986
INSTANTANEOUS PEAK STAGE			1.84	Sep 4		
ANNUAL RUNOFF (AC-FT)	22160		6350		18960	
10 PERCENT EXCEEDS	81		12		16	
50 PERCENT EXCEEDS	11		11		8.9	
90 PERCENT EXCEEDS	5.7		5.7		5.0	

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.--Lat 39°08'08", long 120°56'57" (revised), in NE 1/4 SE 1/4 sec.22, T.15 N., R.9 E., Placer County, Hydrologic Unit 18020126, on left bank 300 ft upstream from Rollins Dam on Bear River, 2.3 mi north of Colfax.

DRAINAGE AREA.--104 mi^2.
PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Dec. 15, 1964. Usable capacity, 66,000 acre-ft between elevations 1,970.0 ft, invert of outlet tunnel, and 2,171.0 ft, spillway crest. Dead storage, 270 acre-ft. Several diversions into and out of basin upstream for power development and irrigation. Water is normally released through Rollins Powerplant (station 11421900). Part of the water then is diverted to Bear River Canal (station 11422000) for power development. Water is later used for irrigation. See schematic diagram of Bear River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,700 acre-ft, Feb. 17, 1986, elevation, 2,177.7 ft; minimum since reservoir first filled, 4,250 acre-ft, Oct. 10, 1977, elevation, 2,022.5 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 63,000 acre-ft, July 1, elevation, 2,167.29 ft; minimum, 29,500 acre-ft, Jan. 23, elevation, 2,113.17 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Nevada Irrigation District in 1964)

2,020	3,920	2,100	23,900
2,030	5,320	2,120	32,700
2,040	6,990	2,140	43,800
2,050	8,940	2,160	57,300
2,060	11,200	2,178	72,000
2,080	16,800		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35400	49600	44800	35000	31400	38600	48200	49200	56800	63000	57500	52300
2	35900	50800	44300	34100	31700	39200	47500	49700	57400	62500	57400	52600
3	36600	51900	43700	33500	31900	39800	46800	50200	58200	61900	57200	52100
4	37100	52900	42500	33300	32100	40400	46800	50900	58000	61300	56700	51300
5	37700	54000	41300	33300	31900	41300	47200	51500	57600	61100	56400	50500
6	38400	54800	40700	33400	31700	42000	47600	51900	57900	61500	55800	49800
7	38900	55700	40300	33300	32400	42900	48100	52000	58600	61800	54900	49000
8	39300	56600	40700	32700	33300	43600	48300	52000	59300	62000	54500	48300
9	39500	57100	42200	32200	33700	43700	47700	52100	59900	61600	54300	47500
10	39700	57600	42300	31700	34400	44200	47000	52500	60400	61000	53900	46800
11	39700	58100	42500	31400	35100	44700	46800	52900	60100	61100	53500	46000
12	39600	58000	42300	31300	35200	45300	47100	53400	59800	61400	53100	45300
13	39500	56600	42000	31000	35100	45700	47300	53700	59800	61500	53000	44600
14	39400	55300	42300	30700	35100	46200	47600	53600	60400	61700	52900	43900
15	39300	54300	42500	30300	35300	46500	47600	53500	60900	61900	52900	43200
16	39300	53400	42800	30200	35500	47000	47300	53500	61200	61500	52800	42400
17	39100	51900	42600	29900	35900	47300	47000	53800	61700	61000	52600	41800
18	38900	51100	41900	29700	36600	47700	46900	54300	61300	60800	52700	41000
19	38700	50600	41300	29800	36900	48100	47100	54700	61000	60700	52800	40300
20	38700	50200	40900	30000	37400	48300	47200	55000	60700	60700	52900	39600
21	38500	49700	40600	30100	37800	48500	47200	55100	61100	60500	53000	39000
22	38600	49200	40300	29800	38000	48700	47100	55100	61600	60300	53100	38300
23	39000	48700	40200	29500	38200	49100	46500	55200	62000	59600	53100	37600
24	40300	48000	39900	29700	38100	49300	46000	55300	62300	58800	53300	37000
25	41600	47400	39300	30200	37800	49100	46300	55600	61900	58700	53400	36400
26	42700	46900	38600	30500	37300	48300	46900	55800	61500	58800	53100	35700
27	43700	46400	38000	30800	37400	47500	47500	56000	61600	58800	52600	35500
28	44900	45900	37500	31200	37800	47300	48000	55800	62100	59000	52000	35500
29	46100	45600	37000	31100	---	47700	48500	55700	62300	59100	51800	35500
30	47200	45300	36600	31000	---	47900	49000	55600	62600	58500	52200	35400
31	48400	---	35900	31000	---	48200	---	55900	---	57900	52100	---
MAX	48400	58100	44800	35000	38200	49300	49000	56000	62600	63000	57500	52600
MIN	35400	45300	35900	29500	31400	38600	46000	49200	56800	57900	51800	35400
a	2147.35	2142.47	2126.20	2116.33	2129.78	2146.98	2148.20	2158.11	2166.82	2160.76	2152.74	2125.19
b	+12300	-3100	-9400	-4900	+6800	+10400	+800	+6900	+6700	-4700	-5800	-16700
c	30580	32800	32600	10920	12380	29680	18130	23290	27290	33990	33280	19420

CAL YR 1993 MAX 68100 MIN 35400 b -11700
WTR YR 1994 MAX 63000 MIN 29500 b -700

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Discharge, in acre-feet, through Rollins Powerplant, provided by Nevada Irrigation District.

C-042293

11422000 BEAR RIVER CANAL INTAKE NEAR COLFAX, CA

LOCATION.--Lat 39°07'58", long 120°57'12", in SW 1/4 SE 1/4 sec.22, T.15 N., R.9 E., Placer County, Hydrologic Unit 18020126, on right bank 400 ft downstream from canal inlet, 0.2 mi downstream from Rollins Dam, and 2.2 mi north of Colfax.

PERIOD OF RECORD.--January 1912 to September 1953, October 1964 to current year. Monthly discharge only for some periods published in WSP 1315-A. Prior to October 1912, published as Pacific Gas & Electric Co.'s Canal near Colfax; October 1912 to September 1953, published as Bear River Canal near Colfax.

GAGE.--Water-stage recorder. Elevation of gage is 1,950 ft above sea level, from topographic map. Prior to Mar. 25, 1946, water-stage recorder at site 1.5 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Canal diverts from left bank of Bear River. Water is used to develop power at Halsey and Wise Powerplants (stations 11425310 and 11425415). Part of the water is distributed for irrigation, and the remainder is eventually spilled into North Fork American River. Capacity of canal is believed to have been increased in 1917 and 1931. See schematic diagram of Bear River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 531 ft^3/s, Oct. 5, 6, 1980; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	450	8.3	397	446	79	450	379	222	292	401	421	324
2	453	25	408	443	117	456	361	224	279	396	422	319
3	456	34	417	446	118	462	361	225	283	398	424	312
4	460	37	417	339	119	453	361	224	297	403	424	313
5	458	78	417	252	119	444	362	233	298	406	425	318
6	454	137	417	250	118	457	368	274	303	422	425	309
7	457	119	407	251	119	453	370	288	305	427	425	300
8	462	88	392	250	119	447	370	288	306	429	426	301
9	464	141	369	250	119	449	372	279	324	427	433	301
10	464	174	341	250	118	450	267	267	351	424	439	293
11	465	245	342	252	117	451	264	275	365	423	426	284
12	465	298	395	213	116	453	187	280	372	426	414	282
13	465	294	433	150	115	453	174	281	389	425	415	277
14	466	293	444	151	115	452	173	295	377	426	406	268
15	448	341	446	151	203	450	173	298	395	428	404	267
16	441	418	447	152	260	445	173	299	392	426	409	269
17	442	451	447	178	252	446	173	300	390	425	409	270
18	442	450	445	154	258	448	174	253	390	426	409	268
19	442	450	443	177	258	449	174	229	389	427	410	270
20	442	449	448	155	261	450	192	282	386	427	411	264
21	443	449	451	158	257	450	201	277	388	428	405	253
22	439	449	450	159	327	451	201	258	388	428	395	243
23	425	448	450	160	408	450	201	255	386	428	385	239
24	1.7	448	450	161	406	442	188	256	382	429	367	238
25	1.7	448	449	162	405	442	180	269	381	431	370	246
26	1.6	447	450	163	403	441	182	285	389	434	361	245
27	1.6	447	450	133	399	445	180	293	395	434	341	244
28	1.6	447	448	87	432	444	187	294	395	404	341	240
29	1.7	432	448	80	---	444	215	293	396	309	338	226
30	1.7	398	449	79	---	447	223	292	398	364	337	214
31	1.7	---	448	69	---	430	---	294	---	416	330	---
TOTAL	10416.3	8943.3	13215	6321	6137	13904	7386	8382	10761	12897	12347	8197
MEAN	336	298	426	204	219	449	246	270	359	416	398	273
MAX	466	451	451	446	432	462	379	300	398	434	439	324
MIN	1.6	8.3	341	69	79	430	173	222	279	309	330	214
AC-FT	20660	17740	26210	12540	12170	27580	14650	16630	21340	25580	24490	16260
a	19130	14570	24000	9940	10400	23520	13100	15020	18640	22480	21610	14240
b	15230	11930	21430	10140	11050	20650	12240	13900	15320	20250	15220	8640

a Discharge, in acre-feet, to Halsey Powerplant, provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, to Wise Powerplant, provided by Pacific Gas & Electric Co.

C-042294

11422000 BEAR RIVER CANAL INTAKE NEAR COLFAX, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 1931, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	184	158	156	124	139	154	200	253	253	250	251	235
MAX	300	285	281	257	265	257	286	278	300	317	300	300
(WY)	1929	1929	1925	1925	1925	1922	1925	1925	1927	1931	1926	1927
MIN	.000	.000	.000	.000	.000	.000	53.2	158	190	162	167	93.7
(WY)	1930	1930	1930	1930	1930	1930	1931	1931	1931	1918	1918	1924

SUMMARY STATISTICS	WATER YEARS 1918 - 1931	
ANNUAL MEAN	197	
HIGHEST ANNUAL MEAN	245	1929
LOWEST ANNUAL MEAN	121	1931
HIGHEST DAILY MEAN	345	Aug 2 1931
LOWEST DAILY MEAN	.00	Nov 12 1917
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 17 1918
ANNUAL RUNOFF (AC-FT)	142400	
10 PERCENT EXCEEDS	300	
50 PERCENT EXCEEDS	232	
90 PERCENT EXCEEDS	.00	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	343	320	371	358	349	320	310	386	400	407	407	392
MAX	492	495	488	479	478	485	490	498	499	493	497	496
(WY)	1968	1968	1976	1979	1980	1980	1978	1978	1978	1967	1967	1967
MIN	69.8	27.9	52.7	8.65	27.8	18.5	18.4	106	139	143	136	114
(WY)	1978	1978	1977	1946	1946	1977	1940	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1932 - 1994	
ANNUAL TOTAL	147911.6		118906.6			
ANNUAL MEAN	405		326		364	
HIGHEST ANNUAL MEAN					462	1980
LOWEST ANNUAL MEAN					118	1977
HIGHEST DAILY MEAN	466	Aug 6	466	Oct 14	531	Oct 5 1980
LOWEST DAILY MEAN	1.6	Oct 26	1.6	Oct 26	.00	Mar 12 1932
ANNUAL SEVEN-DAY MINIMUM	1.7	Oct 24	1.7	Oct 24	.00	Mar 12 1932
ANNUAL RUNOFF (AC-FT)	293400		235900		263500	
ANNUAL TOTAL (AC-FT) a	269900		206600			
ANNUAL TOTAL (AC-FT) b	221200		176000			
10 PERCENT EXCEEDS	457		450		476	
50 PERCENT EXCEEDS	433		368		425	
90 PERCENT EXCEEDS	334		146		137	

a Discharge, in acre-feet, to Halsey Powerplant, provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, to Wise Powerplant, provided by Pacific Gas & Electric Co.

C-042295

11422500 BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CA

LOCATION.--Lat 39°07'53", long 120°57'29", in SE 1/4 SW 1/4 sec.22, T.15 N., R.9 E., Nevada County, Hydrologic Unit 18020126, on right bank 20 ft upstream from new highway bridge, 0.5 mi downstream from Rollins Dam, and 2.2 mi north of Colfax.

DRAINAGE AREA.--105 mi^2.

PERIOD OF RECORD.--January 1912 to September 1913, October 1913 to July 1915 (gage heights and discharge measurements only), August 1915 to June 1917, November 1949 to September 1953, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to August 1964, published as Bear River near Colfax. Records for November and December 1911 include diversion to Bear River Canal and are not equivalent.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,927.41 ft above sea level. Prior to Aug. 8, 1915, nonrecording gages at several sites above diversion dam 0.3 mi upstream at different datums. Aug. 8, 1915, to June 30, 1917, nonrecording gage 0.7 mi downstream at different datum. Nov. 1, 1949, to Sept. 30, 1953, at site 0.2 mi downstream at different datum. Aug. 17, 1964, to Feb. 4, 1986, at present site and datum. Feb. 5, 1986, to Mar. 19, 1987, at site 160 ft downstream at datum 8.00 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Rollins Reservoir (station 11421800) beginning Dec. 15, 1964. Bear River Canal (station 11422000) diverts upstream from station. See schematic diagram of Bear River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (prior to construction of Rollins Dam in 1964), 9,620 ft^3/s, Nov. 20, 1950, gage height, 21.40 ft, site and datum then in use, from rating curve extended above 3,600 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1912, 1952. Maximum discharge since construction of Rollins Dam, 22,500 ft^3/s, Feb. 17, 1986, gage height, 20.62 ft, site and datum then in use, from rating curve extended above 11,600 ft^3/s; minimum daily, 0.5 ft^3/s, Nov. 17, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 499 ft^3/s, Nov. 13, gage height, 2.37 ft; minimum daily, 22 ft^3/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	52	359	24	22	24	23	82	85	100	130	93
2	83	30	345	24	23	24	25	82	85	100	179	94
3	84	25	334	24	23	24	25	81	84	101	217	95
4	85	26	332	26	23	24	25	81	85	101	213	95
5	84	26	326	27	23	23	25	82	85	103	210	91
6	83	28	323	25	24	24	25	91	85	99	214	84
7	82	28	172	25	31	24	25	102	85	98	219	77
8	208	27	30	25	27	23	25	102	90	105	227	78
9	287	29	26	25	24	23	26	102	93	105	232	78
10	290	30	23	25	25	24	26	102	94	105	231	77
11	290	31	24	25	25	25	24	103	95	105	234	76
12	289	148	24	25	24	24	23	103	96	112	235	77
13	288	494	24	25	24	23	24	103	96	117	233	77
14	289	489	32	25	24	23	24	103	95	117	232	76
15	303	440	29	25	23	23	24	104	97	118	214	79
16	310	372	28	25	22	23	24	104	96	119	209	80
17	310	341	28	25	28	22	24	104	97	117	149	80
18	309	336	25	25	27	22	24	102	97	120	113	80
19	309	335	23	29	23	22	24	100	97	127	113	81
20	309	332	23	27	25	22	25	89	99	127	113	81
21	309	330	23	26	25	22	59	76	97	125	111	80
22	185	329	23	25	24	22	104	75	100	125	111	79
23	83	326	23	26	24	22	104	75	99	125	115	80
24	93	324	23	27	24	22	104	75	99	125	112	80
25	82	321	23	26	24	22	93	75	99	125	113	80
26	79	320	23	26	24	22	81	76	100	125	115	80
27	80	319	23	24	27	22	80	76	101	125	116	80
28	80	317	23	23	27	22	80	77	100	124	115	80
29	80	331	24	23	---	22	81	82	101	124	104	79
30	80	361	24	22	---	22	82	85	100	131	93	78
31	81	---	24	22	---	22	---	85	---	131	92	---
TOTAL	5608	6897	2786	776	689	708	1358	2779	2832	3581	5114	2445
MEAN	181	230	89.9	25.0	24.6	22.8	45.3	89.6	94.4	116	165	81.5
MAX	310	494	359	29	31	25	104	104	101	131	235	95
MIN	79	25	23	22	22	22	23	75	84	98	92	76
AC-FT	11120	13680	5530	1540	1370	1400	2690	5510	5620	7100	10140	4850

C—042296

C-042296

11422500 BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1953, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	46.0	300	474	804	778	635	586	314	133	46.2	36.3	47.0
MAX	73.8	1016	1372	1103	1354	1110	1126	578	226	109	102	89.7
(WY)	1951	1951	1951	1951	1916	1916	1952	1952	1953	1916	1916	1916
MIN	12.7	19.8	58.4	287	201	127	151	165	35.1	.000	.000	.000
(WY)	1913	1953	1953	1913	1913	1913	1912	1916	1913	1913	1913	1913

SUMMARY STATISTICS	WATER YEARS 1912 - 1953		
ANNUAL MEAN	356		
HIGHEST ANNUAL MEAN	534		1951
LOWEST ANNUAL MEAN	126		1913
HIGHEST DAILY MEAN	5760	Nov 20	1950
LOWEST DAILY MEAN	.00	Jul 5	1912
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 11	1912
INSTANTANEOUS PEAK FLOW	9620	Nov 20	1950
INSTANTANEOUS PEAK STAGE	21.40	Nov 20	1950
ANNUAL RUNOFF (AC-FT)	258000		
10 PERCENT EXCEEDS	879		
50 PERCENT EXCEEDS	138		
90 PERCENT EXCEEDS	1.0		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	110	198	331	545	615	671	590	438	312	227	187	143
MAX	282	1267	1842	2128	2889	2324	2516	1064	636	538	401	383
(WY)	1984	1984	1984	1970	1986	1983	1982	1983	1983	1983	1983	1983
MIN	21.3	10.3	6.53	6.67	5.14	4.56	16.6	21.8	15.2	22.8	34.3	34.4
(WY)	1978	1978	1978	1977	1977	1977	1976	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	180705		35573			
ANNUAL MEAN	495		97.5		363	
HIGHEST ANNUAL MEAN					972	1983
LOWEST ANNUAL MEAN					19.0	1977
HIGHEST DAILY MEAN	3590	Jan 22	494	Nov 13	19300	Feb 17 1986
LOWEST DAILY MEAN	23	Dec 10	22	Jan 30	3.6	Dec 26 1977
ANNUAL SEVEN-DAY MINIMUM	23	Dec 19	22	Mar 17	4.4	Mar 23 1977
INSTANTANEOUS PEAK FLOW			499	Nov 13	22500	Feb 17 1986
INSTANTANEOUS PEAK STAGE			2.37	Nov 13	20.62	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	358400		70560		262600	
10 PERCENT EXCEEDS	960		287		889	
50 PERCENT EXCEEDS	408		80		115	
90 PERCENT EXCEEDS	79		23		21	

11423800 BEAR RIVER FISH RELEASE BELOW NEW CAMP FAR WEST RESERVOIR, NEAR WHEATLAND, CA

LOCATION.--Lat 39°02'30", long 121°19'52", in NE 1/4 NW 1/4 sec.29, T.14 N., R.6 E., Placer County, Hydrologic Unit 18020108, on left bank 5.4 mi northeast of Wheatland and 1.2 mi downstream from New Camp Far West Reservoir.
DRAINAGE AREA.--Not determined.
PERIOD OF RECORD.--October 1989 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 120 ft above sea level, from topographic map.
REMARKS.--No estimated daily discharges. The gage measures required fish-release flow and is entirely regulated by New Camp Far West Reservoir. See schematic diagram of Bear River basin.
COOPERATION.--Records provided by South Sutter Water District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 31 ft^3/s, Apr. 6, 1990, May 10, 15, 16, 1993; minimum daily, 10 ft^3/s, several days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	11	11	12	12	26	27	28	16	11	11
2	11	13	11	11	12	12	26	28	27	11	11	11
3	11	13	11	11	12	12	27	28	27	11	11	11
4	11	13	11	11	12	12	28	28	27	11	11	11
5	12	13	12	11	12	12	28	28	27	11	10	11
6	12	13	12	11	12	12	27	28	28	11	11	11
7	12	13	12	11	12	12	27	28	28	11	11	11
8	12	13	12	11	12	12	27	27	28	11	11	11
9	12	12	12	11	13	12	26	27	28	11	11	11
10	12	12	12	11	13	12	26	27	27	11	11	11
11	12	13	12	11	13	11	27	27	27	11	11	11
12	12	13	12	11	12	11	27	27	27	11	11	11
13	12	13	12	11	13	11	27	27	27	11	11	11
14	14	13	12	11	13	11	27	27	27	11	11	11
15	15	13	12	11	13	11	27	27	27	11	11	11
16	14	13	13	11	13	11	27	28	27	11	12	11
17	14	13	13	11	12	11	27	27	27	11	11	11
18	13	13	13	11	13	11	27	27	27	11	11	11
19	13	13	12	11	14	11	27	28	27	11	11	11
20	13	11	13	11	14	11	27	28	27	11	11	11
21	14	11	12	11	13	12	27	27	28	11	11	11
22	14	11	12	11	13	12	26	27	28	11	11	11
23	14	11	12	11	12	12	27	27	28	11	11	11
24	14	11	11	11	12	12	27	28	28	11	11	11
25	14	11	11	11	12	12	28	28	28	11	11	11
26	13	11	11	11	12	10	27	28	28	11	11	12
27	14	11	11	11	12	10	27	28	28	11	11	12
28	14	11	11	11	12	10	27	28	28	11	11	11
29	13	11	11	11	---	10	26	27	28	11	11	11
30	12	11	11	11	---	10	27	27	27	11	11	11
31	13	---	11	11	---	24	---	27	---	11	11	---
TOTAL	398	366	364	341	350	364	807	851	824	346	341	332
MEAN	12.8	12.2	11.7	11.0	12.5	11.7	26.9	27.5	27.5	11.2	11.0	11.1
MAX	15	13	13	11	14	24	28	28	28	16	12	12
MIN	11	11	11	11	12	10	26	27	27	11	10	11
AC-FT	789	726	722	676	694	722	1600	1690	1630	686	676	659

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1994, BY WATER YEAR (WY)

MEAN	12.0	11.8	11.5	11.4	12.0	12.4	27.1	27.4	27.1	11.1	11.0	11.0
MAX	13.0	12.6	11.8	11.9	12.5	13.6	27.8	29.8	28.9	11.4	11.3	11.1
(WY)	1992	1992	1992	1993	1993	1992	1993	1993	1993	1993	1993	1992
MIN	11.0	11.0	11.0	10.9	11.0	11.2	26.5	25.9	25.8	11.0	10.8	10.8
(WY)	1991	1991	1991	1991	1991	1991	1990	1990	1990	1992	1990	1990

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1990 - 1994	
ANNUAL TOTAL	5804		5684			
ANNUAL MEAN	16.2		15.6		15.5	
HIGHEST ANNUAL MEAN					15.9	1993
LOWEST ANNUAL MEAN					15.0	1991
HIGHEST DAILY MEAN	31	May 10	28	Apr 4	31	Apr 6 1990
LOWEST DAILY MEAN	11	Jan 1	10	Mar 26	10	Aug 6 1990
ANNUAL SEVEN-DAY MINIMUM	11	Jan 1	11	Mar 24	10	Sep 1 1990
ANNUAL RUNOFF (AC-FT)	11710		11270		11210	
10 PERCENT EXCEEDS	29		27		27	
50 PERCENT EXCEEDS	12		12		12	
90 PERCENT EXCEEDS	11		11		11	

C-042298

11424000 BEAR RIVER NEAR WHEATLAND, CA

LOCATION.--Lat 39°00'00", long 121°24'20", in SE 1/4 SW 1/4 sec.3, T.13 N., R.5 E., Placer County, Hydrologic Unit 18020108, on right bank 200 ft downstream from bridge on State Highway 65, 1 mi southeast of Wheatland, and 6.5 mi downstream from New Camp Far West Reservoir.

DRAINAGE AREA.--292 mi^2.

PERIOD OF RECORD.--October 1928 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 71.92 ft above sea level. See WSP 2131 for history of changes prior to May 28, 1970.

REMARKS.--Records good except for estimated daily discharges which are poor. Natural flow of stream affected by inflow from Yuba and American River basins. Flow regulated by Lake Combie, usable capacity, 7,840 acre-ft, since 1928; Rollins Reservoir (station 11421800), since December 1964; and New Camp Far West Reservoir, usable capacity, 102,200 acre-ft, since October 1963. Many diversions for irrigation and power. See schematic diagrams of Bear and lower Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft^3/s, Feb. 17, 1986, gage height, 21.60 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 914 ft^3/s, Dec. 14, gage height, 6.50 ft; minimum daily, 10 ft^3/s, Nov. 10, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	13	15	15	18	26	36	32	25	14	e13
2	12	16	13	13	14	145	22	36	33	13	14	e13
3	11	12	13	14	15	292	26	34	30	14	14	e13
4	14	13	13	15	15	288	24	30	31	13	13	e13
5	14	13	13	14	15	291	27	29	32	13	12	e13
6	14	12	13	14	16	290	28	29	33	12	12	e13
7	13	12	13	14	32	292	29	32	31	12	13	e13
8	13	12	15	14	188	291	29	32	33	12	12	e13
9	13	11	21	15	543	160	30	31	32	11	12	e13
10	12	10	14	14	541	19	29	30	29	12	12	e13
11	12	11	260	15	412	17	30	30	28	12	12	e13
12	13	13	873	15	302	15	29	30	28	13	13	e13
13	12	12	874	15	303	15	29	30	29	13	13	e13
14	15	12	719	15	302	15	28	30	28	12	12	e13
15	17	12	312	14	301	15	28	31	27	12	12	e13
16	16	13	555	15	167	15	28	31	27	12	11	e13
17	17	12	558	15	26	14	29	31	27	13	13	e13
18	13	12	521	14	280	13	29	28	27	13	11	e13
19	12	12	338	14	535	13	29	30	30	14	14	e13
20	12	12	335	14	541	14	31	32	31	13	14	e13
21	12	11	334	14	533	140	32	30	29	13	14	e13
22	13	11	321	15	525	282	30	30	29	14	12	e13
23	12	10	180	17	528	281	30	31	29	12	13	e13
24	12	11	18	25	527	281	31	31	29	13	14	e13
25	15	12	17	20	265	142	32	35	30	13	14	e13
26	13	12	17	25	25	15	33	32	30	13	14	e14
27	13	12	17	18	22	14	33	32	31	13	14	e14
28	13	12	17	16	19	13	34	32	30	15	15	e13
29	13	16	17	15	---	13	31	32	29	13	e14	e13
30	11	18	16	16	---	13	34	30	27	12	e13	e13
31	11	---	16	15	---	19	---	30	---	13	e13	---
TOTAL	404	370	6456	484	7007	3446	880	967	891	408	403	392
MEAN	13.0	12.3	208	15.6	250	111	29.3	31.2	29.7	13.2	13.0	13.1
MAX	17	18	874	25	543	292	34	36	33	25	15	14
MIN	11	10	13	13	14	13	22	28	27	11	11	13
AC-FT	801	734	12810	960	13900	6840	1750	1920	1770	809	799	778

e Estimated.

C-042299

11424000 BEAR RIVER NEAR WHEATLAND, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1963, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	92.8	184	565	826	1240	1033	770	306	79.0	12.6	16.7	18.4
MAX	1348	1980	3501	3004	3360	2918	2553	939	245	55.4	148	215
(WY)	1963	1951	1956	1956	1936	1938	1958	1942	1932	1952	1935	1935
MIN	2.05	9.14	21.3	68.0	156	192	11.3	.57	.71	.53	.65	.30
(WY)	1961	1960	1960	1947	1933	1933	1959	1959	1959	1959	1939	1939

SUMMARY STATISTICS	WATER YEARS 1930 - 1963	
ANNUAL MEAN	424	
HIGHEST ANNUAL MEAN	891	1951
LOWEST ANNUAL MEAN	70.0	1933
HIGHEST DAILY MEAN	22100	Dec 23 1955
LOWEST DAILY MEAN	.00	Sep 18 1939
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 18 1939
INSTANTANEOUS PEAK FLOW	33000	Dec 22 1955
INSTANTANEOUS PEAK STAGE	20.83	Nov 21 1950
ANNUAL RUNOFF (AC-FT)	307500	
10 PERCENT EXCEEDS	1060	
50 PERCENT EXCEEDS	77	
90 PERCENT EXCEEDS	3.6	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.9	144	438	824	1101	1079	680	186	49.6	16.9	15.0	13.9
MAX	58.5	1606	2668	3525	5201	3845	3796	1035	211	53.1	29.5	36.9
(WY)	1972	1984	1984	1970	1986	1983	1982	1983	1967	1967	1967	1971
MIN	.002	.056	.000	.14	.62	1.07	.60	4.05	3.17	2.95	4.72	1.31
(WY)	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	176163		22108			
ANNUAL MEAN	483		60.6		377	
HIGHEST ANNUAL MEAN					1191	1983
LOWEST ANNUAL MEAN					3.42	1977
HIGHEST DAILY MEAN	7590	Jan 22	874	Dec 13	35900	Feb 17 1986
LOWEST DAILY MEAN	10	Nov 10	10	Nov 10	.00	Oct 14 1976
ANNUAL SEVEN-DAY MINIMUM	11	Nov 18	11	Nov 18	.00	Oct 29 1976
INSTANTANEOUS PEAK FLOW			914	Dec 14	48000	Feb 17 1986
INSTANTANEOUS PEAK STAGE			6.50	Dec 14	21.60	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	349400		43850		272800	
10 PERCENT EXCEEDS	1390		217		1100	
50 PERCENT EXCEEDS	38		15		21	
90 PERCENT EXCEEDS	12		12		6.8	

C-042300

11425418 MORMON RAVINE NEAR NEWCASTLE, CA

LOCATION.--Lat 38°50'12", long 121°05'36", in SE 1/4 NW 1/4 sec.4, T.11 N., R.8 E., Placer County, Hydrologic Unit 18020128, on right bank 200 ft upstream from Folsom Lake, 700 ft north of Newcastle Powerplant, and 3.3 mi southeast of Newcastle.

DRAINAGE AREA.--3.84 mi^2.

PERIOD OF RECORD.--October 1989 to current year (low-flow records only).

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 500 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records not computed above 8.5 ft^3/s. Low flow augmented by release from end of South Canal. Most of the water in South Canal is diverted to Newcastle Powerplant (station 11425416). See schematic diagram of Bear River basin.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	.72	---	---	---	---	---	---	---	---	---	---
2	---	.70	---	---	---	---	---	---	---	---	---	---
3	---	.86	---	---	---	---	---	---	---	---	---	---
4	---	.71	---	---	---	---	---	---	---	---	---	---
5	---	.96	---	---	---	---	---	---	---	---	---	---
6	---	1.1	---	---	---	---	---	---	---	---	---	---
7	---	1.0	---	---	---	---	---	---	---	---	---	---
8	---	.96	---	---	---	---	---	---	---	---	---	---
9	---	4.3	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	5.7	---	---	---	---	---	---	---	---	---	---	---
25	1.8	---	---	---	---	---	---	---	---	---	---	---
26	1.9	---	---	---	---	---	---	---	---	---	---	---
27	2.4	---	---	---	---	---	---	---	---	---	---	---
28	.89	---	---	---	---	---	---	---	---	---	---	---
29	.88	---	---	---	---	---	---	---	---	---	---	---
30	.84	---	---	---	---	---	---	---	---	---	---	---
31	.73	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---
a	11430	11260	19430	8860	8560	18080	5880	0	0	0	0	0

a Diversion, in acre-feet, to Newcastle Powerplant, provided by Pacific Gas & Electric Co.

C-042301

11425500 SACRAMENTO RIVER AT VERONA, CA

LOCATION.--Lat 38°46'28", long 121°35'50", in SW 1/4 NW 1/4 sec.25, T.11 N., R.3 E., Sutter County, Hydrologic Unit 18020109, on left bank 1.3 mi southeast of Verona, 1.5 mi downstream from Feather River, 6.2 mi east of Knights Landing, and at mile 19.1 upstream from Sacramento.

DRAINAGE AREA.--21,251 mi^2.

PERIOD OF RECORD.--May 1926 to September 1929 (low-water periods only), October 1929 to current year.
CHEMICAL DATA: Water years 1952, 1969-70.
WATER TEMPERATURE: Water year 1980.
SEDIMENT DATA: Water year 1980.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.00 ft below sea level. May 1926 to Sept. 30, 1987, at site 0.5 mi upstream at same datum.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. When discharge exceeds about 55,000 ft^3/s, flow begins over Fremont Weir, 3.5 mi upstream on right bank, into Yolo Bypass (station 11453000). See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,900 ft^3/s, Feb. 20, 1986, gage height, 42.11 ft, site then in use, 41.45 ft at current site; minimum daily, 304 ft^3/s, July 23, 24, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,700 ft^3/s, Feb. 9, gage height, 21.12 ft; minimum daily, 5,000 ft^3/s, June 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12500	9770	11800	12500	11400	15900	8000	7150	6570	7780	9070	14700
2	12500	9590	12200	11900	10700	15800	8130	7150	6870	7740	9220	15000
3	12300	9630	12100	11400	10400	15100	8090	7170	6810	8090	9450	15500
4	12400	9730	12200	11200	10300	14700	7870	7380	6240	8220	9190	15700
5	12600	9760	12700	11100	10200	14200	7390	6820	5540	8350	8710	15700
6	12500	9730	13400	10800	10200	14200	e7140	6730	5000	8580	8790	15200
7	12700	9660	14200	10600	11500	14500	7320	7490	5120	9630	9120	14900
8	12600	9680	15500	10600	19900	14400	6880	8980	5140	10800	9170	14800
9	12300	9820	17200	10600	28300	13800	7080	10400	5430	11800	8830	14800
10	12000	9810	19200	10500	26300	13100	7140	10500	5450	12400	8620	14500
11	11700	9860	20300	10400	22100	12300	7500	10100	5850	12500	8690	14200
12	11600	10200	19900	10200	20700	11800	7680	9930	6170	12700	9090	13700
13	11600	10400	21000	9870	20300	11700	7380	9310	6160	12700	9120	13600
14	11700	10300	22500	9740	17900	11500	7160	9460	6060	12400	8880	13900
15	11400	10300	22600	9620	15800	11200	6660	9360	5770	12600	8890	13500
16	11500	10500	24900	9700	14600	11000	6250	8740	5350	12500	9010	13400
17	11400	10600	23900	9710	14000	10700	6000	7880	5560	11900	9650	13500
18	12400	10500	20900	9840	14300	10600	5990	7230	6230	11100	10100	13100
19	12400	10300	18900	10100	18400	11200	6040	6840	6950	10300	10100	12400
20	11300	10300	17500	10200	20600	10900	6430	6600	7550	9750	10400	11800
21	10700	10300	16600	10100	23600	10300	6620	6810	7480	9490	11200	11600
22	10400	10300	16800	9960	26600	10200	6920	7510	7470	9520	12000	11600
23	10100	10300	17200	10100	24700	9830	7050	8130	7570	9680	12200	11400
24	9870	10200	17100	10800	22000	9520	6910	e8290	7600	9500	12500	11100
25	9430	10300	16900	14300	19700	9510	6940	e8760	7610	9330	12900	10900
26	9430	10300	16800	20200	17500	9280	7520	e9120	7680	9210	13300	10800
27	9570	10400	16600	20800	16200	8990	8310	e8760	7830	9270	13700	10700
28	9510	10400	16000	18300	15300	8690	9290	e7990	7920	9190	13800	10500
29	9770	10600	15100	15600	---	8460	8670	e7210	7950	9050	14000	10300
30	9720	11300	14200	13700	---	8240	7730	e7120	7930	9040	14400	10200
31	9740	---	13300	12400	---	7840	---	6110	---	9140	14600	---
TOTAL	349440	304840	529500	366840	493500	359460	218090	251030	196860	314260	328700	393000
MEAN	11270	10160	17080	11830	17620	11600	7270	8098	6562	10140	10600	13100
MAX	12700	11300	24900	20800	28300	15900	9290	10500	7950	12700	14600	15700
MIN	9430	9590	11800	9620	10200	7840	5990	6110	5000	7740	8620	10200
AC-FT	693100	604700	1050000	727600	978900	713000	432600	497900	390500	623300	652000	779500

e Estimated.

C-042302

11425500 SACRAMENTO RIVER AT VERONA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5623	8493	17140	28130	33500	35320	34370	24600	12750	3943	2603	4242
MAX	7816	23510	41690	56930	57860	57700	55330	53730	33480	9176	5036	5895
(WY)	1939	1938	1938	1941	1942	1938	1938	1938	1938	1938	1938	1938
MIN	3462	3923	5968	7819	11730	13860	5932	3103	1872	497	846	2960
(WY)	1933	1933	1937	1937	1933	1931	1931	1931	1931	1931	1931	1934

SUMMARY STATISTICS	WATER YEARS 1930 - 1943		
ANNUAL MEAN	17470		
HIGHEST ANNUAL MEAN	31300		1938
LOWEST ANNUAL MEAN	6286		1931
HIGHEST DAILY MEAN	76900	Feb 8	1942
LOWEST DAILY MEAN	304	Jul 23	1931
ANNUAL SEVEN-DAY MINIMUM	313	Jul 18	1931
INSTANTANEOUS PEAK FLOW	79200	Mar 1	1940
INSTANTANEOUS PEAK STAGE	41.20	Mar 1	1940
ANNUAL RUNOFF (AC-FT)	12650000		
10 PERCENT EXCEEDS	50700		
50 PERCENT EXCEEDS	8620		
90 PERCENT EXCEEDS	2680		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10680	14220	22370	28540	32660	30760	24390	19430	13620	10960	11560	12460
MAX	24920	43300	64470	63790	67300	71340	62140	51600	38790	24550	21400	22110
(WY)	1963	1974	1984	1974	1983	1983	1982	1952	1983	1983	1983	1971
MIN	4725	5987	6586	8561	7591	6731	6188	5118	4858	4848	5385	6300
(WY)	1978	1993	1960	1991	1991	1977	1977	1992	1992	1947	1947	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1946 - 1994	
ANNUAL TOTAL	8692280		4105520			
ANNUAL MEAN	23810		11250		19240	
HIGHEST ANNUAL MEAN					39150	1983
LOWEST ANNUAL MEAN					7178	1977
HIGHEST DAILY MEAN	66800	Mar 27	28300	Feb 9	92300	Feb 20 1986
LOWEST DAILY MEAN	9430	Oct 25	5000	Jun 6	3590	Jun 24 1992
ANNUAL SEVEN-DAY MINIMUM	9590	Oct 24	5360	Jun 5	3960	Jun 22 1992
INSTANTANEOUS PEAK FLOW			28700	Feb 9	92900	Feb 20 1986
INSTANTANEOUS PEAK STAGE			21.12	Feb 9	42.11	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	17240000		8143000		13940000	
10 PERCENT EXCEEDS	52200		16600		44200	
50 PERCENT EXCEEDS	17300		10300		13100	
90 PERCENT EXCEEDS	10500		7010		7360	

C-042303

11426000 SACRAMENTO WEIR SPILL TO YOLO BYPASS NEAR SACRAMENTO, CA

LOCATION.--Lat 38°36'25", long 121°33'15", unsurveyed, Sacramento County, Hydrologic Unit 18020109, on right bank 100 ft upstream from weir, 3.2 mi upstream from American River, 4 mi northwest of Sacramento, and 4.2 mi upstream from Sacramento.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for water years 1940-51, published in WSP 1735. Published as Sacramento Weir near Sacramento 1939-61. Gage-height records collected at same site February 1926 to September 1934 and major flood flows only October 1934 to September 1939 are contained in reports of California Department of Water Resources.

GAGE.--Water-stage recorder and concrete weir crest. Datum of gage is 3.00 ft below sea level. October 1939 to September 1942, October 1959 to September 1963, water-stage recorder or nonrecording gage at downstream end of weir. October 1942 to September 1959, water-stage recorder on left bank of Sacramento River opposite center of weir. February 1963 to September 1985, water-stage recorder on right bank of Sacramento River 100 ft downstream from end of weir.

REMARKS.--Crest of weir is at gage height 20.2 ft and top of movable gates at 28.0 ft. Weir consists of 48 gates each 38.1 ft long. Flow over weir enters Yolo Bypass by way of Sacramento Bypass. Flow regulated by weir gates. February 1963 to September 1985, stage was obtained by averaging the stage obtained at sites on the Sacramento River above and below the weir. See schematic diagram of lower Sacramento River basin.

COOPERATION.--Records provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 128,000 ft^3/s, Feb. 20, 1986, gage height, 30.84 ft; maximum gage height, 33.01 ft, Dec. 23, 1955; no flow all or most of each year.

EXTREMES FOR CURRENT YEAR.--No flow for 1994 water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.42	142	602	509	774	459	96.7	1.81	.000	.000	.000	.000
MAX	72.6	7014	12470	6997	23920	17830	2042	79.1	.000	.000	.000	.000
(WY)	1963	1951	1965	1970	1986	1983	1982	1983	1943	1943	1943	1943
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1944	1944	1944	1944	1944	1944	1944	1943	1943	1943	1943	1943

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1943 - 1994	
ANNUAL TOTAL	4357.50					
ANNUAL MEAN	11.9				209	
HIGHEST ANNUAL MEAN					2075	1986
LOWEST ANNUAL MEAN					.000	1944
HIGHEST DAILY MEAN	326	Mar 27			123000	Feb 20 1986
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jan 1 1943
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Jan 1 1943
INSTANTANEOUS PEAK FLOW					128000	Feb 20 1986
INSTANTANEOUS PEAK STAGE					33.01	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	8640				151600	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042304

11426170 LAKE VALLEY RESERVOIR NEAR CISCO, CA

LOCATION (REVISED).--Lat 39°18'01", long 120°35'46", in NE 1/4 NW 1/4 sec.35, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, on dam near left abutment on North Fork of North Fork American River and 1.3 mi west of Cisco.

DRAINAGE AREA.--4.54 mi^2.

PERIOD OF RECORD.--July 1987 to current year. Unpublished records for water years 1980-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 5,727.4 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to July 1987, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by an earthfill dam; storage began in 1911. Usable capacity, 7,960 acre-ft between gage heights 6.2 ft, natural rim of lake, and 57.5 ft, top of flashboards. Released water is diverted downstream to Lake Valley Canal (station 11426190) and then to several powerplants. Records, including extremes, represent usable contents at 2400 hours. See schematic diagrams of Bear and Yuba River basins.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,017 acre-ft, May 8, 1989, gage height, 57.68 ft; minimum, 1,153 acre-ft, Feb. 28, 1990, gage height, 25.01 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 6,264 acre-ft, Oct. 1, gage height, 51.65 ft; minimum, 1,400 acre-ft, Mar. 9, gage height, 27.13 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated June 18, 1965)

8	41	17	476	40	3,455
10	102	20	693	50	5,810
12	189	25	1,152	59	8,411
14	304	30	1,830		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6264	4111	3141	2508	2200	1521	2315	3987	5461	5333	4962	4577
2	6190	4040	3134	2497	2183	1490	2367	4037	5466	5318	4952	4554
3	6105	3973	3125	2493	2171	1454	2423	4097	5464	5309	4943	4549
4	6022	3914	3114	2502	2154	1415	2474	4162	5466	5294	4929	4540
5	5936	3845	3105	2493	2141	1428	2516	4234	5452	5280	4920	4526
6	5856	3771	3091	2480	2138	1428	2553	4325	5461	5266	4908	4514
7	5777	3701	3085	2476	2123	1415	2584	4407	5464	5257	4894	4500
8	5696	3634	3125	2462	2094	1402	2629	4491	5468	5246	4881	4484
9	5614	3560	3147	2455	2085	1400	2661	4596	5468	5232	4869	4465
10	5535	3498	3141	2445	2091	1430	2691	4686	5468	5216	4860	4449
11	5464	3427	3141	2436	2061	1455	2720	4793	5466	5204	4851	4437
12	5393	3362	3103	2429	2020	1478	2755	4874	5454	5188	4839	4423
13	5318	3273	3076	2420	1970	1503	2794	4950	5438	5176	4825	4421
14	5255	3212	3058	2405	1948	1548	2845	5008	5434	5167	4814	4417
15	5223	3177	3028	2392	1942	1613	2909	5041	5422	5158	4798	4393
16	5163	3183	2992	2391	1929	1666	2989	5083	5411	5147	4786	4361
17	5094	3179	2968	2380	1939	1711	3076	5124	5406	5135	4768	4350
18	5032	3176	2936	2370	1908	1754	3174	5167	5401	5126	4754	4341
19	4969	3172	2905	2356	1876	1793	3282	5197	5397	5114	4743	4327
20	4897	3170	2875	2349	1852	1831	3385	5232	5396	5098	4725	4316
21	4828	3161	2844	2334	1822	1869	3473	5260	5391	5087	4711	4304
22	4761	3165	2813	2330	1783	1900	3544	5287	5381	5083	4698	4293
23	4698	3154	2780	2331	1739	1933	3606	5315	5379	5069	4689	4261
24	4639	3147	2746	2322	1698	1962	3643	5361	5372	5057	4675	4225
25	4577	3138	2717	2304	1653	1993	3717	5383	5364	5046	4662	4189
26	4514	3127	2691	2276	1621	2021	3764	5381	5360	5039	4652	4155
27	4426	3125	2654	2264	1592	2056	3805	5399	5352	5022	4639	4116
28	4375	3123	2627	2259	1559	2099	3849	5415	5345	5018	4623	4093
29	4306	3157	2593	2253	---	2145	3891	5424	5333	5006	4616	4060
30	4243	3150	2559	2244	---	2200	3941	5442	5343	4992	4605	4021
31	4180	---	2530	2229	---	2262	---	5447	---	4976	4591	---
MAX	6264	4111	3147	2508	2200	2262	3941	5447	5468	5333	4962	4577
MIN	4180	3123	2530	2229	1559	1400	2315	3987	5333	4976	4591	4021
a	43.16	38.59	34.70	32.70	28.21	32.92	42.12	48.63	48.21	46.63	44.95	42.47
b	-2167	-1030	-620	-301	-670	+703	+1679	+1506	-104	-367	-385	-570

CAL YR 1993 MAX 7964 MIN 2530 b -691
WTR YR 1994 MAX 6264 MIN 1400 b -2326

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

C-042305

11426180 KELLY LAKE NEAR CISCO, CA

LOCATION.--Lat 39°18'40", long 120°34'49", in SE 1/4 NW 1/4 sec.25, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on outlet structure on Kelly Lake Dam on unnamed tributary to North Fork of North Fork American River, and 2.2 mi west of Cisco.

DRAINAGE AREA.--0.58 mi^2.

PERIOD OF RECORD.--October 1991 to current year. Unpublished records for water years 1965-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 5,888.9 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to October 1991, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1928. Usable capacity, 336 acre-ft between gage heights 0.0 ft, invert of outlet, and 17.1 ft, top of flashboards. Water is used for power development downstream. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of Bear River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 340 acre-ft, June 5-7, 1993, May 18, 19, 1994, gage height, 17.2 ft; minimum, 0 acre-ft, Oct. 1-24, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 340 acre-ft, May 18, 19, gage height, 17.2 ft; minimum, 10 acre-ft, Nov. 12-15, gage height, 0.62 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated December 1933)

0	0	12	213
4	61	16	308
8	130	19	387

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e273	128	22	41	63	116	307	329	337	320	294	268
2	e272	114	23	40	63	119	314	328	337	319	293	267
3	e271	99	23	40	64	123	316	328	336	318	292	267
4	e270	86	23	43	65	127	314	328	336	317	291	266
5	e269	73	23	45	65	142	311	330	336	316	290	266
6	e268	62	23	46	67	148	314	332	336	316	290	265
7	e268	52	24	46	69	154	313	332	336	314	289	264
8	e268	41	27	46	70	159	314	331	335	314	288	264
9	e268	33	30	46	71	165	315	330	335	313	287	263
10	e268	25	33	46	75	174	315	330	334	312	286	263
11	e268	19	36	47	75	181	316	329	334	312	285	262
12	e268	10	37	46	77	186	319	331	333	311	284	263
13	268	10	37	46	78	191	323	333	333	310	283	262
14	268	10	39	47	79	200	326	335	332	309	283	262
15	271	10	40	47	79	209	328	337	332	308	282	261
16	273	16	40	48	81	217	330	339	331	307	281	261
17	272	15	40	48	86	223	330	339	330	307	280	260
18	271	15	40	49	88	229	330	340	330	306	279	260
19	271	15	40	49	91	235	330	340	329	304	279	259
20	270	15	40	50	93	240	329	339	328	303	278	259
21	270	15	40	50	95	246	328	339	328	303	277	258
22	263	17	40	50	96	253	328	339	327	302	276	258
23	252	17	40	53	97	257	328	338	326	301	275	257
24	240	17	40	56	98	260	329	338	325	301	274	257
25	227	17	40	58	99	263	330	338	325	300	273	257
26	211	16	41	59	103	266	329	338	324	299	273	256
27	195	16	41	59	109	270	329	338	323	298	272	255
28	181	17	41	60	113	277	329	338	323	297	272	259
29	167	21	41	61	---	284	329	337	321	296	271	259
30	155	22	41	61	---	292	328	337	321	295	270	258
31	141	---	41	62	---	299	---	337	---	295	269	---
MAX	273	128	41	62	113	299	330	340	337	320	294	268
MIN	141	10	22	40	63	116	307	328	321	295	269	255
a	8.54	1.46	2.77	4.08	7.08	15.65	16.78	17.15	16.48	15.48	14.45	14.02
b	-134	-119	+19	+21	+51	+186	+29	+9	-16	-26	-26	-11

CAL YR 1993 MAX 340 MIN 10 b -7
WTR YR 1994 MAX 340 MIN 10 b -17

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

C-042306

11426190 LAKE VALLEY CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'56", long 120°38'31", in SE 1/4 NE 1/4 sec.32, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, on right bank 0.8 mi upstream from inlet to Carpenter Flat Siphon and 1.5 mi east of Emigrant Gap.
PERIOD OF RECORD.--October 1964 to current year.
GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 5,410 ft above sea level, from topographic map. Prior to Oct. 1, 1979, on right bank 0.7 mi downstream at different datum.
REMARKS.--No estimated daily discharges. Canal diverts from right bank of the North Fork of North Fork American River, 2.0 mi downstream from Lake Valley Reservoir (station 11426170) to the Drum Canal in Bear River basin. See schematic diagrams of Bear and Yuba River basins.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 75 ft^3/s, Jan. 13, 1980; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	38	7.3	15	14	29	20	17	.00	.00	.00	.00
2	39	38	6.8	7.9	13	30	21	16	.00	.00	.00	.00
3	39	39	6.6	7.6	9.6	31	24	16	.00	.00	.00	.00
4	39	39	6.8	12	8.8	33	24	16	.00	.00	.00	.00
5	40	38	6.6	16	8.7	38	21	16	.00	.00	.00	.00
6	40	39	6.5	11	8.9	38	21	26	.00	.00	.00	.00
7	40	38	6.3	9.4	15	37	20	31	.00	.00	.00	.00
8	39	37	7.1	8.6	18	39	20	24	.00	.00	.00	.00
9	39	37	19	8.2	10	40	20	26	.00	.00	.00	.00
10	39	36	14	7.9	9.6	40	18	22	.00	.00	.00	.00
11	39	36	16	7.6	14	39	18	20	.00	.00	.00	.00
12	39	36	22	7.5	21	31	20	16	.00	.00	.00	.00
13	39	34	21	7.5	21	33	20	11	.00	.00	.00	.00
14	40	33	22	7.7	16	35	21	8.9	.00	.00	.00	.00
15	41	20	21	7.7	9.0	34	26	7.6	.00	.00	.00	6.3
16	40	1.4	20	7.5	8.7	31	30	6.9	.00	.00	.00	9.7
17	39	1.4	20	7.6	15	25	31	6.2	.00	.00	.00	.19
18	39	1.4	20	7.7	20	25	31	6.3	.00	.00	.00	.19
19	38	1.4	20	7.7	20	24	31	7.9	.00	.00	.00	.19
20	38	1.4	20	7.7	20	23	28	7.1	.00	.00	.00	.19
21	38	3.7	20	7.5	20	24	24	6.0	.00	.00	.00	.19
22	36	6.3	19	7.5	20	23	21	5.6	.00	.00	.00	.19
23	37	5.4	19	8.7	21	19	19	4.7	.00	.00	.00	5.3
24	38	5.0	19	14	21	16	17	4.2	.00	.00	.00	12
25	38	4.8	19	19	21	12	17	4.0	.00	.00	.00	14
26	39	4.8	19	18	22	11	18	3.8	.00	.00	.00	15
27	39	5.0	20	13	26	14	23	3.5	.00	.00	.00	14
28	39	5.5	20	6.9	27	17	22	3.2	.00	.00	.00	15
29	39	7.1	19	6.6	---	18	21	3.0	.00	.00	.00	15
30	39	8.2	19	6.5	---	20	19	2.9	.00	.00	.00	14
31	38	---	19	9.1	---	20	---	1.5	---	.00	.00	---
TOTAL	1205	600.8	501.0	296.6	458.3	849	666	350.3	0.00	0.00	0.00	121.44
MEAN	38.9	20.0	16.2	9.57	16.4	27.4	22.2	11.3	.000	.000	.000	4.05
MAX	41	39	22	19	27	40	31	31	.00	.00	.00	15
MIN	36	1.4	6.3	6.5	8.7	11	17	1.5	.00	.00	.00	.00
AC-FT	2390	1190	994	588	909	1680	1320	695	.00	.00	.00	241

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

MEAN	20.0	16.5	12.4	12.3	13.2	18.1	20.3	20.0	13.0	15.6	16.9	12.0
MAX	38.9	35.3	35.7	39.6	39.3	39.0	40.5	39.9	36.4	37.1	38.8	36.1
(WY)	1984	1976	1984	1984	1984	1984	1989	1983	1980	1983	1983	1982
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1978	1977	1965	1965	1965	1965	1965	1965	1967	1992	1965	1965

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	7098.37		5048.44			
ANNUAL MEAN	19.4		13.8		15.9	
HIGHEST ANNUAL MEAN					32.2	1983
LOWEST ANNUAL MEAN					3.86	1965
HIGHEST DAILY MEAN	44	Mar 16	41	Oct 15	75	Jan 13 1980
LOWEST DAILY MEAN	.03	Jul 1	.00	Jun 1	.00	Nov 11 1964
ANNUAL SEVEN-DAY MINIMUM	.03	Jul 1	.00	Jun 1	.00	Nov 11 1964
ANNUAL RUNOFF (AC-FT)	14080		10010		11510	
10 PERCENT EXCEEDS	39		38		36	
50 PERCENT EXCEEDS	20		9.4		14	
90 PERCENT EXCEEDS	.03		.00		.00	

C-042307

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA

LOCATION.--Lat 38°56'10", long 121°01'22", in SW 1/4 NW 1/4 sec.31, T.13 N., R.9 E., Placer County, Hydrologic Unit 18020128, on left bank 50 ft upstream from crest of North Fork Dam, 2 mi upstream from Middle Fork, and 4 mi northeast of Auburn.
DRAINAGE AREA.--342 mi^2.

PERIOD OF RECORD.--October 1941 to current year.
CHEMICAL DATA: Water years 1977-80.
WATER TEMPERATURE: Water years 1959-83.
SEDIMENT DATA: Water year 1980 (periodic record).
REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and ogee section of concrete debris dam. Datum of gage is 715.0 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. Minor regulation by Lake Clementine, usable capacity, 12,800 acre-ft, formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir (station 11426170), combined capacity, 10,300 acre-ft upstream from station. Lake Valley Canal (station 11426190) diverts from North Fork of North Fork American River into Bear River basin for power development in powerplants of Pacific Gas & Electric Co. Combined storage and diversion have small effect on natural flow. See schematic diagrams of Bear and lower Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,400 ft^3/s, Dec. 23, 1964, gage height, 11.87 ft, from rating curve extended above 24,000 ft^3/s on basis of computed flow over crest of dam at gage height 10.22 ft; no flow Aug. 27-30, Sept. 2-11, 1944; Oct. 5, 6, 1963; Nov. 7-10, 1965, caused by operation of valve in North Fork Dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 19	0845	*1,280	*1.77				

Minimum daily, 20 ft^3/s, several days in August.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	57	153	96	140	698	581	489	301	55	24	21
2	46	55	92	94	135	697	576	502	261	52	24	29
3	46	55	78	93	132	709	623	526	237	51	23	26
4	45	54	73	97	130	663	644	574	216	49	23	24
5	46	55	75	195	125	789	548	613	203	48	25	23
6	46	55	75	238	136	1100	508	806	197	47	25	23
7	47	54	72	164	400	825	472	932	190	46	24	23
8	46	53	92	136	523	747	438	897	176	47	23	22
9	46	52	610	122	347	709	498	930	165	49	23	25
10	46	53	398	115	297	710	446	1020	154	46	23	23
11	48	55	270	111	531	911	411	967	138	45	23	22
12	48	64	399	107	357	773	423	969	133	44	23	24
13	52	65	226	104	281	653	495	822	127	44	23	29
14	55	59	398	101	244	697	567	748	121	45	23	28
15	70	58	345	101	219	811	660	646	116	44	23	25
16	92	61	212	99	202	848	822	533	109	43	22	27
17	93	56	165	98	394	702	963	471	104	42	21	24
18	72	56	141	98	863	610	1000	433	97	41	21	25
19	67	55	125	100	619	595	1070	448	95	40	21	26
20	66	56	119	103	617	561	1040	431	95	39	21	28
21	66	56	113	105	664	556	889	390	90	39	20	24
22	66	56	108	108	602	575	776	359	86	39	23	26
23	66	62	104	135	492	521	688	352	82	39	23	30
24	66	63	99	219	415	454	586	360	78	38	22	28
25	66	56	98	280	394	420	538	381	75	37	20	26
26	64	52	97	252	447	393	524	375	71	35	21	28
27	61	52	99	212	685	368	508	362	65	35	21	32
28	58	54	108	183	767	433	507	341	63	34	20	28
29	58	83	107	167	---	524	495	312	60	30	20	35
30	62	314	105	153	---	538	486	288	57	28	20	48
31	60	---	101	147	---	631	---	277	---	26	20	---
TOTAL	1816	1976	5257	4333	11158	20221	18782	17554	3962	1297	688	802
MEAN	58.6	65.9	170	140	398	652	626	566	132	41.8	22.2	26.7
MAX	93	314	610	280	863	1100	1070	1020	301	55	25	48
MIN	45	52	72	93	125	368	411	277	57	26	20	21
AC-FT	3600	3920	10430	8590	22130	40110	37250	34820	7860	2570	1360	1590

C-042308

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	109	388	877	1215	1367	1424	1551	1563	755	182	63.7	48.7
MAX	1749	3307	5781	5335	8403	4455	4490	3688	2855	928	214	121
(WY)	1963	1951	1965	1970	1986	1983	1982	1952	1983	1983	1983	1982
MIN	18.3	35.6	33.9	44.6	70.5	114	207	273	71.7	25.8	13.4	14.9
(WY)	1978	1960	1977	1991	1991	1977	1977	1992	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1942 - 1994	
ANNUAL TOTAL	369699		87846			
ANNUAL MEAN	1013		241		792	
HIGHEST ANNUAL MEAN					1843	1982
LOWEST ANNUAL MEAN					88.5	1977
HIGHEST DAILY MEAN	11000	Jan 22	1100	Mar 6	45900	Feb 17 1986
LOWEST DAILY MEAN	40	Sep 28	20	Aug 21	.00	Aug 27 1944
ANNUAL SEVEN-DAY MINIMUM	42	Sep 23	20	Aug 25	.00	Sep 2 1944
INSTANTANEOUS PEAK FLOW			1280	Apr 19	65400	Dec 23 1964
INSTANTANEOUS PEAK STAGE			1.77	Apr 19	11.87	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	733300		174200		573800	
10 PERCENT EXCEEDS	2380		663		1970	
50 PERCENT EXCEEDS	415		99		265	
90 PERCENT EXCEEDS	52		24		40	

C-042309

C-042310
C—042310

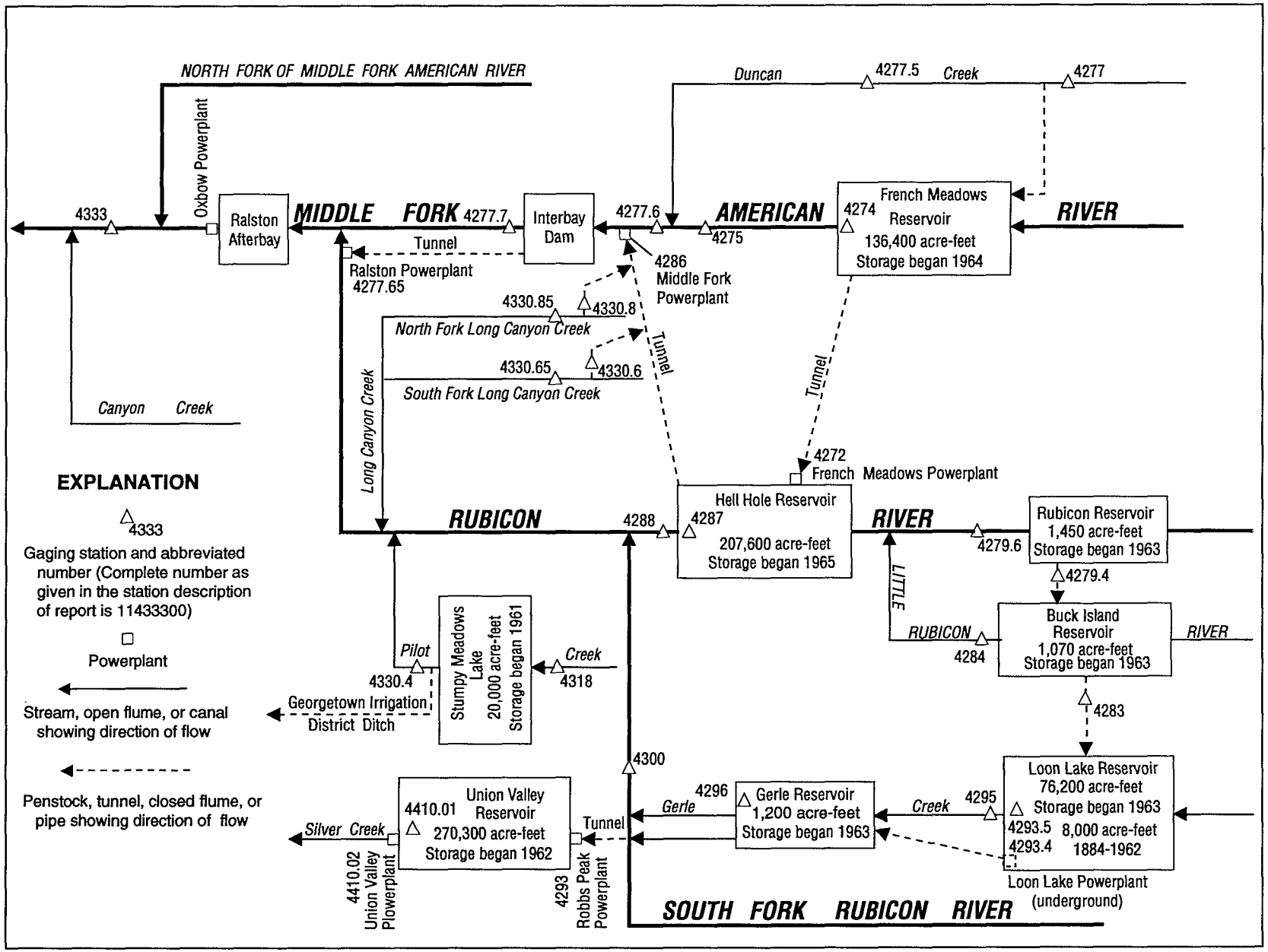

Figure 36. Diversions and storage in Middle Fork American and Rubicon River basins.

11427400 FRENCH MEADOWS RESERVOIR NEAR FORESTHILL, CA

LOCATION.--Lat 39°06'32", long 120°25'49", in SW 1/4 NE 1/4 sec.32, T.15 N., R.14 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 2.2 mi upstream from dam on Middle Fork American River, 6.9 mi upstream from Chipmunk Creek, and 21 mi northeast of Foresthill.

DRAINAGE AREA.--47.0 mi^2.

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Placer County Water Agency).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 21, 1964. Usable capacity, 125,601 acre-ft between elevations 5,125 ft, minimum operating level, and 5,263 ft, top of radial gates. Dead storage, 10,804 acre-ft. Reservoir is used to store water for hydroelectric power. Up to 400 ft^3/s diverted from Duncan Creek through a tunnel to reservoir. Water is released through a tunnel to French Meadows Powerplant (station 11427200) at Hell Hole Reservoir (station 11428700) on the Rubicon River; releases began Dec. 13, 1965. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,700 acre-ft, May 19, 1966, elevation, 5,263.9 ft; minimum since reservoir first filled, 28,500 acre-ft, Oct. 21-24, 1991, elevation, 5,157.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 97,200 acre-ft, June 7, elevation, 5,232.7 ft; minimum, 45,800 acre-ft, Sept. 25-28, 30, elevation 5,181.2 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on a survey by Placer County Water Agency in 1965)

5,125	10,800	5,200	62,400
5,130	13,100	5,230	94,100
5,150	23,700	5,270	146,500
5,170	37,100		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74600	54900	54700	55300	56300	58000	68100	83200	96400	86700	69400	46800
2	73800	54900	54700	55300	56300	58100	68500	83500	96600	86700	68700	46300
3	73100	54800	54700	55300	56300	58300	69100	83900	96800	86700	68000	46300
4	72400	54800	54800	55500	56300	58400	69600	84300	96900	86700	67200	46300
5	71700	54800	54800	55600	56300	58800	70000	84800	97000	86300	66500	46200
6	71000	54800	54800	55700	56400	59100	70500	85600	97100	85600	65800	46200
7	70300	54800	54800	55700	56500	59300	70800	86400	96900	84800	65000	46200
8	69600	54800	54900	55700	56600	59600	71200	86900	96300	84200	64400	46200
9	68800	54700	55100	55700	56600	59900	71500	87700	95700	83500	63600	46100
10	68100	54700	55100	55800	56700	60300	71800	88500	95400	82800	62900	46100
11	67400	54700	55200	55800	56700	60600	72100	89300	95500	82200	62300	46100
12	66700	54700	55200	55800	56700	60800	72500	90100	95500	81500	61500	46100
13	65900	54700	55200	55800	56800	61200	72900	90600	95100	80800	60700	46000
14	65200	54600	55300	55800	56800	61600	73400	91200	94500	80100	60100	46000
15	64700	54600	55300	55800	56800	62200	74000	91700	93800	79400	59300	46000
16	64000	54600	55300	55800	56800	62600	74800	92000	93300	78800	58600	46000
17	63300	54600	55300	55800	57000	62900	75600	92300	92900	78000	57900	46000
18	62600	54500	55300	55900	57100	63300	76400	92700	92900	77300	57100	46000
19	61900	54500	55300	55900	57200	63700	77400	93000	92900	76600	56400	46000
20	61100	54500	55300	55900	57300	64100	78100	93300	92500	75900	55700	45900
21	60500	54500	55300	55900	57400	64500	78900	93500	91900	75300	55000	45900
22	59700	54600	55300	56000	57500	64800	79400	93700	91200	74600	54300	45900
23	59000	54500	55300	56100	57500	65000	79900	94100	90500	73800	53500	45900
24	58300	54500	55300	56100	57500	65300	80400	94400	89800	73200	52800	45900
25	57600	54500	55300	56100	57500	65500	80900	94700	89600	72500	52000	45800
26	56900	54500	55300	56200	57600	65700	81200	95000	89600	71800	51300	45800
27	56100	54500	55300	56200	57800	66000	81500	95200	89200	71100	50500	45800
28	55400	54500	55300	56200	57900	66300	82000	95500	88500	70400	49800	45800
29	55000	54700	55300	56200	---	66700	82300	95700	87800	69900	49000	45900
30	54900	54700	55300	56200	---	67200	82700	95900	87100	69900	48300	45800
31	54900	---	55300	56200	---	67600	---	96200	---	69900	47500	---
MAX	74600	54900	55300	56200	57900	67600	82700	96200	97100	86700	69400	46800
MIN	54900	54500	54700	55300	56300	58000	68100	83200	87100	69900	47500	45800
a	5191.8	5191.6	5192.3	5193.3	5195.1	5205.3	5219.9	5231.8	5223.9	5207.6	5183.3	5181.2
b	-20400	-200	+600	+900	+1700	+9700	+15100	+13000	-9100	-17200	-22400	-1700

CAL YR 1993 b +19200
WTR YR 1994 b -29500

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

C-042311

11427500 MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CA

LOCATION.--Lat 39°06'35", long 120°28'49", in SW 1/4 NW 1/4 sec.36, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 0.6 mi downstream from French Meadows Dam, 4.1 mi upstream from Chipmunk Creek, and 14 mi south of Cisco.

DRAINAGE AREA.--47.9 mi^2.
PERIOD OF RECORD.--October 1951 to current year.
REVISED RECORDS.--WSP 1445: 1953-54. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,920 ft above sea level, from topographic map. Prior to Oct. 1, 1962, at site 0.8 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Considerable regulation by French Meadows Reservoir (station 11427400) 0.6 mi upstream beginning December 1964. Water diverted into basin from Duncan Creek to French Meadows Reservoir since December 1964. Water diverted out of basin from French Meadows Reservoir through French Meadows Powerplant (station 11427200) to Hell Hole Reservoir (station 11428700) since December 1965. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft^3/s, Jan. 31, 1963, gage height, 14.20 ft, from rating curve extended above 1,100 ft^3/s on basis of peak flow at former site; minimum, 0.3 ft^3/s, Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961. Maximum discharge since construction of French Meadows Dam in 1964, 2,870 ft^3/s, Mar. 8, 1986, gage height, 10.4 ft, from floodmarks, from flow over spillway of French Meadows Reservoir; minimum daily, 0.8 ft^3/s, Oct. 22-25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64 ft^3/s, Oct. 4, gage height, 5.69 ft; minimum daily, 4.4 ft^3/s, several days during July.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.9	9.5	9.2	9.5	11	10	10	6.0	4.6	5.2	5.2
2	10	8.9	9.3	9.2	9.3	11	10	9.7	4.7	4.6	5.2	5.2
3	10	8.9	9.2	9.2	9.2	11	10	9.2	4.8	4.6	5.2	5.2
4	12	8.9	9.2	9.9	9.2	11	10	9.2	4.8	4.6	5.2	5.2
5	12	9.1	9.2	9.8	9.2	13	9.9	9.3	4.8	4.6	5.2	5.2
6	12	9.2	9.2	9.5	9.3	12	9.9	9.7	4.8	4.6	5.2	5.2
7	12	9.2	9.2	9.5	9.5	12	9.9	9.9	4.8	4.6	5.2	5.2
8	12	9.2	9.6	9.5	9.5	12	10	9.7	4.8	4.6	5.2	5.2
9	11	9.2	10	9.3	9.5	12	10	9.5	4.8	4.6	5.2	5.2
10	11	9.2	9.5	9.2	9.5	12	10	9.5	4.8	4.5	5.2	5.2
11	11	9.2	9.7	9.2	9.5	12	10	9.5	4.8	4.4	5.2	5.2
12	11	9.2	9.5	9.2	9.5	12	10	9.5	4.8	4.4	5.2	5.2
13	12	9.2	9.5	9.2	9.5	12	10	9.5	4.8	4.4	5.2	5.2
14	11	9.2	9.5	9.2	9.5	12	9.8	9.5	4.8	4.4	5.2	5.2
15	10	9.2	9.5	9.2	9.5	12	9.8	9.5	4.8	4.4	5.2	5.0
16	9.5	9.2	9.5	9.2	9.5	12	9.8	9.5	4.8	4.4	5.2	5.0
17	9.3	9.2	9.5	9.2	11	11	9.8	9.5	4.8	4.4	5.2	5.0
18	8.9	9.2	9.5	9.2	10	11	9.8	9.5	4.8	4.4	5.2	5.0
19	9.2	9.2	9.4	9.2	9.9	11	9.7	9.5	4.8	5.0	5.2	5.0
20	9.0	9.2	9.2	9.2	9.8	11	9.5	9.5	4.8	5.4	5.2	5.0
21	9.1	9.2	9.2	9.2	9.9	11	9.8	9.5	4.8	5.4	5.2	5.0
22	8.7	9.3	9.2	9.2	9.8	11	10	9.5	4.8	5.4	5.1	5.0
23	8.7	9.2	9.0	9.5	9.8	10	10	9.5	4.8	5.4	5.0	5.0
24	8.7	9.2	9.0	9.6	9.9	10	10	9.5	4.8	5.4	5.0	5.2
25	8.7	9.2	9.2	9.5	10	10	10	9.5	4.8	5.4	5.0	5.4
26	8.7	9.2	9.2	9.5	10	10	11	9.5	4.6	5.2	5.0	5.3
27	8.9	9.2	9.2	9.5	11	10	11	9.5	4.6	5.2	5.0	5.2
28	8.9	9.2	9.2	9.3	11	10	11	9.5	4.6	5.2	5.0	5.3
29	8.9	9.5	9.2	9.3	---	10	11	9.5	4.6	5.2	5.0	5.4
30	8.9	9.6	9.2	9.5	---	10	10	9.5	4.6	5.2	5.2	5.2
31	8.9	---	9.2	9.5	---	10	---	9.5	---	5.2	5.2	---
TOTAL	310.0	275.5	289.5	289.9	272.8	345	301.7	295.2	144.1	148.7	159.7	154.8
MEAN	10.0	9.18	9.34	9.35	9.74	11.1	10.1	9.52	4.80	4.83	5.15	5.16
MAX	12	9.6	10	9.9	11	13	11	10	6.0	5.4	5.2	5.4
MIN	8.7	8.9	9.0	9.2	9.2	10	9.5	9.2	4.6	4.4	5.0	5.0
AC-FT	615	546	574	575	541	684	598	586	286	297	317	307
a	20000	0	0	0	0	0	0	0	11200	17170	21050	1130

a Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows Powerplant, provided by Placer County Water Agency.

C-042312

11427500 MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1964, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.8	20.3	101	92.5	143	151	356	550	297	52.4	6.04	2.10
MAX	222	106	882	377	561	367	537	1110	775	232	25.3	5.06
(WY)	1963	1964	1956	1956	1963	1960	1962	1958	1952	1952	1952	1952
MIN	.40	1.60	1.76	5.57	40.1	55.2	187	210	69.7	6.22	1.57	.64
(WY)	1961	1960	1960	1960	1955	1962	1955	1959	1959	1959	1959	1961

SUMMARY STATISTICS	WATER YEARS 1952 - 1964		
ANNUAL MEAN	149		
HIGHEST ANNUAL MEAN	265		1956
LOWEST ANNUAL MEAN	68.7		1961
HIGHEST DAILY MEAN	11300	Dec 23	1955
LOWEST DAILY MEAN	.30	Oct 22	1960
ANNUAL SEVEN-DAY MINIMUM	.34	Oct 19	1960
INSTANTANEOUS PEAK FLOW	21500	Jan 31	1963
INSTANTANEOUS PEAK STAGE	14.20	Jan 31	1963
ANNUAL RUNOFF (AC-FT)	108000		
10 PERCENT EXCEEDS	446		
50 PERCENT EXCEEDS	38		
90 PERCENT EXCEEDS	1.5		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.3	10.5	13.0	13.1	19.0	24.2	25.4	38.7	36.2	14.9	8.26	12.2
MAX	266	42.7	83.3	53.6	200	375	248	518	171	136	15.0	136
(WY)	1966	1966	1965	1984	1982	1986	1965	1965	1983	1983	1965	1965
MIN	1.67	3.16	3.91	4.37	4.52	4.40	4.47	3.95	3.68	2.98	2.76	2.70
(WY)	1965	1978	1977	1977	1977	1977	1977	1976	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994		
ANNUAL TOTAL	4143.7		2987.9				
ANNUAL MEAN	11.4		8.19		19.3		
HIGHEST ANNUAL MEAN					97.3		1965
LOWEST ANNUAL MEAN					3.90		1977
HIGHEST DAILY MEAN	42	Mar 17	13	Mar 5	2380	Mar 8	1986
LOWEST DAILY MEAN	8.7	Oct 22	4.4	Jul 11	.80	Oct 22	1964
ANNUAL SEVEN-DAY MINIMUM	8.8	Oct 22	4.4	Jul 11	.84	Oct 21	1964
INSTANTANEOUS PEAK FLOW			64	Oct 4	2870	Mar 8	1986
INSTANTANEOUS PEAK STAGE			5.69	Oct 4	10.40	Mar 8	1986
ANNUAL RUNOFF (AC-FT)	8220		5930		13980		
10 PERCENT EXCEEDS	14		11		15		
50 PERCENT EXCEEDS	10		9.2		9.4		
90 PERCENT EXCEEDS	9.2		4.8		5.5		

11427700 DUNCAN CREEK NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°08'09", long 120°28'39", in NE 1/4 NW 1/4 sec.24, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 0.2 mi upstream from diversion dam, 0.5 mi downstream from Little Duncan Creek, 2 mi northwest of French Meadows, and 20 mi northeast of Foresthill.

DRAINAGE AREA.--9.94 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 5,270 ft above sea level, from topographic map. Prior to Sept. 3, 1965, at site 150 ft upstream at datum 9.56 ft higher.

REMARKS.--No regulation or diversion upstream from station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft^3/s, Dec. 22, 1964, gage height, 10.6 ft, from floodmarks, from rating curve extended above 400 ft^3/s on basis of computation of flow over diversion dam; minimum daily, 0.10 ft^3/s, several days during July and August 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 27	0330	*168	*6.92				

Minimum daily, 0.30 ft^3/s, Aug. 31, Sept. 1, 7-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	1.0	3.5	3.5	e5.3	16	43	42	13	1.9	.53	.30
2	.75	1.0	3.3	3.5	e5.1	18	46	44	12	1.8	.51	.31
3	.73	.95	3.2	4.0	e5.0	18	51	49	11	1.8	.49	.31
4	.75	.95	3.6	15	4.6	18	47	54	9.6	1.8	.47	.31
5	.96	.95	3.0	17	4.7	36	43	57	9.0	1.6	.46	.31
6	1.1	.95	2.6	e7.8	4.5	30	40	84	8.7	1.5	.44	.31
7	.98	.96	2.4	e6.4	e5.1	27	36	77	8.0	1.4	.42	.30
8	.89	.97	3.5	5.3	4.8	28	34	75	7.3	1.3	.41	.30
9	.95	.97	22	5.2	5.2	29	31	90	6.8	1.2	.41	.30
10	.99	.98	10	e4.7	e5.3	32	29	91	6.2	1.1	.41	.32
11	1.1	1.1	e6.4	e4.4	e5.3	35	31	94	5.7	1.1	.40	.35
12	1.2	1.6	e5.3	e4.4	e5.3	30	35	82	5.3	1.1	.39	.45
13	1.0	1.3	4.5	e4.6	e5.5	33	41	71	5.0	1.0	.38	.55
14	1.4	1.2	e5.1	4.7	e5.5	43	49	60	4.7	.97	.36	.52
15	5.9	1.2	e4.3	4.6	5.6	50	64	49	4.5	.93	.34	.45
16	4.3	1.2	e3.7	4.9	5.4	45	81	41	4.3	.90	.33	.41
17	2.2	1.2	e3.7	5.2	e5.5	37	89	35	4.1	.85	.32	.39
18	1.7	1.2	e3.6	5.6	e5.5	38	98	33	3.9	.82	.32	.38
19	1.5	1.2	e3.7	5.8	e5.5	37	102	32	3.8	.79	.32	.37
20	1.4	1.2	3.9	5.8	e5.5	35	94	29	3.5	.77	.32	.36
21	1.3	1.2	4.2	5.7	5.6	38	82	27	3.3	.75	.32	.36
22	1.3	1.5	4.3	5.4	5.6	35	71	26	3.1	.75	.32	.35
23	1.2	1.6	4.3	6.2	5.6	28	59	25	2.9	.73	.32	.35
24	1.2	e1.4	4.1	e5.3	6.1	24	48	25	2.8	.70	.33	.41
25	1.2	e1.4	4.3	e5.3	8.6	22	42	26	2.7	.67	.33	.54
26	1.1	e1.4	4.1	e5.3	16	22	40	24	2.5	.65	.32	.52
27	1.1	1.5	4.1	e5.3	69	27	41	21	2.4	.61	.31	.48
28	1.0	2.3	3.8	e5.2	17	32	40	19	2.3	.60	.31	.82
29	1.0	7.0	3.6	e5.1	---	35	40	17	2.1	.57	.31	2.0
30	1.0	6.0	3.8	e5.4	---	41	40	15	2.0	.56	.31	.94
31	1.0	---	3.8	e5.4	---	43	---	15	---	.54	.30	---
TOTAL	42.96	47.38	145.7	182.0	237.7	982	1587	1429	162.5	31.76	11.51	14.07
MEAN	1.39	1.58	4.70	5.87	8.49	31.7	52.9	46.1	5.42	1.02	.37	.47
MAX	5.9	7.0	22	17	69	50	102	94	13	1.9	.53	2.0
MIN	.73	.95	2.4	3.5	4.5	16	29	15	2.0	.54	.30	.30
AC-FT	85	94	289	361	471	1950	3150	2830	322	63	23	28

e Estimated.

C-042314

11427700 DUNCAN CREEK NEAR FRENCH MEADOWS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.43	18.8	31.7	38.6	38.4	47.6	73.4	113	54.4	8.46	1.54	1.09
MAX	51.1	172	256	193	291	161	162	245	316	100	10.4	4.51
(WY)	1963	1984	1965	1970	1986	1986	1989	1993	1983	1983	1983	1982
MIN	.22	1.09	.76	1.76	3.24	5.75	12.7	12.9	2.71	.51	.19	.34
(WY)	1978	1977	1977	1991	1977	1977	1977	1992	1992	1977	1977	1960

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1960 - 1994	
ANNUAL TOTAL	20192.04		4873.58			
ANNUAL MEAN	55.3		13.4		35.8	
HIGHEST ANNUAL MEAN					86.8	1982
LOWEST ANNUAL MEAN					4.27	1977
HIGHEST DAILY MEAN	422	Mar 17	102	Apr 19	2300	Dec 22 1964
LOWEST DAILY MEAN	.73	Oct 3	.30	Aug 31	.10	Jul 31 1977
ANNUAL SEVEN-DAY MINIMUM	.76	Sep 28	.31	Sep 3	.11	Aug 8 1977
INSTANTANEOUS PEAK FLOW			168	Feb 27	3650	Dec 22 1964
INSTANTANEOUS PEAK STAGE			6.92	Feb 27	10.60	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	40050		9670		25920	
10 PERCENT EXCEEDS	201		42		98	
50 PERCENT EXCEEDS	12		4.1		8.7	
90 PERCENT EXCEEDS	1.0		.39		.70	

C-042315

11427750 DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°07'59", long 120°28'58", in NE 1/4 SE 1/4 sec.23, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 800 ft downstream from unnamed right bank tributary, 1,000 ft downstream from Duncan Creek Diversion Dam, and 20 mi northeast of Foresthill.

DRAINAGE AREA.--10.5 mi^2.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,210 ft above sea level, from topographic map.

REMARKS.--Natural flow affected by transmountain diversion through Duncan Creek Diversion Tunnel to French Meadows Reservoir (station 11427400). Maximum design flow of tunnel is 400 ft^3/s. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft^3/s, Dec. 22, 1964, gage height, 8.74 ft, in gage well, 10.0 ft, from floodmarks, from rating curve extended above 400 ft^3/s on basis of computation of peak flow over diversion dam; no flow at times in 1965-66.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17 ft^3/s, Mar. 5, gage height, 1.78; maximum gage height, 1.87 ft, Feb. 18 (backwater from ice jam); minimum daily, 0.32 ft^3/s, on several days during August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	1.1	3.5	3.7	5.3	12	10	11	7.0	1.9	.54	.32
2	.80	1.1	3.3	3.6	5.1	13	10	10	4.6	1.8	.54	.32
3	.75	1.1	3.0	4.0	5.0	13	10	9.6	4.6	1.7	.53	.32
4	.75	1.1	3.5	7.4	4.9	13	10	9.6	4.4	1.7	.52	.32
5	.94	1.1	2.9	11	4.8	16	9.9	9.7	4.4	1.6	.51	.32
6	1.2	1.1	2.5	8.6	4.8	15	9.7	10	4.4	1.5	.48	.32
7	1.1	1.1	2.2	6.6	e5.2	15	9.6	10	4.5	1.4	.46	.32
8	1.1	1.1	2.4	5.7	5.2	15	9.6	10	4.6	1.3	.43	.32
9	1.1	1.1	10	5.1	5.2	12	9.6	10	4.6	1.2	.44	.32
10	1.1	1.1	9.6	4.7	e5.5	11	9.6	9.7	4.6	1.2	.43	.34
11	1.1	1.1	e6.8	4.4	e5.3	11	9.7	9.7	4.5	1.1	.42	.36
12	1.3	1.6	e5.5	4.4	e5.3	10	10	9.9	4.4	1.1	.42	.46
13	1.2	1.5	4.6	4.6	5.6	10	9.9	9.7	4.4	1.1	.40	.55
14	1.4	1.2	5.4	4.7	5.8	11	9.9	9.6	4.4	1.0	.37	.55
15	6.1	1.2	4.4	4.7	5.8	11	9.8	9.6	4.4	.96	.36	.53
16	4.9	1.2	3.9	5.0	e5.5	11	9.8	9.3	4.9	.94	.36	.45
17	2.3	1.2	3.8	5.4	e5.5	9.8	9.7	9.3	4.2	.92	.36	.44
18	1.8	1.2	3.7	5.9	e5.5	9.3	9.6	9.2	4.0	.86	.36	.40
19	1.6	1.2	3.7	6.0	e5.5	9.0	9.6	9.3	3.8	.81	.36	.40
20	1.5	1.2	3.8	6.1	e5.5	9.3	9.4	9.8	3.5	.81	.36	.40
21	1.4	1.6	4.0	5.9	e5.6	10	9.4	10	3.3	.81	.36	.36
22	1.4	1.5	4.1	5.7	e5.7	9.7	9.6	10	3.2	.81	.36	.36
23	1.3	1.6	4.2	6.5	e5.7	9.4	9.6	10	3.1	.75	.36	.36
24	1.3	1.4	3.9	e5.7	6.4	9.1	9.6	9.9	2.9	.74	.36	.40
25	1.3	1.4	4.2	e5.5	8.2	9.1	9.6	10	2.7	.69	.36	.53
26	1.2	1.4	4.2	5.6	11	9.5	9.5	9.9	2.6	.68	.36	.53
27	1.1	1.5	4.2	5.4	12	10	10	9.9	2.4	.63	.32	.46
28	1.1	2.1	3.9	5.2	12	10	11	9.9	2.3	.60	.32	.70
29	1.1	5.9	3.7	5.1	---	10	11	9.9	2.1	.59	.32	2.0
30	1.1	6.8	3.9	5.4	---	10	11	9.9	2.0	.58	.32	.85
31	1.1	---	3.9	5.4	---	10	---	9.9	---	.55	.32	---
TOTAL	46.25	48.8	132.7	173.0	172.9	343.2	295.7	304.3	116.8	32.33	12.41	14.41
MEAN	1.49	1.63	4.28	5.58	6.17	11.1	9.86	9.82	3.89	1.04	.40	.48
MAX	6.1	6.8	10	11	12	16	11	11	7.0	1.9	.54	2.0
MIN	.75	1.1	2.2	3.6	4.8	9.0	9.4	9.2	2.0	.55	.32	.32
AC-FT	92	97	263	343	343	681	587	604	232	64	25	29

e Estimated.

C-042316

11427750 DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.24	9.20	20.4	24.4	21.7	18.4	15.4	26.5	9.81	3.60	1.32	1.04
MAX	17.3	76.1	244	163	237	80.3	91.7	149	53.1	21.9	5.87	3.61
(WY)	1983	1982	1965	1970	1986	1986	1982	1967	1983	1983	1983	1983
MIN	.061	1.15	.76	1.69	2.02	2.63	4.80	3.88	2.15	.44	.28	.090
(WY)	1966	1991	1977	1991	1974	1965	1974	1976	1965	1965	1977	1965

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	3366.31		1692.80			
ANNUAL MEAN	9.22		4.64		12.8	
HIGHEST ANNUAL MEAN					43.1	1982
LOWEST ANNUAL MEAN					2.16	1977
HIGHEST DAILY MEAN	228	Mar 17	16	Mar 5	2160	Dec 22 1964
LOWEST DAILY MEAN	.75	Oct 3	.32	Aug 27	.00	Sep 10 1965
ANNUAL SEVEN-DAY MINIMUM	.80	Sep 28	.32	Aug 27	.00	Sep 10 1965
INSTANTANEOUS PEAK FLOW			17	Mar 5	3640	Dec 22 1964
INSTANTANEOUS PEAK STAGE			1.87	Feb 18	8.74	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	6680		3360		9280	
10 PERCENT EXCEEDS	16		10		15	
50 PERCENT EXCEEDS	9.3		4.0		5.1	
90 PERCENT EXCEEDS	1.1		.40		.68	

C-042317

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'31", long 120°35'40", in NW 1/4 NW 1/4 sec.36, T.14 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 300 ft upstream from Middle Fork Powerplant, 3.7 mi upstream from Big Mosquito Creek, and 11 mi east of Foresthill.

DRAINAGE AREA.--87.8 mi^2.

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,540 ft above sea level, from topographic map. Prior to May 15, 1980, at datum 5.00 ft higher. May 15, 1980, to Oct. 11, 1984, at datum 4.00 ft higher.

REMARKS.--No estimated daily discharges. Considerable regulation by French Meadows Reservoir (station 11427400) 11 mi upstream. Transbasin diversions from French Meadows Reservoir to Hell Hole Reservoir (station 11428700) through French Meadows Powerplant (station 11427200). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft^3/s, Jan. 13, 1980, gage height, 8.47 ft, datum then in use, from rating curve extended above 2,500 ft^3/s; minimum daily, 5.3 ft^3/s, Sept. 11, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 143 ft^3/s, Mar. 5, gage height, 5.54 ft; minimum daily, 9.2 ft^3/s, many days during August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	26	24	26	87	66	54	34	14	10	9.2
2	19	17	22	24	26	90	66	51	24	13	10	9.2
3	19	17	21	24	27	95	69	47	23	13	10	9.2
4	19	17	21	34	25	92	70	46	22	13	10	9.2
5	20	17	21	63	25	121	65	46	22	13	10	9.2
6	21	17	21	42	26	121	63	53	22	13	9.9	9.2
7	21	17	20	34	43	110	62	62	22	12	9.9	9.4
8	20	17	26	31	42	105	64	58	21	12	9.7	9.4
9	20	17	67	28	35	103	71	55	21	12	9.7	9.4
10	20	17	42	26	47	100	65	50	20	12	9.7	9.4
11	20	17	45	26	45	113	62	48	20	11	9.7	9.4
12	20	21	38	25	37	101	61	46	19	11	9.4	9.9
13	20	19	30	25	35	96	61	45	19	11	9.4	11
14	22	18	42	24	33	103	60	43	19	11	9.4	10
15	33	18	31	24	33	109	60	42	19	11	9.2	10
16	34	18	26	24	32	108	60	43	19	11	9.2	10
17	24	18	25	25	70	98	60	44	19	11	9.2	9.9
18	21	18	24	25	59	91	58	46	18	10	9.2	9.8
19	19	18	23	25	49	90	57	49	18	10	9.2	9.7
20	19	18	23	25	51	84	55	45	17	11	9.2	9.7
21	18	18	23	25	48	83	52	43	17	11	9.2	9.7
22	18	19	23	25	46	83	52	42	17	11	9.2	9.7
23	18	21	23	35	45	79	52	41	16	11	9.2	9.7
24	17	19	23	42	45	73	53	39	16	11	9.2	9.7
25	17	18	23	35	49	71	59	38	15	11	9.2	11
26	17	18	23	33	61	68	57	38	15	11	9.2	10
27	17	18	27	29	91	67	59	37	15	11	9.2	10
28	17	19	26	28	88	68	58	36	15	10	9.2	11
29	17	30	25	27	---	68	57	36	14	10	9.2	13
30	17	50	24	27	---	68	55	35	14	10	9.2	12
31	17	---	24	26	---	69	---	37	---	10	9.2	---
TOTAL	620	583	858	910	1239	2814	1809	1395	572	352	293.2	298.0
MEAN	20.0	19.4	27.7	29.4	44.2	90.8	60.3	45.0	19.1	11.4	9.46	9.93
MAX	34	50	67	63	91	121	71	62	34	14	10	13
MIN	17	17	20	24	25	67	52	35	14	10	9.2	9.2
AC-FT	1230	1160	1700	1800	2460	5580	3590	2770	1130	698	582	591

C-042318

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.2	49.7	83.0	154	157	200	173	150	83.7	33.4	18.8	17.0
MAX	270	262	413	680	969	696	601	600	356	184	33.2	29.5
(WY)	1966	1984	1982	1970	1986	1986	1982	1982	1983	1983	1983	1982
MIN	7.43	12.9	12.2	15.7	18.4	21.7	19.3	21.5	15.4	8.64	6.35	6.59
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	42254		11743.2			
ANNUAL MEAN	116		32.2		95.6	
HIGHEST ANNUAL MEAN					271	1982
LOWEST ANNUAL MEAN					14.3	1977
HIGHEST DAILY MEAN	910	Mar 17	121	Mar 5	5290	Jan 13 1980
LOWEST DAILY MEAN	17	Oct 24	9.2	Aug 15	5.3	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	17	Oct 24	9.2	Aug 15	5.5	Sep 8 1977
INSTANTANEOUS PEAK FLOW			143	Mar 5	9860	Jan 13 1980
INSTANTANEOUS PEAK STAGE			5.54	Mar 5	8.47	Jan 13 1980
ANNUAL RUNOFF (AC-FT)	83810		23290		69230	
10 PERCENT EXCEEDS	276		67		227	
50 PERCENT EXCEEDS	49		23		36	
90 PERCENT EXCEEDS	18		9.7		15	

C-042319

11427770 MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'35", long 120°36'09", in SW 1/4 SE 1/4 sec.26, T.14 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 500 ft downstream from Interbay Dam, 3.3 mi upstream from Big Mosquito Creek, and 10.6 mi east of Foresthill.

DRAINAGE AREA.--89.1 mi^2.

PERIOD OF RECORD.--October 1965 to current year (since October 1985, operated as low-flow station only).

GAGE.--Acoustic-velocity meter system. Elevation of gage is 2,470 ft above sea level, from topographic map. Prior to February 1986, water-stage recorder at same site. March 1986 to September 1987, nonrecording gage and V-notch sharp-crested weir at same site and datum as previous gage.

REMARKS.--No estimated daily discharges. Flow regulated by French Meadows Reservoir (station 11427400) and after Aug. 22, 1966, by Interbay Reservoir (usable capacity, 130 acre-ft between normal operating limits) 500 ft upstream. Water is diverted out of the basin from French Meadows Reservoir to Hell Hole Reservoir (station 11428700) and from Interbay Reservoir to Ralston Powerplant (station 11427765). Water is diverted into the basin from Hell Hole Reservoir to Middle Fork Powerplant (station 11428600) and through South Fork and Middle Fork Long Canyon Creek Diversion Tunnels (stations 11433060 and 11433080). See schematic diagram of Middle Fork American and Rubicon River basins. Beginning October 1985, only flows less than 35 ft^3/s are computed.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1966-85), 9,900 ft^3/s, Jan. 13, 1980, gage height, 7.95 ft; minimum daily, 1.0 ft^3/s, Oct. 25-30, 1966, Jan. 19, 1967.

EXTREMES FOR CURRENT YEAR.--Minimum daily, 11 ft^3/s, several days during September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	24	24	24	24	24	24	24	23	13	13	12
2	29	24	24	24	24	24	24	24	13	13	13	12
3	26	24	24	24	24	23	24	24	13	13	13	12
4	24	24	24	---	24	24	24	24	13	13	13	12
5	23	24	23	---	24	24	24	24	13	13	13	12
6	23	24	24	---	24	24	24	24	13	13	13	12
7	24	24	24	---	24	23	24	24	13	13	13	12
8	24	24	24	24	24	23	24	24	13	13	13	12
9	24	24	24	24	24	24	24	24	13	13	13	12
10	24	24	24	24	24	24	24	24	13	13	13	12
11	24	24	24	24	24	24	24	24	13	13	13	12
12	24	24	24	24	24	23	24	24	13	13	12	12
13	24	24	24	24	24	23	24	24	13	13	12	12
14	24	23	24	24	24	24	24	24	13	13	12	12
15	24	24	24	24	24	24	24	23	13	13	12	12
16	24	24	24	24	24	24	24	24	13	13	12	12
17	24	24	24	24	24	23	24	24	13	13	12	12
18	24	24	24	24	24	24	24	23	13	13	12	12
19	24	24	24	24	24	24	24	23	13	13	12	11
20	24	24	24	24	24	24	24	24	13	13	12	11
21	24	24	24	24	24	24	24	24	13	13	12	11
22	24	24	24	23	24	24	24	23	13	13	12	11
23	24	24	24	24	24	24	24	23	13	13	12	11
24	24	24	24	24	24	24	24	24	13	13	12	11
25	24	24	24	24	24	24	24	23	13	13	12	12
26	24	24	24	24	24	24	24	24	13	13	12	12
27	24	24	24	24	24	24	24	23	13	13	12	11
28	24	24	24	24	24	24	24	24	13	13	12	11
29	24	24	24	24	---	24	24	23	13	13	12	13
30	24	24	24	24	---	24	24	24	13	13	12	12
31	24	---	24	24	---	24	---	24	---	13	12	---
TOTAL	749	719	743	---	672	738	720	736	400	403	383	353
MEAN	24.2	24.0	24.0	---	24.0	23.8	24.0	23.7	13.3	13.0	12.4	11.8
MAX	29	24	24	---	24	24	24	24	23	13	13	13
MIN	23	23	23	---	24	23	24	23	13	13	12	11
AC-FT	1490	1430	1470	---	1330	1460	1430	1460	793	799	760	700
a	29100	18130	16930	10180	2980	3210	1720	5070	31110	28030	28310	6600

a Diversion, in acre-feet, through Ralston Powerplant, provided by Placer County Water Agency.

C-042320

11427770 MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1985, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.5	27.4	73.8	93.7	86.6	101	117	118	78.2	29.4	18.8	18.3
MAX	270	140	548	398	928	508	868	857	313	152	23.7	24.7
(WY)	1966	1984	1984	1980	1982	1983	1982	1982	1967	1983	1983	1983
MIN	5.84	6.38	6.22	6.15	9.32	7.61	11.6	11.1	11.3	7.52	5.86	5.68
(WY)	1978	1968	1968	1968	1968	1968	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	WATER YEARS 1966 - 1985	
ANNUAL MEAN	66.0	
HIGHEST ANNUAL MEAN	347	1982
LOWEST ANNUAL MEAN	10.0	1968
HIGHEST DAILY MEAN	8090	Feb 16 1982
LOWEST DAILY MEAN	1.0	Oct 25 1966
ANNUAL SEVEN-DAY MINIMUM	1.3	Oct 25 1966
INSTANTANEOUS PEAK FLOW	9900	Jan 13 1980
INSTANTANEOUS PEAK STAGE	7.95	Jan 13 1980
ANNUAL RUNOFF (AC-FT)	47810	
10 PERCENT EXCEEDS	141	
50 PERCENT EXCEEDS	22	
90 PERCENT EXCEEDS	11	

C-042321

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'16", long 120°13'29", in NE 1/4 SE 1/4 sec.8, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank at tunnel intake 100 ft upstream from diversion dam on Rubicon River, 3.5 mi upstream from Rubicon Springs, and 6.4 mi southwest of Meeks Bay.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,533.23 ft above sea level (levels by Sacramento Municipal Utility District). Auxiliary water-stage recorder since Aug. 26, 1966, 220 ft downstream from tunnel outlet at different datum.

REMARKS.--No estimated daily discharges. Tunnel diverts water from Rubicon River to Rockbound Lake which flows into Buck Island Lake. Water is then diverted via Buck-Loon tunnel (station 11428300) to Loon Lake (station 11429350) for power development. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.00	.00	1.3	3.2	20	134	109	218	8.0	.03	.02
2	.02	.00	.00	1.2	2.6	23	136	128	178	6.6	.03	.02
3	.02	.00	.00	1.1	2.3	28	159	162	169	5.5	.03	.02
4	.02	.00	.00	3.7	2.0	30	125	199	136	4.8	.03	.02
5	.02	.00	.00	34	1.7	35	93	238	124	4.3	.03	.02
6	.02	.00	.00	28	1.5	44	90	293	115	3.2	.03	.02
7	.02	.00	.00	17	1.4	40	70	236	86	1.8	.03	.02
8	.02	.00	.00	11	1.8	37	60	190	74	1.4	.03	.02
9	.02	.00	.00	6.3	2.4	40	53	272	81	.87	.03	.02
10	.02	.00	.00	4.6	2.9	46	45	359	93	.55	.03	.02
11	.02	.00	.00	3.2	3.3	46	43	398	104	.21	.03	.02
12	43	.00	.00	2.0	3.9	40	62	424	98	.05	.03	.02
13	38	.00	.00	1.6	4.4	36	112	340	84	.03	.03	.02
14	12	.00	.00	1.4	4.5	44	160	309	46	.03	.03	.02
15	20	.00	.00	1.3	4.7	72	211	275	.03	.03	.02	.01
16	44	.00	.00	1.3	4.8	90	276	158	.03	.03	.02	.01
17	28	.00	.00	1.4	5.0	79	343	102	.35	.03	.02	.01
18	18	.00	.00	2.2	5.4	67	365	85	9.1	.03	.02	.01
19	13	.00	.00	3.8	6.5	60	395	91	21	.03	.02	.01
20	11	.00	.00	5.2	7.3	55	379	87	26	.03	.02	.01
21	11	.00	.00	6.1	7.4	66	320	87	28	.03	.02	.01
22	10	.00	.23	6.0	7.4	68	243	104	26	.03	.02	.01
23	10	.00	.57	6.7	7.4	52	187	137	24	.03	.02	.01
24	9.7	.00	.62	8.9	7.9	40	122	167	22	.03	.02	.01
25	8.7	.00	.66	8.9	9.7	33	91	208	18	.03	.02	.01
26	5.4	.00	.74	7.6	14	30	85	208	15	.03	.02	.01
27	3.0	.00	.90	6.8	18	36	90	237	13	.03	.02	.01
28	1.9	.00	1.1	6.0	19	60	86	216	11	.03	.02	.01
29	1.2	.00	1.3	5.1	---	95	98	186	11	.03	.02	.01
30	.60	.00	1.3	4.6	---	115	107	197	9.7	.03	.02	.01
31	.02	---	1.3	4.1	---	143	---	219	---	.03	.02	---
TOTAL	288.74	0.00	8.72	202.4	162.4	1670	4740	6421	1840.21	37.85	0.76	0.44
MEAN	9.31	.000	.28	6.53	5.80	53.9	158	207	61.3	1.22	.025	.015
MAX	44	.00	1.3	34	19	143	395	424	218	8.0	.03	.02
MIN	.02	.00	.00	1.1	1.4	20	43	85	.03	.03	.02	.01
AC-FT	573	.00	17	401	322	3310	9400	12740	3650	75	1.5	.9

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.1	50.7	42.3	44.6	39.9	62.2	152	353	302	99.6	15.7	11.2
MAX	149	277	204	222	187	196	295	655	789	519	168	91.0
(WY)	1983	1984	1965	1970	1986	1986	1989	1969	1983	1983	1983	1982
MIN	.000	.000	.000	.000	3.44	13.5	24.6	110	33.8	.77	.000	.000
(WY)	1964	1964	1977	1977	1991	1977	1975	1977	1976	1976	1964	1964

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1964 - 1994	
ANNUAL TOTAL	44720.76		15372.52			
ANNUAL MEAN	123		42.1		99.4	
HIGHEST ANNUAL MEAN					197	1982
LOWEST ANNUAL MEAN					30.5	1977
HIGHEST DAILY MEAN	808	May 20	424	May 12	1120	Dec 23 1964
LOWEST DAILY MEAN	.00	Nov 1	.00	Nov 1	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 1	.00	Nov 1	.00	Oct 1 1963
ANNUAL RUNOFF (AC-FT)	88700		30490		72010	
10 PERCENT EXCEEDS	419		149		322	
50 PERCENT EXCEEDS	25		2.6		25	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042323

11427960 RUBICON RIVER BELOW RUBICON DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'20", long 120°13'20", in NW 1/4 SW 1/4 sec.9, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, at outlet structure on diversion dam on Rubicon River, 3.3 mi upstream from Rubicon Springs, and 6.2 mi southwest of Meeks Bay.

PERIOD OF RECORD.--October 1991 to current year (low-flow records only). Unpublished records for water years 1964-91 available in files of the U.S. Geological Survey.

GAGE.--Differential-pressure gage and orifice control in outlet pipes. Auxiliary nonrecording gage 1,300 ft downstream at different datum. Datum of gage is 6,520 ft above sea level, from topographic map. Prior to Sept. 4, 1991, nonrecording gage at site 1,300 ft downstream at different datum.

REMARKS.--Records not computed above 10 ft^3/s. Flow regulated by Rubicon Reservoir. Flow over the spillway bypasses this station. Most of the water is diverted through Rubicon-Rockbound Tunnel (station 11427940) to Rockbound Lake, which flows into Buck Island Lake. Water is then diverted via Buck-Loon Tunnel (station 11428300) to Loon Lake (station 11429350) for power development. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	6.3	4.5	e6.4	6.5	6.6	6.3	e6.8	e6.7	6.6	1.8	.98
2	2.2	6.2	4.6	e6.4	6.4	6.7	6.3	e6.8	e6.5	6.6	1.8	.97
3	2.2	6.2	4.7	e6.4	6.4	6.7	6.4	e6.9	e6.5	6.6	1.8	.96
4	2.2	6.1	4.8	e6.5	6.4	6.7	6.2	e7.0	e6.4	6.6	1.8	.95
5	2.2	6.1	4.8	e6.7	6.4	6.8	6.1	e7.2	e6.4	6.5	1.8	.94
6	2.2	6.0	4.8	e6.6	6.4	6.8	6.1	e7.3	e6.3	6.4	1.8	.94
7	2.2	6.0	4.8	e6.5	6.4	6.8	6.2	e7.2	e6.4	6.4	1.8	.93
8	2.2	5.9	e4.7	e6.4	6.4	6.8	6.5	e7.0	6.6	6.4	1.8	.92
9	2.2	5.8	e4.9	e6.4	6.4	6.8	6.5	e7.3	6.6	6.4	1.6	.92
10	2.2	5.8	e5.4	e6.4	6.5	6.8	6.4	e7.5	6.7	6.4	1.2	.91
11	2.2	5.7	e5.7	e6.2	6.5	6.8	6.4	e7.2	6.7	6.4	1.2	.90
12	4.3	5.6	e5.9	e6.2	6.5	6.7	6.6	6.9	6.7	6.3	1.2	.90
13	6.8	5.6	e6.0	e6.0	6.5	6.7	6.9	e6.8	6.6	5.6	1.2	.88
14	6.5	5.5	e6.0	e6.0	6.5	6.9	7.1	e6.7	6.2	4.5	1.2	.87
15	6.6	5.4	e6.1	e6.0	6.5	7.0	7.3	e6.6	6.1	4.4	1.2	.87
16	6.8	5.3	e6.2	e6.0	6.5	7.1	7.5	e6.3	6.3	4.4	1.2	.86
17	6.7	5.2	e6.2	e6.0	6.5	7.0	7.7	e6.1	6.5	4.4	1.2	.86
18	6.6	5.1	e6.3	e6.2	6.5	6.9	7.8	e6.0	6.6	4.4	1.2	.85
19	6.5	5.0	e6.3	6.4	6.5	6.9	7.9	e6.0	6.6	4.3	1.2	.84
20	6.5	4.8	e6.3	6.5	6.6	6.9	7.8	e6.0	6.7	4.3	1.2	.82
21	6.5	4.7	e6.3	6.5	6.6	7.0	7.7	e6.2	6.7	4.3	1.2	.82
22	6.5	4.5	e6.3	6.5	6.5	6.9	7.4	6.5	6.7	4.3	1.2	.82
23	6.5	4.3	e6.4	6.5	6.5	6.8	7.2	6.6	6.7	4.3	1.1	.83
24	6.5	4.1	e6.4	6.5	6.5	6.7	6.9	e6.8	6.7	4.2	1.0	.79
25	6.5	3.8	e6.4	6.5	6.6	6.7	e6.7	e6.9	6.6	4.2	1.0	.79
26	6.4	3.3	e6.4	6.5	6.6	6.7	e6.7	e6.8	6.6	2.9	1.0	.82
27	6.4	2.7	e6.4	6.5	6.6	6.7	e6.7	6.7	6.6	1.8	1.0	.81
28	6.4	3.0	e6.4	6.5	6.6	6.9	e6.7	e6.7	6.6	1.8	.99	.80
29	6.4	3.6	e6.4	6.5	---	7.1	e6.8	e6.6	6.6	1.8	.99	1.1
30	6.3	4.3	e6.3	6.5	---	7.2	e6.8	e6.6	6.6	1.8	.99	1.4
31	6.3	---	e6.4	6.5	---	6.9	---	e6.7	---	1.8	.98	---
TOTAL	152.2	151.9	179.1	197.7	181.8	212.0	205.6	208.7	196.5	147.1	40.65	27.05
MEAN	4.91	5.06	5.78	6.38	6.49	6.84	6.85	6.73	6.55	4.75	1.31	.90
MAX	6.8	6.3	6.4	6.7	6.6	7.2	7.9	7.5	6.7	6.6	1.8	1.4
MIN	2.2	2.7	4.5	6.0	6.4	6.6	6.1	6.0	6.1	1.8	.98	.79
AC-FT	302	301	355	392	361	421	408	414	390	292	81	54

CAL YR 1993 TOTAL 2303.8 MEAN 6.31 MAX 7.9 MIN 2.2 AC-FT 4570
WTR YR 1994 TOTAL 1900.30 MEAN 5.21 MAX 7.9 MIN .79 AC-FT 3770

e Estimated.

C-042324

11428300 BUCK-LOON TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'17", long 120°15'21", in SE 1/4 NW 1/4 sec.6, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank at tunnel intake near left abutment of diversion dam, 7.4 mi southwest of Meeks Bay.
PERIOD OF RECORD.--November 1963 to current year.
GAGE.--Water-stage recorder. Datum of gage is 6,425.0 ft above sea level (levels by Sacramento Municipal Utility District).
REMARKS.--No estimated daily discharges. Tunnel diverts water from Buck Island Lake and discharges into Loon Lake (station 11429350). Buck Island Lake receives water from Rubicon River via Rubicon-Rockbound Tunnel (station 11427940). Gates are closed at the tunnel entrance during the summer and opened during the fall to raise the level of Buck Island Lake for recreational purposes. See schematic diagram of Middle Fork American and Rubicon River basins.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.20	.14	2.3	6.1	26	183	147	277	9.5	.21	.14
2	.22	.08	.14	2.4	5.6	30	180	162	237	8.1	.21	.14
3	.21	.00	.16	2.3	5.0	37	210	199	219	6.7	.21	.13
4	.21	.00	.22	4.5	4.5	40	190	248	187	5.4	.20	.13
5	.21	.00	.22	32	4.0	49	142	300	164	4.4	.20	.13
6	.21	.00	.22	45	3.6	61	129	371	152	3.1	.20	.13
7	.21	.00	.22	32	4.8	53	113	321	129	1.9	.20	.12
8	.21	.00	.45	21	6.8	47	95	262	107	1.5	.20	.12
9	.21	.00	2.7	15	6.3	50	84	319	56	1.1	.19	.12
10	.20	.00	5.2	11	7.9	58	70	442	20	.88	.19	.11
11	.20	.00	7.9	8.4	12	62	61	492	97	.73	.19	.11
12	32	.00	10	6.3	9.7	52	78	543	107	.57	.19	.11
13	39	.00	7.8	5.0	8.2	44	133	447	96	.43	.19	.10
14	25	.00	7.5	4.2	7.5	54	198	396	83	.30	.18	.10
15	27	.00	6.9	3.7	7.2	92	265	353	40	.23	.18	.10
16	57	.00	5.2	3.3	7.1	125	351	236	15	.23	.18	.09
17	53	.00	3.6	3.1	12	119	436	155	7.9	.23	.18	.08
18	34	.00	2.9	3.1	20	101	472	120	5.6	.23	.17	.08
19	21	.00	2.4	3.7	15	92	514	120	9.5	.23	.17	.07
20	14	.00	2.0	4.9	17	83	506	120	19	.23	.17	.06
21	11	.00	1.7	6.5	15	90	429	117	27	.23	.17	.05
22	8.6	.00	1.5	7.6	14	98	337	131	30	.22	.17	.04
23	7.5	.00	1.3	11	12	83	265	163	28	.22	.16	.04
24	6.4	.00	1.1	14	11	62	187	201	26	.22	.16	.03
25	4.9	.00	1.1	15	12	51	142	253	23	.22	.16	.02
26	3.5	.00	1.1	13	17	44	118	265	19	.22	.16	.02
27	2.3	.00	1.5	12	25	45	117	292	16	.22	.15	.01
28	1.5	.00	1.7	10	26	71	118	281	14	.22	.15	.00
29	1.0	.00	1.9	8.9	---	122	126	244	12	.22	.15	.00
30	.65	.08	2.1	7.8	---	154	140	244	11	.21	.15	.00
31	.40	---	2.2	6.9	---	192	---	267	---	.21	.14	---
TOTAL	352.06	0.36	83.07	325.9	302.3	2287	6389	8211	2234.0	48.40	5.53	2.38
MEAN	11.4	.012	2.68	10.5	10.8	73.8	213	265	74.5	1.56	.18	.079
MAX	57	.20	10	45	26	192	514	543	277	9.5	.21	.14
MIN	.20	.00	.14	2.3	3.6	26	61	117	5.6	.21	.14	.00
AC-FT	698	.7	165	646	600	4540	12670	16290	4430	96	11	4.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1994, BY WATER YEAR (WY)

MEAN	23.7	69.1	58.4	62.0	54.0	82.1	195	451	377	118	16.8	14.1
MAX	182	405	264	297	254	239	356	861	993	613	197	116
(WY)	1983	1984	1965	1970	1986	1989	1989	1969	1983	1983	1983	1982
MIN	.000	.000	.000	.25	5.46	19.1	36.8	145	31.8	.97	.000	.000
(WY)	1964	1964	1977	1991	1991	1977	1967	1977	1976	1987	1964	1964

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1964 - 1994	
ANNUAL TOTAL	56577.66		20241.00			
ANNUAL MEAN	155		55.5		127	
HIGHEST ANNUAL MEAN					245	1982
LOWEST ANNUAL MEAN					39.2	1977
HIGHEST DAILY MEAN	1040	May 20	543	May 12	1240	Dec 23 1964
LOWEST DAILY MEAN	.00	Nov 3	.00	Nov 3	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 3	.00	Nov 3	.00	Oct 1 1963
ANNUAL RUNOFF (AC-FT)	112200		40150		91880	
10 PERCENT EXCEEDS	528		194		402	
50 PERCENT EXCEEDS	35		6.1		34	
90 PERCENT EXCEEDS	.21		.05		.03	

C—042325

C-042325

11428400 LITTLE RUBICON RIVER BELOW BUCK ISLAND DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'18", long 120°15'19", in SW 1/4 NW 1/4 sec.6, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, at outlet structure on Buck Island Diversion Dam, 7.4 mi southwest of Meeks Bay.

DRAINAGE AREA.--6.00 mi^2.

PERIOD OF RECORD.--October 1990 to current year (low-flow records only). Unpublished records for water years 1964-90 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,420 ft above sea level, from topographic map. Aug. 14, 1964, to Oct. 4, 1973, nonrecording gage at site 60 ft downstream at different datum. Nonrecording gage at present site Oct. 4, 1973, to Aug. 26, 1986, at different datum and Aug. 27, 1986, to Sept. 30, 1990, at same datum.

REMARKS.--No estimated daily discharges. No records computed above 2 ft^3/s. Flow regulated by Buck Island Reservoir. Flow over the spillway bypasses this station. Most of the water is diverted at Buck Island Reservoir via Buck-Loon Tunnel (station 11428300) to Loon Lake (station 11429350). Buck Island Lake receives water from Rubicon River via Rubicon-Rockbound Tunnel (station 11427940). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.1	.62	1.1	1.1	1.2	1.2	1.3	1.3	1.2	1.2	1.1
2	1.3	1.1	.61	1.1	1.1	1.2	1.2	1.3	1.3	1.2	1.2	1.1
3	1.3	1.1	.63	1.1	1.1	1.2	1.3	1.3	1.3	1.2	1.2	1.1
4	1.3	1.1	.59	1.1	1.1	1.2	1.2	1.3	1.2	1.2	1.2	1.1
5	1.3	1.0	.59	1.2	1.1	1.2	1.2	1.4	1.2	1.2	1.1	1.1
6	1.3	.86	.59	1.2	1.1	1.2	1.2	1.4	1.2	1.2	1.1	1.1
7	1.3	.74	.59	1.2	1.1	1.2	1.2	1.4	1.2	1.2	1.1	1.1
8	1.3	.68	.60	1.2	1.1	1.2	1.3	1.3	1.2	1.2	1.1	1.1
9	1.3	.59	.61	1.2	1.1	1.2	1.2	1.4	1.2	1.2	1.1	1.1
10	1.3	.50	.61	1.2	1.1	1.2	1.2	1.5	1.4	1.2	1.2	1.1
11	1.3	.46	.61	1.2	1.1	1.2	1.2	1.4	1.5	1.2	1.2	1.1
12	1.3	.52	.62	1.2	1.1	1.2	1.2	1.3	1.5	1.2	1.2	1.1
13	1.3	.49	.61	1.2	1.1	1.2	1.3	1.3	1.5	1.2	1.2	1.1
14	1.3	.42	.61	1.1	1.1	1.2	1.3	1.2	1.4	1.2	1.2	1.1
15	1.3	.34	.61	1.1	1.1	1.3	1.4	1.2	1.2	1.2	1.1	1.1
16	1.3	.32	.81	1.1	1.1	1.3	1.4	1.1	1.2	1.2	1.1	1.1
17	1.3	.31	1.1	1.1	1.1	1.3	1.5	1.1	1.2	1.2	1.1	1.1
18	1.2	.29	1.1	1.1	1.2	1.3	1.5	1.1	1.1	1.1	1.1	1.1
19	1.2	.24	1.1	1.1	1.1	1.3	1.5	1.1	1.1	1.1	1.1	1.1
20	1.2	.23	1.1	1.1	1.1	1.3	1.5	1.1	1.2	1.1	1.1	1.1
21	1.2	.20	1.1	1.1	1.1	1.3	1.5	1.1	1.2	1.1	1.1	1.1
22	1.2	.19	1.1	1.1	1.1	1.3	1.4	1.2	1.1	1.1	1.1	1.1
23	1.2	.22	1.1	1.1	1.1	1.3	1.4	1.2	1.2	1.1	1.1	1.1
24	1.2	.22	1.1	1.1	1.1	1.2	1.3	1.3	1.2	1.1	1.2	1.1
25	1.2	.22	1.1	1.1	1.1	1.2	1.3	1.3	1.2	1.1	1.1	1.1
26	1.2	.21	1.1	1.1	1.1	1.2	1.3	1.3	1.2	1.2	1.1	1.1
27	1.1	.21	1.1	1.1	1.2	1.2	1.3	1.3	1.2	1.2	1.1	1.1
28	1.1	.23	1.1	1.1	1.2	1.2	1.3	1.3	1.2	1.2	1.1	1.1
29	1.1	.40	1.1	1.1	---	1.3	1.3	1.3	1.2	1.2	1.1	1.1
30	1.1	.63	1.1	1.1	---	1.3	1.3	1.3	1.2	1.2	1.1	1.1
31	1.1	---	1.1	1.1	---	1.3	---	1.3	---	1.2	1.1	---
TOTAL	38.4	15.12	26.41	35.0	31.1	38.4	39.4	39.4	37.3	36.4	35.1	33.0
MEAN	1.24	.50	.85	1.13	1.11	1.24	1.31	1.27	1.24	1.17	1.13	1.10
MAX	1.3	1.1	1.1	1.2	1.2	1.3	1.5	1.5	1.5	1.2	1.2	1.1
MIN	1.1	.19	.59	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.1
AC-FT	76	30	52	69	62	76	78	78	74	72	70	65

CAL YR 1993 TOTAL 428.93 MEAN 1.18 MAX 1.8 MIN .19 AC-FT 851
WTR YR 1994 TOTAL 405.03 MEAN 1.11 MAX 1.5 MIN .19 AC-FT 803

11428700 HELL HOLE RESERVOIR NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'54", long 120°24'50", in SE 1/4 NW 1/4 sec.16, T.14 N., R.14 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 0.3 mi upstream from Hell Hole Dam on Rubicon River and 15.6 mi west of Meeks Bay.

DRAINAGE AREA.--114 mi^2.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Placer County Water Agency).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 6, 1965. Usable capacity, 207,342 acre-ft between elevations 4,287.65 ft, invert of river outlet, and 4,630.0 ft, crest of ogee spillway. Dead storage 248 acre-ft. Reservoir is used to store water for hydroelectric power. Water is diverted into reservoir from French Meadows Reservoir (11427400) on the Middle Fork American River through French Meadows Powerplant (station 11427200). Water is diverted out of reservoir to the Middle Fork American River though Middle Fork Powerplant. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 211,050 acre-ft, Dec. 20, 1981, elevation, 4,632.75 ft; minimum since reservoir first filled, 37,499 acre-ft, Mar. 23, 1973, elevation, 4,428.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 137,700 acre-ft, May 28, elevation, 4,566.8 ft; minimum, 76,500 acre-ft, Feb. 4, 5, elevation, 4,491.0 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Placer County Water Agency in 1966)

4,340	5,220	4,400	24,200	4,550	122,700
4,360	9,840	4,450	49,600	4,600	171,900
4,380	16,200	4,500	83,000	4,650	233,400

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128600	117600	99800	85600	77600	80800	96600	119200	135600	119600	108500	101500
2	129300	116400	98600	85600	77200	81200	97300	119800	134700	119100	108200	101300
3	129900	115100	97400	85200	76700	81600	98100	120500	133800	118500	107800	100800
4	130600	114100	96600	85500	76500	82000	98800	121200	133500	118000	107400	100300
5	131300	112800	96600	85800	76500	82700	99500	122100	133200	117200	107000	99900
6	132000	112200	96100	85900	76600	83200	100000	123400	132300	116600	106900	99200
7	132300	112200	95700	85500	76800	83700	100500	124400	131600	116100	106900	99100
8	132000	111300	94800	85500	76900	84100	101000	125500	131300	115600	106900	99000
9	131400	110500	94600	85600	76900	84600	101500	126700	130900	115100	106600	98800
10	130900	109500	94200	85100	77100	85200	101900	127900	130300	114900	106100	98800
11	130400	108800	94300	84600	77200	85800	102300	129200	129800	114300	105800	98600
12	129900	107800	94400	84100	77300	86100	102900	130400	129500	113900	105400	98600
13	129400	107800	93900	83600	77400	86600	103500	131400	129000	113300	105700	98400
14	128800	107700	93300	83200	77400	87200	104300	132300	128500	112700	105400	97600
15	128300	106600	92700	83200	77500	87900	105300	133000	128000	112100	105000	96600
16	128100	105700	91900	83200	77600	88700	106500	133500	127600	111800	104700	95700
17	127600	104900	91000	82700	78000	89200	107700	134100	126900	111900	104300	95600
18	127000	104100	91100	82200	78200	89700	109100	134500	126300	112100	103900	95500
19	126500	103300	91100	81800	78400	90300	110400	135100	125700	112100	103500	95300
20	126000	103300	90500	81300	78600	90800	111700	135500	125000	112000	103700	95200
21	125500	103200	89800	80800	78700	91300	112700	136000	124500	111700	104000	95200
22	125000	102600	89200	80900	78800	91900	113600	136400	124000	111300	103700	95000
23	124400	102000	88600	81000	78900	92300	114400	136600	123600	111900	103300	94900
24	123900	101300	88000	80700	79100	92600	115000	136400	123100	112000	102900	94900
25	123300	101300	86000	80100	79200	93000	115600	136900	123300	111700	102600	94800
26	123100	101100	88100	79700	79500	93200	116100	137400	122500	111300	102300	94800
27	122500	101100	87500	79200	80000	93600	116800	137600	121800	110900	102500	94600
28	122000	101100	87000	78600	80400	94200	117400	137600	121400	110600	102800	94500
29	121200	100800	86600	78700	---	94800	118000	137400	120800	110000	102500	94400
30	119900	100200	86100	78700	---	95300	118600	137200	120300	109500	102100	94200
31	118800	---	85500	78200	---	95900	---	136400	---	109100	101600	---
MAX	132300	117600	99800	85900	80400	95900	118600	137600	135600	119600	108500	101500
MIN	118800	100200	85500	78200	76500	80800	96600	119200	120300	109100	101600	94200
a	4545.4	4522.6	4503.4	4493.3	4496.4	4517.1	4545.1	4565.5	4547.2	4533.7	4524.3	4514.9
b	-9200	-18600	-14700	-7300	+2200	+15500	+22700	+17800	-16100	-11200	-7500	-7400

CAL YR 1993 b +37700
WTR YR 1994 b -33800

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

C-042327

11428800 RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'24", long 120°24'25", in NE 1/4 NE 1/4 sec.21, T.14 N., R.14 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 600 ft downstream from outlet of dam, and 15.3 mi west of Meeks Bay.

DRAINAGE AREA.--114 mi^2.

PERIOD OF RECORD.--November 1965 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 4,231.52 ft above sea level (levels by Placer County Water Agency).

REMARKS.--No estimated daily discharges. Flow completely regulated by Hell Hole Reservoir (station 11428700) 600 ft upstream from station. During years when Hell Hole Dam spills, records include flow which bypasses the station. Transbasin diversions upstream from station through Buck-Loon Tunnel (station 11428300) to Loon Lake Reservoir (station 11429350); from Middle Fork American River basin through tunnel from French Meadows Reservoir (station 11427400) to Hell Hole Reservoir; from Hell Hole Reservoir through tunnel to Middle Fork Powerplant (station 11428600). Diversion began Sept. 8, 1966. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft^3/s, Mar. 8, 1986, including flow over spillway; no flow Aug. 25 to Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 57 ft^3/s, Sept. 15-20, gage height, 4.51 ft; minimum daily, 10 ft^3/s, Dec. 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	22	22	13	12	15	14	14	18	13	13	14
2	23	22	22	13	12	15	14	14	12	13	13	14
3	23	22	22	13	12	15	16	14	12	13	13	14
4	23	22	22	13	12	14	15	14	12	13	13	14
5	23	22	22	14	12	14	14	14	12	13	13	14
6	23	22	22	13	12	14	14	14	13	13	13	14
7	23	22	22	13	13	14	14	14	13	13	13	14
8	23	22	22	13	13	14	14	14	13	13	14	14
9	23	22	23	13	13	14	14	14	13	13	14	14
10	23	22	22	13	13	14	14	14	12	13	14	14
11	23	22	22	13	13	14	14	14	12	13	14	14
12	23	22	22	13	13	14	14	14	12	13	14	14
13	23	22	22	13	13	14	14	14	12	13	14	14
14	23	22	22	13	13	14	14	17	12	13	14	32
15	23	22	18	13	12	14	14	22	12	13	14	57
16	23	22	11	13	12	14	14	22	12	13	14	57
17	23	22	10	13	15	14	14	22	13	13	14	57
18	23	22	10	13	14	14	15	22	13	13	14	57
19	23	22	11	13	14	14	15	22	13	13	14	57
20	23	22	12	13	14	14	15	22	13	13	14	54
21	23	22	11	13	12	14	14	22	13	13	14	51
22	23	22	12	13	15	14	14	22	13	13	14	51
23	23	22	13	13	20	14	14	22	13	13	14	51
24	23	22	13	14	16	14	14	22	13	13	14	51
25	23	22	13	13	14	14	14	22	13	13	14	51
26	22	22	13	13	15	14	14	22	13	13	14	51
27	22	22	13	13	17	14	14	22	13	13	14	51
28	22	22	13	13	15	14	14	22	13	13	14	49
29	22	22	13	13	---	14	14	22	13	13	14	51
30	21	23	13	13	---	14	14	22	13	13	14	51
31	22	---	13	13	---	14	---	22	---	13	13	---
TOTAL	706	661	521	405	381	437	426	573	384	403	426	1061
MEAN	22.8	22.0	16.8	13.1	13.6	14.1	14.2	18.5	12.8	13.0	13.7	35.4
MAX	23	23	23	14	20	15	16	22	18	13	14	57
MIN	21	22	10	13	12	14	14	14	12	13	13	14
AC-FT	1400	1310	1030	803	756	867	845	1140	762	799	845	2100
a	29010	17980	16160	9550	1850	212	0	3880	30410	27610	27750	6440

a Diversion, in acre-feet, from Hell Hole Reservoir through Middle Fork Powerplant, provided by Placer County Water Agency.

C-042328

11428800 RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.0	17.0	26.2	16.3	22.7	33.8	22.7	40.2	76.7	33.6	14.1	15.5
MAX	40.6	25.8	318	30.8	172	478	129	544	792	303	23.0	36.7
(WY)	1989	1984	1982	1969	1982	1986	1982	1982	1967	1983	1989	1989
MIN	7.14	7.51	7.57	6.24	6.34	6.33	7.78	7.92	7.74	6.93	6.50	6.43
(WY)	1974	1977	1989	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	7088		6384			
ANNUAL MEAN	19.4		17.5		28.3	
HIGHEST ANNUAL MEAN					116	1982
LOWEST ANNUAL MEAN					7.11	1977
HIGHEST DAILY MEAN	34	Mar 17	57	Sep 15	6650	Mar 8 1986
LOWEST DAILY MEAN	10	Dec 17	10	Dec 17	.00	Aug 25 1966
ANNUAL SEVEN-DAY MINIMUM	11	Dec 16	11	Dec 16	.00	Aug 25 1966
INSTANTANEOUS PEAK FLOW			57	Sep 15	10700	Mar 8 1986
INSTANTANEOUS PEAK STAGE			4.51	Sep 15		
ANNUAL RUNOFF (AC-FT)	14060		12660		20530	
10 PERCENT EXCEEDS	23		23		26	
50 PERCENT EXCEEDS	22		14		17	
90 PERCENT EXCEEDS	13		13		8.5	

C-042329

11429300 ROBBS PEAK POWERPLANT NEAR KYBURZ, CA

LOCATION.--Lat 38°53'50", long 120°22'38", in SE 1/4 SW 1/4 sec.11, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in powerplant on shore of Union Valley Reservoir, and 9.5 mi northwest of Kyburz.
PERIOD OF RECORD.--October 1962 to current year. Prior to October 1965, published as Robbs Peak Tunnel near Riverton.
GAGE.--Discharge computed from powerplant output. Elevation of gage is 4,880 ft above sea level, from topographic map. Prior to October 1965, water-stage recorder and concrete control in abandoned section of canal 0.5 mi upstream at different datum.
REMARKS.--No estimated daily discharges. Water is imported from Loon Lake (station 11429350) via Loon Lake Powerplant or Gerle Creek (stations 11429340 and 11429500) to tunnel intake. Tunnel diverts at South Fork Rubicon River Diversion Dam in NE 1/4 sec.27, T.13 N., R.14 E., and discharges into Union Valley Reservoir (station 11441001). See schematic diagrams of Middle Fork American and Rubicon River basins and South Fork American River basin.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	565	.50	.50	.50	67	327	160	140	110	.50	216	133
2	448	13	1.0	.50	.50	415	193	122	33	.50	239	180
3	398	.00	.50	.50	.50	369	215	132	.50	24	252	127
4	531	.50	39	56	45	407	399	129	65	.50	162	125
5	399	.50	34	58	8.1	514	169	151	.50	.50	189	104
6	228	.50	1.5	51	15	328	162	224	50	58	327	83
7	280	.50	2.0	.50	47	157	138	238	.50	109	257	168
8	273	.50	18	.50	.50	144	134	231	55	241	205	75
9	254	.50	29	59	50	168	134	189	1.0	202	244	2.5
10	316	.50	52	.50	.50	341	118	188	93	85	180	.50
11	215	.50	.50	.50	.50	421	101	179	.50	209	258	.50
12	261	.50	.50	68	120	290	160	179	.50	227	227	.50
13	221	.50	35	.50	79	179	107	135	48	228	58	118
14	312	.50	12	.50	.50	403	198	123	23	291	156	19
15	185	.50	.50	.50	56	445	207	59	.50	278	278	122
16	227	.50	.50	56	.50	509	238	112	.50	218	294	175
17	63	.50	50	36	74	370	235	69	20	364	303	25
18	.50	.50	1.0	280	.50	327	230	107	48	196	138	.50
19	.50	.50	1.5	35	59	534	228	103	40	214	226	57
20	.50	.50	.50	34	11	417	211	111	12	309	240	105
21	.50	.50	123	15	47	410	165	73	.50	294	215	100
22	.50	.50	115	328	1.5	435	160	101	41	273	236	154
23	.50	48	.50	480	30	331	131	54	174	191	228	1.0
24	.50	1.0	.50	516	31	542	110	68	.50	69	268	.50
25	.50	.50	.50	427	47	461	116	45	.50	255	204	.50
26	.50	.50	31	341	52	123	27	192	33	144	101	165
27	.50	.50	.50	311	67	149	163	69	127	164	123	3.0
28	.50	.50	25	323	129	218	114	4.0	.50	201	.50	.50
29	.50	11	.50	289	---	456	178	135	32	305	160	.50
30	.50	44	.50	271	---	393	146	1.0	.50	335	213	4.0
31	.50	---	51	230	---	215	---	64	---	328	241	---
TOTAL	5183.00	129.00	627.50	4269.00	1039.60	10798	5047	3727.0	1011.00	5814.00	6440.50	2049.50
MEAN	167	4.30	20.2	138	37.1	348	168	120	33.7	188	208	68.3
MAX	565	48	123	516	129	542	399	238	174	364	327	180
MIN	.50	.00	.50	.50	.50	123	27	1.0	.50	.50	.50	.50
AC-FT	10280	256	1240	8470	2060	21420	10010	7390	2010	11530	12770	4070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

MEAN	80.5	147	193	200	234	320	402	404	381	218	160	80.4
MAX	278	490	616	650	518	749	809	873	977	673	353	430
(WY)	1983	1984	1982	1982	1986	1986	1993	1969	1983	1983	1969	1971
MIN	.000	4.17	15.6	9.16	14.6	25.0	48.7	44.1	33.7	6.61	.62	.000
(WY)	1971	1967	1992	1977	1977	1977	1977	1992	1994	1963	1963	1970

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	116281.60		46135.10			
ANNUAL MEAN	319		126		235	
HIGHEST ANNUAL MEAN					489	1983
LOWEST ANNUAL MEAN					50.2	1977
HIGHEST DAILY MEAN	1100	Mar 17	565	Oct 1	1440	Dec 22 1964
LOWEST DAILY MEAN	.00	Jan 3	.00	Nov 3	.00	Aug 10 1965
ANNUAL SEVEN-DAY MINIMUM	.43	Nov 3	.43	Nov 3	.00	Aug 30 1966
ANNUAL RUNOFF (AC-FT)	230600		91510		170100	
10 PERCENT EXCEEDS	749		327		570	
50 PERCENT EXCEEDS	276		83		172	
90 PERCENT EXCEEDS	.50		.50		.00	

C-042330

11429350 LOON LAKE NEAR MEEKS BAY, CA

LOCATION.--Lat 38°58'59", long 120°19'22", in SE 1/4 SW 1/4 sec.8, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in powerplant intake structure, 1.6 mi southwest of right bank end of Loon Lake Dam on Gerle Creek, and 10 mi southwest of Meeks Bay.
DRAINAGE AREA.--7.96 mi^2.
PERIOD OF RECORD.--December 1963 to current year.
REVISED RECORDS.--WDR CA-76-4: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to Sept. 23, 1975, at site 1.6 mi northeast on right bank end of Loon Lake Dam at same datum.
REMARKS.--Reservoir is formed by an earthfill dam completed Dec. 27, 1963; storage began Dec. 5, 1963. Prior to September 1962, reservoir was formed by granite-block dam built in 1884, capacity, 8,000 acre-ft. Usable capacity, 73,868 acre-ft, between elevations 6,325 ft, invert of fishwater release valve, and 6,410 ft, crest of spillway. Dead storage, 2,300 acre-ft. Lake receives water from Rubicon River via Rubicon-Rockbound tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon Tunnel (stations 11427940, 11428300). Records, including extremes, represent total contents. See schematic diagram of Middle Fork American and Rubicon River basins.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 77,700 acre-ft, June 6, 1969, elevation, 6,411.1 ft; minimum since reservoir first filled, 3,262 acre-ft, Nov. 8, 9, 1988, elevation, 6,328.70 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 66,255 acre-ft, June 15, 16, elevation, 6,402.74 ft; minimum, 27,924 acre-ft, Mar. 25, elevation, 6,369.58 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District recomputed October 1991)

6,330	3,478	6,370	28,323
6,340	7,116	6,390	50,058
6,350	12,469	6,412	78,983
6,360	19,570		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51941	42685	42130	41713	34412	34745	29061	44969	63202	65510	52003	37385
2	51002	42628	42107	41701	34412	34049	29583	45364	63635	65497	51526	36944
3	50094	42594	42073	41690	34401	33605	30179	45853	64056	65484	51039	36698
4	48988	42560	42051	41791	34401	32940	30238	46415	64425	65470	50662	36442
5	48188	42515	42028	41893	34381	32442	30592	47180	64716	65417	50106	36219
6	47677	42503	42017	41960	34391	32300	30958	48128	64980	65258	49275	35922
7	47145	42481	41983	42006	34485	32422	31256	49012	65205	64901	48844	35563
8	46509	42447	42051	42028	34516	32553	31546	49648	65364	64517	48331	35384
9	45923	42413	42107	42062	34516	32695	31786	50372	65457	64058	47807	35321
10	45201	42379	42096	42051	34703	32361	31967	51380	65457	63845	47322	35279
11	44702	42390	42266	42051	34714	32068	32118	52456	65643	63372	46732	35227
12	44321	42390	42277	42039	34578	31837	32351	53664	65869	62809	46392	35227
13	43873	42390	42277	42028	34464	31887	32726	54658	66055	62326	46181	34944
14	43232	42356	42379	42017	34464	31556	33256	55495	66215	61648	45748	34881
15	43163	42254	42379	42017	34453	31336	33966	56261	66255	61026	45085	34516
16	42844	42232	42367	42006	34453	31107	34881	56766	66255	60508	44448	34194
17	42924	42186	42367	41870	34703	31008	36007	57107	66228	59787	43884	34101
18	42981	42175	42333	41319	34829	30701	37170	57373	66215	59375	43426	34059
19	42981	42141	42333	41319	34912	30336	38424	57665	66148	58889	42890	33904
20	42981	42107	42299	41308	35017	30052	39640	57919	66108	58161	42424	33595
21	42981	42073	41915	41297	35101	29817	40704	58174	66108	57551	41927	33349
22	42969	42107	41915	40504	35122	29554	41476	58441	66122	57082	41331	33042
23	42969	42096	41825	39629	35132	29254	42164	58761	65789	56539	40849	32991
24	42969	42107	41803	38653	35132	28380	42606	59196	65802	56488	40226	33011
25	42924	42085	41791	37860	35143	27924	43060	59697	65816	55884	39750	32981
26	42867	42017	41780	37256	35258	28019	43357	60005	65763	55570	39618	32655
27	42799	41994	41780	36602	35353	28161	43517	60534	65630	55170	39266	32614
28	42776	42006	41769	35965	35248	28171	43953	61090	65577	54571	39233	32624
29	42730	42119	41769	35416	---	27934	44275	61557	65484	54086	38751	32614
30	42708	42141	41735	34808	---	28057	44610	62052	65537	53244	38337	32574
31	42708	---	41724	34495	---	28581	---	62626	---	52518	37687	---
MAX	51941	42685	42379	42062	35353	34745	44610	62626	66255	65510	52003	37385
MIN	42708	41994	41724	34495	34381	27924	29061	44969	63202	52518	37687	32574
a	6383.73	6383.23	6382.86	6376.19	6376.91	6370.27	6385.39	6399.99	6402.20	6392.02	6379.20	6374.32
b	-10400	-567	-417	-7229	+753	-6667	+16029	+18016	+2911	-13019	-14831	-5113

CAL YR 1993 MAX 74677 MIN 18304 b +17764
WTR YR 1994 MAX 66255 MIN 27924 b -20534

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

C—042331

C-042331

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'20", long 120°18'52", in NE 1/4 NE 1/4 sec.5, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 0.3 mi downstream from Loon Lake Dam, and 11 mi southwest of Meeks Bay.

DRAINAGE AREA.--8.01 mi^2.

PERIOD OF RECORD.--July 1910 to April 1914 (fragmentary), August 1962 to current year. Prior to August 1962, published as "near Rubicon Springs."

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,250 ft above sea level, from topographic map. Prior to August 1962, nonrecording gage at site 1,400 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Beginning in 1884, flow regulated by Loon Lake (station 11429350). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam, which was completed Dec. 27, 1963. Loon Lake receives water from Rubicon River via Buck-Loon Tunnel (station 11428300). Since August 1971, most of the water is diverted past the station via Loon Lake Powerplant (station 11429340) and returns to Gerle Creek at Gerle Creek Dam. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft^3/s, unregulated, Feb. 1, 1963, gage height, 12.65 ft, from rating curve extended above 970 ft^3/s on basis of slope-area measurement of peak flow; no flow Oct. 15, 1913. Maximum discharge since construction of Loon Lake Dam in 1963, 1,050 ft^3/s, June 5, 1969, gage height, 9.03 ft; minimum daily, 3.6 ft^3/s, Sept. 27, 28, Nov. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25 ft^3/s, June 8, gage height, 2.34 ft; minimum daily, 8.3 ft^3/s, Jan. 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	8.6	8.6	8.8	9.2	10	9.6	9.2	9.5	9.5	9.2	9.5
2	10	8.6	8.6	8.6	9.2	9.9	9.7	9.2	9.5	9.5	9.2	9.5
3	10	8.6	8.6	8.7	9.2	9.8	9.8	9.2	9.5	9.5	9.2	9.3
4	9.7	8.6	8.6	10	9.2	9.9	9.6	9.2	9.6	9.5	9.0	9.3
5	9.2	8.6	8.7	8.9	9.5	10	9.6	9.5	9.7	9.5	9.3	9.5
6	9.1	8.6	8.6	8.6	9.5	9.9	9.5	9.9	9.7	9.5	9.8	9.5
7	9.0	8.6	8.6	8.6	9.5	9.9	9.5	9.9	9.8	9.5	9.8	9.8
8	8.9	8.6	8.7	8.6	9.5	10	9.5	9.6	9.7	9.5	9.7	9.6
9	8.9	8.6	9.7	8.6	9.5	10	9.5	9.5	9.8	9.5	9.5	9.5
10	8.9	8.6	8.9	8.6	9.6	10	9.5	9.5	9.8	9.5	9.5	9.5
11	8.9	8.6	8.9	8.6	9.5	9.9	9.6	9.5	9.8	9.5	9.5	9.5
12	8.9	8.7	8.8	8.6	9.5	9.8	9.8	9.4	9.8	9.4	9.5	9.5
13	8.8	8.6	8.8	8.6	9.5	10	9.8	9.2	9.8	9.2	9.5	9.6
14	8.6	8.6	8.9	8.6	9.5	10	9.7	9.2	9.8	9.2	9.5	10
15	9.9	8.6	8.8	8.6	9.5	10	10	9.2	9.8	9.2	9.5	10
16	8.8	8.6	8.6	8.6	9.5	9.9	10	9.2	9.8	9.2	9.5	10
17	8.6	8.6	8.6	8.6	9.7	9.9	10	9.2	9.8	9.2	9.5	10
18	8.6	8.6	8.6	8.6	9.7	10	9.8	9.3	9.8	9.2	9.5	9.8
19	8.6	8.6	8.6	8.6	9.5	9.9	9.4	9.5	9.8	9.2	9.5	9.8
20	8.6	8.6	8.7	8.6	9.8	9.9	9.3	9.2	9.8	9.2	9.5	9.8
21	8.6	8.6	8.9	8.6	9.8	9.9	9.2	9.2	9.8	9.2	9.5	9.8
22	8.6	8.6	8.9	8.6	9.8	9.1	9.2	9.5	9.7	9.2	9.5	9.8
23	8.6	8.9	8.9	8.6	9.8	8.9	9.2	9.5	9.5	9.2	9.5	9.8
24	8.6	8.6	8.9	8.6	9.9	9.0	9.2	9.5	9.5	9.2	9.5	10
25	8.6	8.6	8.9	8.5	10	9.0	9.2	9.5	9.5	9.2	9.5	9.8
26	8.8	8.6	9.0	8.4	10	9.2	9.4	9.5	9.5	9.2	9.5	9.8
27	8.9	8.9	9.2	8.3	10	9.6	9.7	9.5	9.5	9.2	9.5	9.8
28	8.6	9.5	9.4	8.3	10	9.7	9.4	9.5	9.5	9.2	9.5	10
29	8.6	10	9.5	8.3	---	9.6	9.2	9.5	9.5	9.2	9.5	9.9
30	8.6	8.6	9.6	8.3	---	9.9	9.2	9.5	9.5	9.2	9.5	9.7
31	8.6	---	9.8	8.6	---	9.6	---	9.6	---	9.2	9.5	---
TOTAL	276.3	261.0	275.9	267.1	268.9	302.2	286.1	291.9	290.1	288.7	293.7	291.4
MEAN	8.91	8.70	8.90	8.62	9.60	9.75	9.54	9.42	9.67	9.31	9.47	9.71
MAX	10	10	9.8	10	10	10	10	9.9	9.8	9.5	9.8	10
MIN	8.6	8.6	8.6	8.3	9.2	8.9	9.2	9.2	9.5	9.2	9.0	9.3
AC-FT	548	518	547	530	533	599	567	579	575	573	583	578
a	9960	33	480	7230	503	12080	482	330	797	11590	12830	3850

a Diversion, in acre-feet, to Loon Lake Powerplant, provided by Sacramento Municipal Utility District.

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1970, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	112	132	165	74.7	103	192	133	63.0	390	341	232	115
MAX	190	356	343	134	261	347	244	209	721	493	351	338
(WY)	1970	1966	1966	1968	1970	1970	1967	1969	1969	1967	1969	1967
MIN	7.53	7.93	8.85	8.41	9.13	9.57	8.75	10.5	185	196	50.8	8.20
(WY)	1965	1968	1969	1965	1968	1968	1965	1968	1966	1965	1965	1970

SUMMARY STATISTICS	WATER YEARS 1965 - 1970		
ANNUAL MEAN	171		
HIGHEST ANNUAL MEAN	217		1970
LOWEST ANNUAL MEAN	127		1965
HIGHEST DAILY MEAN	1030	Jun 5	1969
LOWEST DAILY MEAN	6.0	Dec 2	1969
ANNUAL SEVEN-DAY MINIMUM	6.4	Dec 10	1969
INSTANTANEOUS PEAK FLOW	1050	Jun 5	1969
INSTANTANEOUS PEAK STAGE	9.03	Jun 5	1969
ANNUAL RUNOFF (AC-FT)	124100		
10 PERCENT EXCEEDS	394		
50 PERCENT EXCEEDS	28		
90 PERCENT EXCEEDS	8.1		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.66	8.55	9.17	8.68	8.73	8.81	8.74	9.26	8.76	8.55	8.39	8.39
MAX	13.3	9.93	23.9	10.1	11.3	11.6	10.2	16.0	12.0	10.7	10.2	11.2
(WY)	1993	1989	1984	1974	1986	1989	1989	1982	1983	1974	1974	1974
MIN	3.93	4.00	4.45	4.61	5.12	4.67	4.27	4.64	4.13	4.30	4.09	3.99
(WY)	1978	1978	1978	1978	1978	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1972 - 1994	
ANNUAL TOTAL	3349.1		3393.3			
ANNUAL MEAN	9.18		9.30		8.73	
HIGHEST ANNUAL MEAN					9.85	1984
LOWEST ANNUAL MEAN					6.06	1977
HIGHEST DAILY MEAN	15	Mar 17	10	Oct 2	238	Dec 27 1983
LOWEST DAILY MEAN	8.2	Apr 24	8.3	Jan 27	3.6	Sep 27 1977
ANNUAL SEVEN-DAY MINIMUM	8.3	Aug 17	8.4	Jan 24	3.7	Sep 23 1977
INSTANTANEOUS PEAK FLOW			25	Jun 8	370	Dec 27 1983
INSTANTANEOUS PEAK STAGE			2.34	Jun 8	5.84	Dec 27 1983
ANNUAL RUNOFF (AC-FT)	6640		6730		6320	
ANNUAL DIVERSION (AC-FT) a	122100		60140			
10 PERCENT EXCEEDS	10		9.9		9.8	
50 PERCENT EXCEEDS	9.0		9.5		8.6	
90 PERCENT EXCEEDS	8.4		8.6		7.8	

a Diversion, in acre-feet, to Loon Lake Powerplant, provided by Sacramento Municipal Utility District.

C-042333

11429600 GERLE RESERVOIR NEAR MEEKS BAY, CA

LOCATION.--Lat 38°57'59", long 120°23'33", in SE 1/4 SW 1/4 sec.15, T.13 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank side of upstream face of dam on Gerle Creek, 0.2 mi downstream from Angel Creek, and 15.2 mi southwest of Meeks Bay.

DRAINAGE AREA.--28.7 mi^2.
PERIOD OF RECORD.--October 1993 to September 1994. Unpublished records for water years 1980-93 available in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to June 9, 1988, nonrecording gage at same site and datum.
REMARKS.--Reservoir is formed by concrete dam completed in 1970. Storage began in 1970. Usable capacity, 1,200 acre-ft, below elevation 5,230.9 ft, crest of spillway. Most of the water is diverted at this reservoir to Robbs Peak Powerplant (station 11429300). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River basin.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,164 acre-ft, July 16, 1994, elevation, 5,229.39 ft; minimum, 849 acre-ft, Apr. 10, 1994, elevation, 5,222.23 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

5,200	203	5,220	761
5,205	304	5,225	964
5,210	431	5,230	1,193
5,215	583	5,235	1,448

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1142	1022	937	926	879	1004	935	944	997	1085	1123	1137
2	1142	1026	951	945	904	1049	932	939	1001	1091	1114	1108
3	1157	1033	964	964	937	1015	942	931	1064	1066	1081	1105
4	1079	1040	919	925	909	1067	912	935	1024	1071	1090	1083
5	1103	1047	875	918	921	1018	886	926	1071	1077	1123	1077
6	1106	1054	887	891	920	982	872	941	1049	1099	1161	1090
7	1031	1062	898	935	883	934	855	955	1090	1135	1109	1114
8	1053	1071	938	969	925	956	855	932	1050	1066	1139	1081
9	1080	1079	958	902	878	923	852	948	1088	1071	1115	1061
10	1063	1086	908	931	924	1053	849	934	1002	1071	1130	1063
11	1113	1095	942	956	960	993	875	926	1037	1086	1142	1067
12	1029	1104	965	867	948	993	909	897	1070	1112	1071	1073
13	1073	1113	934	901	940	997	978	880	1052	1091	1103	1090
14	1074	1119	939	932	963	1033	927	885	1026	1119	1118	1078
15	1028	1125	958	961	908	1079	932	962	1053	1133	1137	1121
16	990	1123	976	898	954	1018	931	900	1076	1164	1124	1096
17	992	1132	912	968	891	983	930	931	1089	1144	1089	1066
18	1008	1060	930	973	947	1088	929	892	1020	1095	1119	1071
19	1014	1019	946	933	918	1014	925	912	1029	1084	1133	1092
20	1016	942	931	927	933	999	909	910	1059	1139	1104	1117
21	1015	1040	1063	921	926	1001	923	931	1084	1132	1086	1080
22	1016	1056	895	1019	951	1009	908	895	1062	1090	1124	1096
23	1017	957	915	1031	951	1026	903	933	1056	1128	1098	1076
24	1018	964	932	1068	967	1063	906	934	1069	1059	1104	1082
25	1018	970	950	1036	934	956	901	970	1082	1081	1095	1088
26	1018	976	949	977	929	929	980	979	1106	1078	1051	1103
27	1018	953	913	1006	951	899	940	1016	1024	1084	1083	1062
28	1018	964	934	995	981	987	931	1100	1058	1136	1066	1068
29	1018	973	954	953	---	1017	928	991	1076	1065	1135	1076
30	1018	920	972	1018	---	957	929	1049	1078	1106	1112	1083
31	1018	---	907	890	---	911	---	1058	---	1113	1155	---
MAX	1157	1132	1063	1068	981	1088	980	1100	1106	1164	1161	1137
MIN	990	920	875	867	878	899	849	880	997	1059	1051	1061
a	5226.23	5223.96	5223.66	5223.25	5225.38	5223.75	5224.17	5227.11	5227.55	5228.30	5229.19	5227.66
b	-166	-98	-13	-17	+91	-70	+18	+129	+20	+35	+42	-72

WTR YR 1994 MAX 1164 MIN 849 b -101

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

C-042334

11430000 SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CA

LOCATION.--Lat 38°57'17", long 120°24'02", in SW 1/4 SW 1/4 sec.22, T.13 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank 600 ft downstream from Gerle Creek, 1.2 mi downstream from South Fork Rubicon River Diversion Dam, and 18 mi east of Georgetown.

DRAINAGE AREA.--47.6 mi^2.

PERIOD OF RECORD.--February 1910 to June 1914 (published as Little South Fork Rubicon River below Gerle Creek near Quintette), August 1961 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,970 ft above sea level, from topographic map. Feb. 1, 1910, to June 21, 1914, nonrecording gage at site about 700 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Beginning in 1884, flow regulated by Loon Lake (station 11429350). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam completed Dec. 27, 1963. Loon Lake receives water from Rubicon River via Rubicon-Rockbound Tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon Tunnel (stations 11427940 and 11428300). Prior to Dec. 3, 1961, water was diverted out of the basin in Georgetown Divide Ditch. Water is diverted 1.2 mi upstream at South Fork Rubicon River Diversion Dam to Robbs Peak Powerplant (station 11429300). Diversion of up to 1,440 ft^3/s to Silver Creek basin began in October 1962. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s, Jan. 31, 1963, gage height, 12.32 ft, from rating curve extended above 2,500 ft^3/s on basis of slope-area measurement of peak flow; minimum, 0.8 ft^3/s, Sept. 21, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft^3/s, Oct. 15, gage height, 1.79 ft; minimum daily, 5.1 ft^3/s, Apr. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.9	5.8	5.6	5.5	8.4	5.4	6.0	6.7	7.5	6.7	6.7
2	11	7.7	5.6	5.6	6.0	8.9	5.4	5.9	5.4	7.6	6.7	6.6
3	11	7.2	5.8	5.7	6.0	8.7	5.6	5.9	6.2	7.7	6.6	6.0
4	12	6.5	6.0	7.6	6.2	8.6	5.5	5.8	7.1	7.4	6.5	6.1
5	12	6.5	5.5	7.2	6.1	10	5.1	6.0	6.7	7.5	6.3	5.8
6	12	6.5	5.4	5.5	6.1	9.3	5.5	7.1	6.9	7.5	6.5	5.7
7	12	6.5	5.4	5.2	6.9	8.8	5.3	7.1	6.8	7.7	7.0	6.0
8	11	6.5	6.1	5.2	6.7	8.8	6.2	6.8	6.9	7.4	6.9	6.0
9	11	6.5	9.8	5.3	6.8	8.6	7.0	6.3	6.2	6.9	6.4	5.8
10	11	6.5	6.9	5.5	7.4	9.0	6.5	5.6	6.1	6.8	6.1	5.7
11	11	6.6	6.6	6.4	6.6	9.9	6.1	5.4	5.4	7.0	6.1	5.8
12	12	6.9	6.2	5.5	6.6	9.0	6.0	5.5	5.9	6.9	6.0	6.3
13	11	7.0	6.5	5.3	6.5	9.0	7.2	5.5	6.4	7.0	5.8	6.1
14	11	7.0	6.4	5.4	6.5	9.4	5.8	5.3	5.7	6.9	6.0	6.0
15	13	7.0	6.0	5.4	6.3	9.8	5.5	5.7	5.7	6.9	6.0	6.0
16	12	7.3	6.2	5.7	5.7	8.8	5.4	6.0	6.2	6.8	6.1	6.1
17	11	8.1	6.1	5.4	8.2	6.7	5.3	6.2	6.6	6.6	6.0	5.9
18	11	5.8	5.8	5.7	7.5	5.9	5.3	6.3	6.1	6.3	5.9	5.8
19	10	5.3	5.7	5.6	6.4	6.5	5.6	6.5	5.8	6.3	6.1	5.9
20	11	5.7	5.8	5.5	6.4	6.2	5.7	6.2	5.7	6.4	6.0	5.9
21	12	5.5	6.0	5.4	6.2	5.9	5.6	6.1	6.7	6.9	5.8	6.1
22	11	5.9	6.0	5.5	6.1	5.7	5.7	6.1	6.9	6.8	5.9	6.1
23	11	5.8	5.6	7.2	6.1	5.3	5.8	6.1	5.6	6.6	6.2	6.1
24	11	5.8	5.5	7.3	6.4	5.3	5.8	6.2	5.4	6.4	6.2	6.3
25	11	5.9	5.5	6.3	6.5	5.8	6.5	6.1	6.0	6.4	6.0	6.5
26	11	6.0	5.8	5.7	6.9	5.4	6.7	6.7	6.2	6.5	6.1	6.4
27	11	5.9	5.9	6.3	8.7	6.4	6.6	5.9	5.8	6.6	5.7	6.1
28	11	6.1	5.6	6.1	8.2	6.2	6.7	7.4	5.4	6.5	5.7	6.5
29	11	6.9	5.5	5.9	---	6.0	6.5	7.2	6.9	7.0	5.7	6.6
30	11	6.8	5.8	5.5	---	6.1	6.2	6.4	7.5	6.8	5.9	6.3
31	11	---	6.1	5.6	---	5.7	---	7.4	---	6.8	5.9	---
TOTAL	350	197.6	186.9	181.1	185.5	234.1	177.5	192.7	186.9	214.5	190.8	183.2
MEAN	11.3	6.59	6.03	5.84	6.62	7.55	5.92	6.22	6.23	6.92	6.15	6.11
MAX	13	9.9	9.8	7.6	8.7	10	7.2	7.4	7.5	7.7	7.0	6.7
MIN	10	5.3	5.4	5.2	5.5	5.3	5.1	5.3	5.4	6.3	5.7	5.7
AC-FT	694	392	371	359	368	464	352	382	371	425	378	363

C—042335

C-042335

11430000 SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.8	21.3	36.1	49.0	36.7	18.1	12.4	18.1	20.7	13.3	8.86	9.02
MAX	52.2	268	396	484	524	130	141	125	249	92.5	12.5	22.3
(WY)	1983	1984	1965	1980	1986	1986	1982	1983	1983	1967	1983	1982
MIN	2.40	2.75	4.79	4.86	5.03	3.11	2.35	2.42	2.29	2.36	2.03	1.99
(WY)	1978	1978	1968	1968	1966	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	4540.9		2480.8			
ANNUAL MEAN	12.4		6.80		21.1	
HIGHEST ANNUAL MEAN					63.8	1982
LOWEST ANNUAL MEAN					3.59	1977
HIGHEST DAILY MEAN	301	Mar 17	13	Oct 15	5990	Jan 13 1980
LOWEST DAILY MEAN	5.3	Nov 19	5.1	Apr 5	1.3	Sep 29 1963
ANNUAL SEVEN-DAY MINIMUM	5.6	Dec 23	5.4	Apr 1	1.5	Sep 28 1963
INSTANTANEOUS PEAK FLOW			14	Oct 15	11500	Jan 31 1963
INSTANTANEOUS PEAK STAGE			1.79	Oct 15	12.32	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	9010		4920		15310	
10 PERCENT EXCEEDS	13		9.6		12	
50 PERCENT EXCEEDS	11		6.2		7.8	
90 PERCENT EXCEEDS	6.1		5.5		5.2	

C-042336

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA

LOCATION.--Lat 38°53'41", long 120°34'02", in NE 1/4 NW 1/4 sec.18, T.12 N., R.13 E., El Dorado County, Hydrologic Unit 18020128, on right bank 2.1 mi upstream from Stumpy Meadows Dam and 12.5 mi east of Georgetown.

DRAINAGE AREA.--11.7 mi^2.

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1971, published as "above Stumpy Meadows Reservoir."

GAGE.--Water-stage recorder. Elevation of gage is 4,280 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,510 ft^3/s, Feb. 17, 1986, gage height, 7.15 ft, from rating curve extended above 540 ft^3/s on basis of slope-area measurement at gage height 6.31 ft; maximum gage height, 8.05 ft, Jan. 31, 1963; minimum daily, 0.14 ft^3/s, Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 140 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 18	0815	*54	*2.30				

Minimum daily, 2.1 ft^3/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	5.9	9.3	e7.7	e7.7	17	16	12	7.2	4.1	2.8	2.1
2	5.1	5.8	8.3	7.8	e7.6	18	16	11	7.0	4.1	2.8	2.2
3	5.1	5.8	7.7	7.8	7.8	19	16	11	6.9	4.1	2.7	2.3
4	5.2	5.8	7.7	11	7.8	19	16	10	6.8	4.1	2.7	2.3
5	5.6	5.8	7.4	17	7.8	23	15	10	6.8	4.0	2.6	2.2
6	6.0	5.8	7.2	12	8.1	27	14	11	6.9	4.0	2.6	2.2
7	5.9	5.8	6.9	10	e8.4	25	14	13	6.8	3.9	2.5	2.2
8	5.8	5.8	11	9.4	e8.8	24	15	12	6.7	3.8	2.5	2.2
9	5.8	5.8	27	8.9	e9.0	24	16	11	6.4	3.7	2.5	2.2
10	5.7	5.7	13	8.6	e9.2	26	15	10	6.2	3.6	2.5	2.4
11	6.0	6.2	12	8.4	e9.2	29	14	9.8	6.0	3.5	2.4	2.5
12	6.6	7.4	11	8.2	e9.2	27	13	9.3	5.9	3.5	2.4	2.7
13	6.3	6.9	9.8	8.0	e9.2	26	13	9.1	5.8	3.4	2.4	2.9
14	6.8	6.7	12	7.8	e9.2	27	12	8.7	5.7	3.4	2.3	2.8
15	12	6.6	9.5	7.8	9.3	29	12	8.7	5.7	3.3	2.2	2.6
16	11	6.7	8.9	7.8	e9.4	29	12	8.8	5.7	3.3	2.2	2.4
17	8.4	6.7	9.0	7.8	e9.6	26	11	9.1	5.7	3.3	2.1	2.3
18	7.4	6.7	e8.9	7.8	e9.8	25	11	10	5.6	3.2	2.1	2.3
19	6.9	6.7	e8.9	7.6	e10	25	11	12	5.4	3.1	2.2	2.3
20	6.8	6.5	e8.9	7.5	e10	24	11	10	5.3	3.2	2.2	2.3
21	6.7	6.5	e8.9	7.3	e10	23	10	9.5	5.2	3.2	2.2	2.1
22	6.6	7.1	8.9	7.2	e10	23	10	8.9	5.1	3.2	2.2	2.1
23	6.4	7.6	8.1	11	e10	21	10	8.6	5.0	3.1	2.2	2.1
24	6.3	7.0	7.8	12	e10	19	11	8.3	4.9	3.1	2.2	2.4
25	6.2	6.9	7.6	10	11	18	12	8.0	4.8	3.0	2.2	2.4
26	6.0	6.7	7.7	9.6	12	17	13	7.9	4.7	3.0	2.2	2.4
27	5.9	6.7	e7.7	9.1	19	17	14	7.7	4.6	2.9	2.2	2.4
28	5.9	7.0	e7.7	8.7	18	17	14	7.5	4.5	2.9	2.2	2.9
29	6.0	10	e7.7	e7.8	---	17	13	7.3	4.3	2.8	2.2	4.7
30	5.9	13	e7.7	e7.8	---	17	13	7.1	4.2	2.9	2.2	3.4
31	5.9	---	e7.7	e7.7	---	17	---	8.0	---	2.9	2.2	---
TOTAL	201.4	203.6	291.9	277.1	277.1	695	393	295.3	171.8	105.6	72.9	74.3
MEAN	6.50	6.79	9.42	8.94	9.90	22.4	13.1	9.53	5.73	3.41	2.35	2.48
MAX	12	13	27	17	19	29	16	13	7.2	4.1	2.8	4.7
MIN	5.1	5.7	6.9	7.2	7.6	17	10	7.1	4.2	2.8	2.1	2.1
AC-FT	399	404	579	550	550	1380	780	586	341	209	145	147

e Estimated.

C-042337

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.58	13.1	25.2	40.0	44.9	49.9	45.7	33.7	14.4	7.85	5.06	4.61
MAX	24.8	74.1	159	187	373	195	139	118	50.4	17.7	16.2	16.3
(WY)	1963	1984	1965	1980	1986	1983	1982	1967	1967	1961	1961	1961
MIN	.87	2.79	3.35	4.55	4.64	4.82	3.38	4.06	1.83	.64	.18	.50
(WY)	1978	1977	1977	1991	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1961 - 1994	
ANNUAL TOTAL	12881.5		3059.0			
ANNUAL MEAN	35.3		8.38		24.1	
HIGHEST ANNUAL MEAN					64.8	1983
LOWEST ANNUAL MEAN					2.96	1977
HIGHEST DAILY MEAN	302	Mar 17	29	Mar 11	2840	Feb 17 1986
LOWEST DAILY MEAN	5.1	Oct 2	2.1	Aug 17	.14	Aug 16 1977
ANNUAL SEVEN-DAY MINIMUM	5.2	Sep 28	2.2	Aug 15	.15	Aug 12 1977
INSTANTANEOUS PEAK FLOW			54	Feb 18	3510	Feb 17 1986
INSTANTANEOUS PEAK STAGE			2.30	Feb 18	8.05	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	25550		6070		17490	
10 PERCENT EXCEEDS	88		16		54	
50 PERCENT EXCEEDS	15		7.4		9.7	
90 PERCENT EXCEEDS	5.9		2.4		3.2	

C-042338

11433040 PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CA

LOCATION.--Lat 38°55'25", long 120°38'27", in NE 1/4 NW 1/4 sec.4, T.12 N., R.12 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank 450 ft downstream from Mutton Canyon, 500 ft downstream from Georgetown Divide Diversion Dam, 2.5 mi downstream from Stumpy Meadows Dam, and 10 mi east of Georgetown.

DRAINAGE AREA.--21.1 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 3,760 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Stumpy Meadows Lake 2.5 mi upstream, usable capacity, 17,500 acre-ft, completed in November 1961. Georgetown Irrigation District Ditch, capacity, about 60 ft^3/s, diverts water out of Pilot Creek, 500 ft upstream from station. See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,330 ft^3/s, Feb. 18, 1986, gage height, 10.86 ft, from rating curve extended above 970 ft^3/s on basis of slope-area measurement at gage height 10.06 ft; minimum daily, 0.20 ft^3/s, Sept. 24, Nov. 1-5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft^3/s, Apr. 9, gage height, 3.79 ft; minimum daily, 1.5 ft^3/s, Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	4.0	5.1	3.8	4.5	6.3	5.4	5.0	4.4	3.9	1.9	2.1
2	4.3	3.9	4.7	3.8	4.5	6.3	4.7	5.0	4.3	3.9	1.9	2.1
3	4.3	3.9	4.5	3.8	4.5	6.3	6.8	4.8	4.2	3.9	1.9	2.2
4	4.3	3.9	4.4	5.1	4.5	6.2	6.3	4.8	4.1	3.9	1.9	2.2
5	4.4	4.0	4.3	5.9	4.5	7.5	4.5	4.8	4.1	3.8	1.9	2.2
6	4.4	3.9	4.3	4.5	4.6	7.2	4.3	5.1	4.2	3.0	1.9	2.2
7	4.4	3.9	4.3	4.3	7.8	7.0	3.7	5.8	4.1	2.0	1.9	2.1
8	4.3	4.0	7.7	4.1	6.1	6.3	6.1	5.4	4.1	2.4	1.9	2.1
9	4.3	4.1	9.4	4.1	5.6	5.4	19	5.2	4.1	2.4	1.9	1.8
10	4.3	4.1	2.7	4.0	7.8	5.4	9.6	5.0	3.9	2.4	1.9	1.6
11	4.4	4.2	3.1	4.1	5.6	5.9	4.4	4.8	3.9	2.4	1.8	1.5
12	4.5	4.7	2.8	4.3	3.6	5.2	4.0	4.7	3.9	2.4	1.8	1.7
13	4.5	4.3	2.4	4.3	3.1	4.9	4.1	4.7	3.9	2.4	1.8	1.9
14	4.5	4.2	2.5	4.3	3.7	4.8	4.0	4.7	3.9	2.4	1.8	1.8
15	6.3	4.1	2.4	4.3	4.5	4.8	3.9	4.6	4.0	2.3	1.8	1.8
16	5.6	4.0	2.3	4.3	4.5	4.7	3.9	4.7	4.1	2.3	1.8	1.8
17	4.9	4.1	2.2	4.3	6.5	4.5	3.9	4.7	4.1	2.3	1.9	1.8
18	4.7	4.1	2.1	4.3	5.7	4.3	3.8	4.9	4.1	2.2	1.9	1.8
19	4.6	4.1	2.1	4.3	5.2	4.2	3.8	5.6	4.0	2.2	1.9	1.8
20	4.4	4.1	2.1	4.3	5.1	4.1	3.8	5.0	3.9	2.2	1.9	1.8
21	4.3	4.1	2.0	4.2	4.8	4.1	3.9	4.8	3.9	2.2	1.9	1.8
22	4.3	4.5	2.0	4.2	5.0	4.0	4.4	4.7	3.9	2.1	1.9	1.8
23	4.3	4.3	2.0	5.2	5.1	4.0	4.6	4.6	4.0	2.0	1.9	1.8
24	4.3	4.1	2.0	5.2	4.9	3.9	5.1	4.5	3.9	2.0	2.0	1.9
25	4.2	4.0	2.0	5.0	4.8	4.0	5.4	4.5	3.8	1.9	2.1	1.9
26	4.1	3.9	2.1	5.0	5.2	4.1	6.0	4.5	3.9	1.9	2.0	1.9
27	4.0	3.8	2.2	4.8	7.7	3.9	6.2	4.5	3.9	1.9	1.9	1.8
28	3.9	4.1	2.9	4.6	6.5	3.9	5.8	4.5	3.9	1.9	2.0	2.1
29	4.0	7.6	3.8	4.5	---	3.9	5.4	4.5	3.9	1.9	1.9	2.2
30	3.9	9.3	3.8	4.5	---	5.9	5.2	4.5	3.9	1.9	2.0	2.0
31	3.9	---	3.8	4.5	---	7.5	---	4.5	---	1.9	2.1	---
TOTAL	136.6	131.3	104.0	137.9	145.9	160.5	162.0	149.4	120.3	76.3	59.1	57.5
MEAN	4.41	4.38	3.35	4.45	5.21	5.18	5.40	4.82	4.01	2.46	1.91	1.92
MAX	6.3	9.3	9.4	5.9	7.8	7.5	19	5.8	4.4	3.9	2.1	2.2
MIN	3.9	3.8	2.0	3.8	3.1	3.9	3.7	4.5	3.8	1.9	1.8	1.5
AC-FT	271	260	206	274	289	318	321	296	239	151	117	114

11433040 PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.71	5.94	29.6	46.8	66.7	67.1	64.1	33.2	7.87	4.03	3.13	2.64
MAX	7.19	28.6	340	279	585	370	289	164	54.4	15.6	13.4	8.54
(WY)	1963	1984	1965	1970	1986	1983	1982	1967	1967	1983	1983	1983
MIN	.46	.46	.54	.53	.89	1.21	.98	1.12	.66	.45	.38	.37
(WY)	1962	1962	1962	1962	1991	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1961 - 1994	
ANNUAL TOTAL	12380.1		1440.8			
ANNUAL MEAN	33.9		3.95		27.6	
HIGHEST ANNUAL MEAN					109	1983
LOWEST ANNUAL MEAN					.84	1977
HIGHEST DAILY MEAN	400	Mar 25	19	Apr 9	4350	Feb 17 1986
LOWEST DAILY MEAN	1.8	Jan 5	1.5	Sep 11	.20	Sep 24 1966
ANNUAL SEVEN-DAY MINIMUM	2.0	Dec 19	1.7	Sep 9	.23	Oct 30 1966
INSTANTANEOUS PEAK FLOW			22	Apr 9	6330	Feb 18 1986
INSTANTANEOUS PEAK STAGE			3.79	Apr 9	10.86	Feb 18 1986
ANNUAL RUNOFF (AC-FT)	24560		2860		20020	
10 PERCENT EXCEEDS	95		5.6		76	
50 PERCENT EXCEEDS	4.5		4.1		3.7	
90 PERCENT EXCEEDS	3.7		1.9		1.0	

C-042340

11433060 SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°03'04", long 120°28'14", in SW 1/4 NE 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank at diversion dam, 3.3 mi upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 mi east of Volcanoville.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 4,630 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Tunnel completed in September 1965; diversion began in February 1966. Flow is diverted from South Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork Powerplant on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 251 ft^3/s, Nov. 12, 1973; no flow for part of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	5.3	10	6.9	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	6.9	11	6.5	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	7.6	13	6.5	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	6.9	13	6.5	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	10	11	6.9	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	11	10	13	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	12	9.4	17	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	13	10	13	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	14	10	11	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	14	9.8	10	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	15	9.4	9.8	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	13	9.4	9.0	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	14	9.4	8.3	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	17	9.8	7.2	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	19	11	6.5	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	17	12	6.2	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	14	12	5.9	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	13	13	6.2	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	13	13	6.2	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	12	13	5.3	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	12	12	4.0	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	12	11	3.0	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	9.8	9.8	2.5	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	8.7	9.4	2.1	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	8.3	9.8	1.8	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	7.6	9.8	1.8	.00	.00	.00	.00
27	.00	.00	.00	.00	1.6	8.3	11	1.1	.00	.00	.00	.00
28	.00	.00	.00	.00	3.7	9.0	9.4	.38	.00	.00	.00	.00
29	.00	.00	.00	.00	---	9.8	8.7	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	10	7.8	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	11	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	5.30	354.2	317.7	184.58	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.19	11.4	10.6	5.95	.000	.000	.000	.000
MAX	.00	.00	.00	.00	3.7	19	13	17	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	5.3	7.6	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	11	703	630	366	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

MEAN	.002	3.91	5.76	9.26	8.92	18.7	25.2	24.9	8.21	.34	.002	.000
MAX	.034	37.2	38.6	42.1	23.9	77.7	67.8	80.6	47.5	4.54	.067	.001
(WY)	1980	1974	1984	1974	1978	1989	1980	1975	1967	1983	1983	1972
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1966	1966	1966	1966	1991	1974	1974	1974	1966	1966	1966	1966

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	7092.16		861.78			
ANNUAL MEAN	19.4		2.36		8.76	
HIGHEST ANNUAL MEAN					20.6	1978
LOWEST ANNUAL MEAN					.43	1977
HIGHEST DAILY MEAN	127	Mar 25	19	Mar 15	251	Nov 12 1973
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 3	.00	Oct 1	.00	Oct 1 1965
ANNUAL RUNOFF (AC-FT)	14070		1710		6340	
10 PERCENT EXCEEDS	63		10		28	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042341

11433065 SOUTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°03'04", long 120°28'14", in SW 1/4 NE 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 21 ft below diversion dam, 3.3 mi upstream from confluence of North and South Forks Long Canyon Creek, and 17.2 mi east of Volcanoville.

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

GAGE.--Water-stage recorder. Elevation of gage is 4,630 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Discharge is computed only during periods of operation of South Fork Long Canyon Creek Diversion Tunnel (station 11433060). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	6.8	6.5	6.5	---	---	---	---
2	---	---	---	---	---	7.0	6.3	6.5	---	---	---	---
3	---	---	---	---	---	7.2	6.5	6.7	---	---	---	---
4	---	---	---	---	---	7.2	6.5	6.7	---	---	---	---
5	---	---	---	---	---	7.4	6.5	6.7	---	---	---	---
6	---	---	---	---	---	7.4	6.5	6.8	---	---	---	---
7	---	---	---	---	---	7.0	6.5	6.8	---	---	---	---
8	---	---	---	---	---	6.5	6.7	6.8	---	---	---	---
9	---	---	---	---	---	6.5	6.7	6.8	---	---	---	---
10	---	---	---	---	---	6.5	6.7	6.8	---	---	---	---
11	---	---	---	---	---	6.5	6.7	6.8	---	---	---	---
12	---	---	---	---	---	6.5	6.7	6.8	---	---	---	---
13	---	---	---	---	---	6.5	6.7	6.7	---	---	---	---
14	---	---	---	---	---	6.5	6.7	6.7	---	---	---	---
15	---	---	---	---	---	6.5	6.7	6.7	---	---	---	---
16	---	---	---	---	---	6.5	6.7	6.7	---	---	---	---
17	---	---	---	---	---	6.5	6.7	6.5	---	---	---	---
18	---	---	---	---	---	6.5	6.7	6.5	---	---	---	---
19	---	---	---	---	---	6.5	6.7	6.5	---	---	---	---
20	---	---	---	---	---	6.3	6.7	6.5	---	---	---	---
21	---	---	---	---	---	6.3	6.7	6.5	---	---	---	---
22	---	---	---	---	---	6.3	6.7	6.7	---	---	---	---
23	---	---	---	---	---	6.3	6.7	6.7	---	---	---	---
24	---	---	---	---	---	6.3	6.5	6.7	---	---	---	---
25	---	---	---	---	---	6.3	6.5	6.5	---	---	---	---
26	---	---	---	---	---	6.3	6.5	6.5	---	---	---	---
27	---	---	---	---	6.7	6.3	6.5	6.5	---	---	---	---
28	---	---	---	---	6.7	6.3	6.5	6.7	---	---	---	---
29	---	---	---	---	---	6.3	6.5	---	---	---	---	---
30	---	---	---	---	---	6.3	6.5	---	---	---	---	---
31	---	---	---	---	---	6.5	---	---	---	---	---	---
TOTAL	---	---	---	---	---	203.8	198.0	---	---	---	---	---
MEAN	---	---	---	---	---	6.57	6.60	---	---	---	---	---
MAX	---	---	---	---	---	7.4	6.7	---	---	---	---	---
MIN	---	---	---	---	---	6.3	6.3	---	---	---	---	---
AC-FT	---	---	---	---	---	404	393	---	---	---	---	---

C-042342

11433080 NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°02'57", long 120°28'56", in SW 1/4 NW 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank at diversion dam, 3.2 mi upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 mi east of Volcanoville.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 4,700 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Tunnel completed in September 1965 and diversions began in February 1966. Flow is diverted from North Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork Powerplant (stations 11428700 and 11428600) on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 75 ft^3/s, May 25, 1983; no flow for part of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	9.6	6.1	3.7	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	11	6.6	3.1	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	11	8.0	3.0	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	9.6	7.4	2.7	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	14	6.6	2.6	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	13	6.2	5.8	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	12	5.5	9.2	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	12	5.7	6.6	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	12	5.9	5.4	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	12	6.9	3.8	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	12	6.8	3.0	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	9.9	6.3	2.6	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	11	6.2	2.1	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	13	6.1	1.8	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	13	7.0	1.4	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	11	7.5	1.4	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	8.7	7.1	1.5	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	8.5	6.8	1.8	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	8.4	6.5	2.2	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	7.5	5.5	1.8	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	7.8	4.9	1.2	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	7.0	4.2	.89	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	5.7	4.0	.22	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	5.0	3.7	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	4.9	3.7	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	4.4	5.4	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	5.5	5.4	7.0	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	8.2	5.7	5.9	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	6.1	5.2	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	6.6	4.4	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	6.3	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	13.70	284.1	179.1	67.81	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.49	9.16	5.97	2.19	.000	.000	.000	.000
MAX	.00	.00	.00	.00	8.2	14	8.0	9.2	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	4.4	3.7	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	27	564	355	135	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1994, BY WATER YEAR (WY)

MEAN	.054	.94	1.77	2.82	4.10	9.10	11.5	10.5	2.30	.021	.003	.005
MAX	.74	13.2	12.1	14.7	15.9	35.5	33.0	34.6	21.5	.20	.093	.077
(WY)	1980	1982	1984	1986	1980	1993	1993	1975	1983	1973	1973	1973
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1966	1966	1966	1966	1974	1974	1974	1974	1966	1966	1966	1966

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1966 - 1994	
ANNUAL TOTAL	3589.25		544.71			
ANNUAL MEAN	9.83		1.49		3.59	
HIGHEST ANNUAL MEAN					9.85	1993
LOWEST ANNUAL MEAN					.007	1977
HIGHEST DAILY MEAN	64	Mar 19	14	Mar 5	75	May 25 1983
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 25	.00	Oct 1	.00	Oct 1 1965
ANNUAL RUNOFF (AC-FT)	7120		1080		2600	
10 PERCENT EXCEEDS	33		6.6		13	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

C-042343

11433085 NORTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°02'57", long 120°28'56", in SW 1/4 NW 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 26 ft below diversion dam, 3.2 mi upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 mi east of Volcanoville.

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

GAGE.--Water-stage recorder. Elevation of gage is 4,700 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Discharge is computed only during periods of operation of North Fork Long Canyon Creek Diversion Tunnel (station 11433080). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	2.8	2.8	2.7	---	---	---	---
2	---	---	---	---	---	2.8	2.8	2.7	---	---	---	---
3	---	---	---	---	---	2.9	2.8	2.7	---	---	---	---
4	---	---	---	---	---	2.9	2.8	2.7	---	---	---	---
5	---	---	---	---	---	3.1	2.8	2.7	---	---	---	---
6	---	---	---	---	---	3.0	2.8	2.8	---	---	---	---
7	---	---	---	---	---	3.0	2.8	2.9	---	---	---	---
8	---	---	---	---	---	2.9	2.8	2.8	---	---	---	---
9	---	---	---	---	---	2.9	2.8	2.8	---	---	---	---
10	---	---	---	---	---	2.9	2.8	2.8	---	---	---	---
11	---	---	---	---	---	3.0	2.8	2.7	---	---	---	---
12	---	---	---	---	---	2.9	2.8	2.7	---	---	---	---
13	---	---	---	---	---	2.9	2.8	2.7	---	---	---	---
14	---	---	---	---	---	2.9	2.8	2.7	---	---	---	---
15	---	---	---	---	---	3.0	2.8	2.7	---	---	---	---
16	---	---	---	---	---	2.9	2.9	2.6	---	---	---	---
17	---	---	---	---	---	2.8	2.9	2.7	---	---	---	---
18	---	---	---	---	---	2.8	2.9	2.7	---	---	---	---
19	---	---	---	---	---	2.8	2.8	2.7	---	---	---	---
20	---	---	---	---	---	2.8	2.8	2.7	---	---	---	---
21	---	---	---	---	---	2.8	2.8	2.7	---	---	---	---
22	---	---	---	---	---	2.8	2.8	2.6	---	---	---	---
23	---	---	---	---	---	2.8	2.8	2.8	---	---	---	---
24	---	---	---	---	---	2.8	2.8	---	---	---	---	---
25	---	---	---	---	---	2.8	2.8	---	---	---	---	---
26	---	---	---	---	---	2.8	2.8	---	---	---	---	---
27	---	---	---	---	4.3	2.8	2.8	---	---	---	---	---
28	---	---	---	---	2.8	2.8	2.8	---	---	---	---	---
29	---	---	---	---	---	2.8	2.8	---	---	---	---	---
30	---	---	---	---	---	2.8	2.7	---	---	---	---	---
31	---	---	---	---	---	2.8	---	---	---	---	---	---
TOTAL	---	---	---	---	---	88.8	84.2	---	---	---	---	---
MEAN	---	---	---	---	---	2.86	2.81	---	---	---	---	---
MAX	---	---	---	---	---	3.1	2.9	---	---	---	---	---
MIN	---	---	---	---	---	2.8	2.7	---	---	---	---	---
AC-FT	---	---	---	---	---	176	167	---	---	---	---	---

C-042344

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 39°00'22", long 120°45'35", in NW 1/4 NW 1/4 sec.4, T.13 N., R.11 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 1.6 mi downstream from Oxbow Powerplant and 3.3 mi east of Foresthill.

DRAINAGE AREA.--524 mi^2.

PERIOD OF RECORD.--October 1958 to current year.
CHEMICAL DATA: Water year 1979.
BIOLOGICAL DATA: Water year 1979.

GAGE.--Water-stage recorder. Elevation of gage is 1,070 ft above sea level, from topographic map. Prior to Oct. 22, 1965, at site 3.2 mi downstream at different datum. Oct. 22, 1965, to Aug. 28, 1985, at site 400 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Flow regulated by French Meadows Reservoir, Hell Hole Reservoir, Loon Lake (stations 11427400, 11428700, and 11429350), Stumpy Meadows Lake, usable capacity, 17,500 acre-ft, and several smaller reservoirs. Robbs Peak Powerplant (station 11429300) and Georgetown Divide Ditch, capacity about 60 ft^3/s, divert water out of basin upstream from station. See schematic diagrams of Middle Fork American and Rubicon River basins and lower Sacramento River basin.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 310,000 ft^3/s, Dec. 23, 1964, gage height, 69.0 ft from floodmarks, site and datum then in use, caused by overtopping of the partly constructed Hell Hole Dam on the Rubicon River, from rating curve extended above 28,000 ft^3/s on basis of slope-area measurement at gage height 38.0 ft and slope-conveyance study at gage height 69.0 ft, at site and datum then in use; next highest peak, 113,000 ft^3/s, Feb. 1, 1963, gage height, 38.00 ft, site and datum then in use; minimum, 35 ft^3/s, Oct. 10-20, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,280 ft^3/s, Dec. 9, gage height, 13.95 ft; minimum daily, 78 ft^3/s, Sept. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	661	471	120	437	559	350	275	764	715	531	425
2	106	731	670	118	416	642	322	219	762	364	571	433
3	107	696	682	410	395	608	321	222	718	341	604	270
4	102	562	657	180	303	601	322	260	460	339	575	266
5	100	753	111	295	117	860	312	240	356	657	541	287
6	100	366	312	249	174	945	316	423	679	715	445	323
7	93	105	323	460	281	647	325	187	728	652	414	79
8	134	512	638	139	344	407	351	476	716	693	386	78
9	693	497	814	128	276	395	259	179	754	659	516	80
10	684	551	506	456	279	394	356	278	732	473	617	83
11	687	482	342	395	456	615	293	216	433	673	553	83
12	693	611	366	454	279	557	295	264	355	600	593	84
13	743	138	366	349	285	506	296	238	622	741	292	85
14	730	113	630	386	224	496	355	230	688	699	516	494
15	811	589	591	124	137	504	353	220	726	668	565	478
16	774	513	579	115	298	508	344	218	722	562	574	614
17	772	456	625	454	443	506	265	214	701	354	569	475
18	771	496	129	397	608	477	226	222	427	299	586	97
19	684	501	117	342	404	375	240	290	446	405	593	109
20	706	121	505	369	385	436	300	239	622	419	272	109
21	699	103	468	427	416	433	284	263	711	520	248	102
22	687	379	462	136	446	364	260	227	681	672	536	96
23	735	424	443	165	365	392	247	312	707	115	550	94
24	716	421	435	518	301	382	247	499	779	233	588	93
25	712	105	117	602	303	344	271	222	161	532	586	92
26	495	172	150	462	378	335	303	192	358	565	544	92
27	747	103	447	502	644	304	311	338	664	563	293	92
28	711	103	380	472	690	302	290	357	654	576	250	92
29	693	414	391	156	---	325	282	439	694	548	547	97
30	680	600	397	176	---	401	279	476	607	360	609	134
31	635	---	415	444	---	357	---	660	---	213	657	---
TOTAL	17231	12278	13540	10000	10084	14977	8975	9095	18427	15925	15721	5936
MEAN	556	409	437	323	360	483	299	293	614	514	507	198
MAX	811	753	814	602	690	945	356	660	779	741	657	614
MIN	93	103	111	115	117	302	226	179	161	115	248	78
AC-FT	34180	24350	26860	19830	20000	29710	17800	18040	36550	31580	31180	11770

C-042345

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	448	656	1110	1443	1755	1739	1717	1436	943	610	576	504
MAX	1634	2951	7172	5939	8815	5076	5572	4642	3300	1836	1142	1084
(WY)	1963	1984	1965	1980	1986	1983	1982	1963	1983	1983	1983	1983
MIN	54.3	47.1	64.8	85.2	111	240	110	120	124	99.2	47.2	42.8
(WY)	1961	1960	1960	1991	1991	1977	1977	1977	1977	1966	1959	1962

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1959 - 1994	
ANNUAL TOTAL	465753		152189			
ANNUAL MEAN	1276		417		1074	
HIGHEST ANNUAL MEAN					2723	1982
LOWEST ANNUAL MEAN					179	1977
HIGHEST DAILY MEAN	8860	Jan 22	945	Mar 6	65000	Dec 23 1964
LOWEST DAILY MEAN	93	Oct 7	78	Sep 8	35	Oct 19 1961
ANNUAL SEVEN-DAY MINIMUM	99	Sep 20	82	Sep 7	38	Oct 14 1961
INSTANTANEOUS PEAK FLOW			1280	Dec 9	310000	Dec 23 1964
INSTANTANEOUS PEAK STAGE			13.95	Dec 9	69.00	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	923800		301900		778400	
10 PERCENT EXCEEDS	2380		695		2240	
50 PERCENT EXCEEDS	1030		407		702	
90 PERCENT EXCEEDS	355		117		91	

C-042346

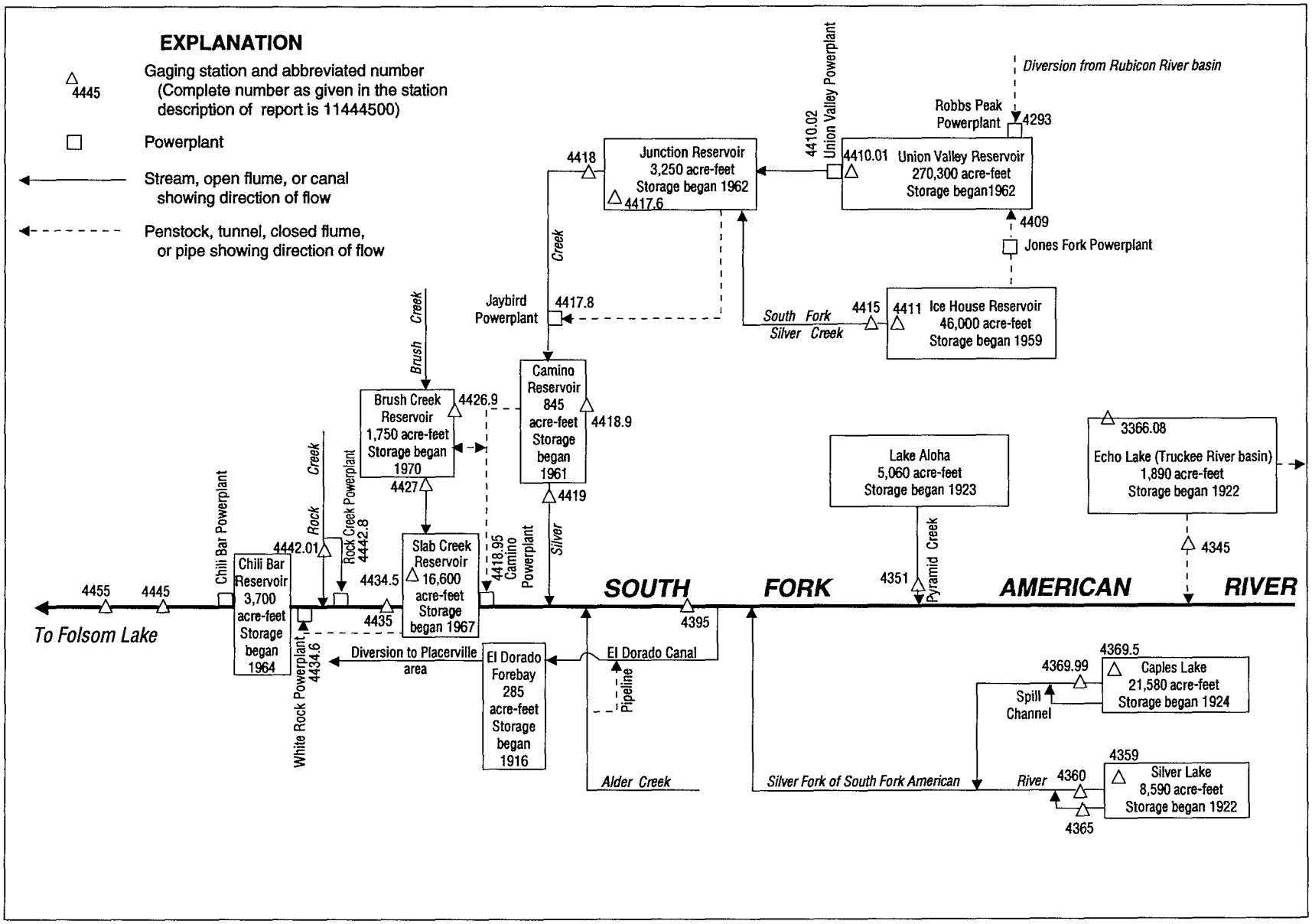

Figure 37. Diversions and storage in South Fork American River basin.

C-042347

C-042347

11434500 ECHO LAKE CONDUIT NEAR PHILLIPS, CA

LOCATION.--Lat 38°49'52", long 120°02'12", in NW 1/4 NW 1/4 sec.6, T.11 N., R.18 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank in Berkeley Municipal Camp, 0.5 mi downstream from intake, and 2.4 mi northeast of Phillips.

PERIOD OF RECORD.--August 1923 to current year. Monthly discharge only for July 1933, published in WSP 1315-A. Published as Echo Lake Flume near Vade prior to 1943, and as Echo Lake Conduit near Vade for 1944-53.

REVISED RECORDS.--WSP 1315-A: July 1933.

GAGE.--Water-stage recorder. Elevation of gage is 7,420 ft above sea level, from topographic map. Prior to July 16, 1929, nonrecording gage at site 0.4 mi upstream at different datum.

REMARKS.--Conduit diverts from Echo Lake (station 10336608) in Truckee River basin into South Fork American River basin for power and irrigation. See schematic diagram of South Fork American River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 33 ft^3/s, Sept. 10, 11, 1980; no flow most of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	8.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	27	7.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	27	6.9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	27	6.1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
5	27	5.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
6	27	4.9	.00	.00	.00	.00	.00	.00	.00	.00	.00	e5.0
7	27	4.5	.00	.00	.00	.00	.00	.00	.00	.00	.00	20
8	27	4.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	28
9	27	3.3	.00	.00	.00	.00	.00	.00	.00	.00	.00	27
10	26	1.8	.00	.00	.00	.00	.00	.00	.00	.00	.00	27
11	26	1.1	.00	.00	.00	.00	.00	.00	.00	.00	.00	27
12	26	e.70	.00	.00	.00	.00	.00	.00	.00	.00	.00	26
13	26	e.60	.00	.00	.00	.00	.00	.00	.00	.00	.00	26
14	26	e.50	.00	.00	.00	.00	.00	.00	.00	.00	.00	26
15	26	e.40	.00	.00	.00	.00	.00	.00	.00	.00	.00	25
16	26	e.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	25
17	25	e.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	24
18	24	e.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	23
19	23	e.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	21
20	22	e.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	19
21	21	e.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	18
22	20	e.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	16
23	19	e.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	15
24	17	e.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	14
25	16	e.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	14
26	15	e.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	14
27	13	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12
28	12	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	11
29	11	e.00	.00	.00	---	.00	.00	.00	.00	.00	.00	11
30	9.8	e.00	.00	.00	---	.00	.00	.00	.00	.00	.00	9.8
31	9.0	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	681.8	57.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	483.82
MEAN	22.0	1.90	.000	.000	.000	.000	.000	.000	.000	.000	.000	16.1
MAX	27	8.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	28
MIN	9.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1350	113	.00	.00	.00	.00	.00	.00	.00	.00	.00	960

e Estimated.

C-042348

11434500 ECHO LAKE CONDUIT NEAR PHILLIPS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.83	3.80	.51	.14	.15	.22	.15	.000	.11	.25	.99	13.2
MAX	24.1	20.4	7.13	4.88	4.73	6.70	4.77	.000	5.90	9.39	15.0	22.1
(WY)	1984	1976	1970	1990	1990	1976	1990	1928	1924	1928	1927	1956
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1928	1928	1928	1928	1928	1928	1928	1928	1928	1929	1929	1928

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1923 - 1994	
ANNUAL TOTAL	807.66		1222.66			
ANNUAL MEAN	2.21		3.35		2.33	
HIGHEST ANNUAL MEAN					4.92	1976
LOWEST ANNUAL MEAN					.19	1993
HIGHEST DAILY MEAN	27	Sep 30	28	Sep 8	33	Sep 10 1980
LOWEST DAILY MEAN	.00	Jan 1	.00	Nov 27	.00	Jun 1 1924
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Nov 27	.00	Jun 1 1924
ANNUAL RUNOFF (AC-FT)	1600		2430		1690	
10 PERCENT EXCEEDS	7.1		19		10	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA

LOCATION.--Lat 38°48'57", long 120°06'58", in NW 1/4 SW 1/4 sec.9, T.11 N., R.17 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 0.5 mi northeast of Twin Bridges, 2.2 mi west of Phillips, and 3.6 mi downstream from Lake Aloha.

DRAINAGE AREA.--8.76 mi^2.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,320 ft above sea level, from topographic map. Prior to October 1987, at datum 1.00 ft higher.

REMARKS.--Flow regulated by Lake Aloha, capacity, 5,060 acre-ft. Lake of the Woods, Ropi Lake, and Toem Lake (unknown capacities) also regulate at times. See schematic diagram of South Fork American River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 858 ft^3/s, June 26, 1971, gage height, 5.62 ft, present datum, from rating curve extended above 300 ft^3/s; minimum daily, 0.03 ft^3/s, Oct. 26-28, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 116 ft^3/s, May 11, gage height, 3.19 ft; minimum daily, 3.3 ft^3/s, Sept. 21-23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	31	8.6	7.7	e9.1	16	34	30	45	19	49	11
2	14	31	8.2	7.8	e8.3	19	36	38	42	21	49	11
3	14	29	8.1	8.8	e7.5	20	38	43	40	21	49	11
4	15	14	8.6	15	7.4	19	29	58	35	22	49	11
5	17	7.8	8.4	15	e7.5	23	25	61	34	21	49	10
6	16	6.9	7.8	e12	7.1	19	24	61	32	21	48	10
7	15	6.8	7.4	e11	9.1	18	20	50	26	20	48	9.9
8	14	6.5	8.4	e8.9	10	20	19	49	25	21	47	6.3
9	14	6.1	14	e9.0	e9.1	22	19	80	26	32	47	4.0
10	14	5.9	12	e9.9	10	22	17	81	26	33	47	3.5
11	15	6.2	14	e9.1	19	20	18	88	28	33	47	3.5
12	15	7.3	18	8.2	e13	18	25	83	30	32	46	3.7
13	15	6.3	11	8.0	10	20	32	74	31	32	45	3.8
14	15	6.0	11	8.1	e10	29	39	67	31	31	44	3.7
15	29	6.1	11	8.2	e9.3	34	49	55	27	32	44	3.6
16	30	6.5	e10	8.4	8.8	30	63	35	21	32	43	3.5
17	26	5.8	e9.6	8.7	12	23	72	29	17	31	42	3.5
18	23	5.5	e9.7	9.4	29	24	78	33	16	31	39	3.5
19	21	5.5	e9.6	10	21	22	81	39	15	31	17	3.5
20	19	5.6	e8.8	10	23	23	76	37	16	40	13	3.4
21	20	5.5	8.7	10	19	26	64	36	16	41	12	3.3
22	34	7.2	8.4	e9.1	18	23	50	42	16	41	12	3.3
23	35	7.3	8.1	10	14	e18	40	48	15	41	12	3.3
24	35	e6.3	8.0	12	12	16	30	52	15	40	11	3.8
25	34	e6.4	8.1	11	14	16	28	e54	14	40	12	4.1
26	34	e6.0	8.1	e11	14	15	28	e53	12	41	11	3.6
27	33	6.3	8.5	e11	15	19	26	59	11	49	12	3.5
28	33	7.0	8.1	e11	14	26	26	50	11	50	11	3.9
29	32	8.2	8.0	e10	---	30	27	48	11	50	11	5.4
30	32	10	8.1	e9.4	---	36	28	48	10	49	11	4.2
31	32	---	8.1	e9.7	---	36	---	53	---	49	11	---
TOTAL	709	275.8	294.4	307.4	360.2	702	1141	1634	694	1047	988	161.8
MEAN	22.9	9.19	9.50	9.92	12.9	22.6	38.0	52.7	23.1	33.8	31.9	5.39
MAX	35	31	18	15	29	36	81	88	45	50	49	11
MIN	14	5.5	7.4	7.7	7.1	15	17	29	10	19	11	3.3
AC-FT	1410	547	584	610	714	1390	2260	3240	1380	2080	1960	321

e Estimated.

C-042350

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.5	18.1	14.7	15.8	16.0	23.4	39.2	93.2	89.8	64.9	42.9	14.6
MAX	35.3	53.8	52.5	56.4	55.6	63.2	66.9	160	213	174	90.2	77.4
(WY)	1984	1974	1982	1980	1982	1982	1982	1974	1983	1983	1974	1983
MIN	.18	.74	1.93	2.25	3.54	7.13	14.7	29.5	18.4	32.3	2.52	.28
(WY)	1991	1991	1991	1991	1991	1977	1975	1977	1987	1991	1981	1981

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1971 - 1994	
ANNUAL TOTAL	15468.9		8314.6			
ANNUAL MEAN	42.4		22.8		37.1	
HIGHEST ANNUAL MEAN					65.1	1982
LOWEST ANNUAL MEAN					15.3	1977
HIGHEST DAILY MEAN	219	May 31	88	May 11	551	Jan 13 1980
LOWEST DAILY MEAN	5.5	Nov 18	3.3	Sep 21	.03	Oct 26 1992
ANNUAL SEVEN-DAY MINIMUM	5.8	Nov 15	3.4	Sep 17	.04	Oct 22 1992
INSTANTANEOUS PEAK FLOW			116	May 11	858	Jun 26 1971
INSTANTANEOUS PEAK STAGE			3.19	May 11	5.62	Jun 26 1971
ANNUAL RUNOFF (AC-FT)	30680		16490		26880	
10 PERCENT EXCEEDS	117		48		92	
50 PERCENT EXCEEDS	28		17		19	
90 PERCENT EXCEEDS	8.2		6.3		2.8	

11435900 SILVER LAKE NEAR KIRKWOOD, CA

LOCATION.--Lat 38°40'07", long 120°07'14", in NW 1/4 SE 1/4 sec.32, T.10 N., R.17 E., Amador County, Hydrologic Unit 18020129, Eldorado National Forest, on outlet structure, 3.5 mi southwest of Kirkwood.

DRAINAGE AREA.--15.2 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in files of U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 7,184.3 ft above sea level (levels by Pacific Gas & Electric Co.). October 1985 to Mar. 5, 1991, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earthfill and rock masonry dam initially constructed in 1876 and enlarged in 1929. Capacity, 8,590 acre-ft between gage heights 0.0 ft, invert of outlet, and 22.7 ft, top of radial gates and flashboards. Released water is used for power development on South Fork American River. See schematic diagram of South Fork American River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 8,741 acre-ft, May 15, 29, 1990, gage height, 23.0 ft; minimum observed, 0 acre-ft, Feb. 13, 15, 20, 22, 27, 1991, gage height, 0 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,410 acre-ft, June 9, gage height, 22.34 ft; minimum, 472 acre-ft, Feb. 25, gage height, 1.76 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., recomputed Oct. 1, 1989)

0.0	0	12.0	3,840
2.0	540	15.0	5,010
4.0	1,120	18.0	6,350
6.0	1,720	21.0	7,740
9.0	2,730	24.0	9,241

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5155	3676	2523	1369	641	486	e1298	4317	8175	7612	6437	5353
2	5108	3653	2474	1336	632	478	e1357	4410	8250	7570	6405	5306
3	5065	3634	2429	1302	612	475	e1417	4543	8295	7528	6368	5276
4	5014	3607	2390	1293	595	475	e1477	4705	8330	7485	6336	5237
5	4986	3588	e2335	1278	574	503	e1537	4853	8370	7438	6294	5198
6	4946	3570	e2294	1239	569	506	e1597	4986	8385	7406	6253	5177
7	4901	3543	e2257	1204	583	503	e1657	5112	8385	7373	6216	5142
8	4857	3509	e2209	1180	563	509	e1717	5220	8390	7326	6165	5083
9	4809	3468	e2175	1162	546	520	e1780	5431	8410	7289	6128	5010
10	4761	3423	e2138	1114	569	537	e1844	e5709	8405	7247	6091	4946
11	4725	3404	e2107	1085	549	551	e1895	e5981	8390	7224	6059	4881
12	4682	3367	e2077	1044	529	557	1915	e6257	8375	7184	6027	4821
13	4638	3322	e2047	1018	512	563	2011	6478	8345	7127	5990	4761
14	4602	3285	e2024	989	492	609	2162	6685	8305	7090	5954	4701
15	4590	3256	e1998	957	486	681	2380	6815	8270	7058	5913	4634
16	4571	3215	e1976	937	475	728	2659	6860	8235	7025	5872	4575
17	4516	3175	e1950	908	478	760	2956	6915	8200	6993	5836	4508
18	4473	3138	e1902	885	534	804	3263	6979	8164	6961	5808	4453
19	4414	3112	e1851	865	531	833	3596	7025	8164	6929	5777	4395
20	4336	3036	e1803	839	523	873	3866	7053	8119	6869	5745	4329
21	4259	2978	e1752	818	514	928	4045	7104	8064	6819	5704	4267
22	4178	2938	e1687	804	503	969	4117	7159	8034	6796	5677	4212
23	4090	2877	1669	804	489	992	4124	7224	7994	6764	5641	4147
24	4003	2830	1639	801	478	995	4090	7326	7954	6736	5614	4109
25	3908	2776	1606	783	472	1009	4075	7453	7919	6690	5574	4060
26	3817	2730	1582	766	475	1012	4045	7570	7864	6657	5547	4010
27	3763	2677	1552	739	495	1018	4048	7726	7805	6621	5529	3942
28	3756	2642	1504	722	492	1079	4102	7834	7750	6588	5502	3893
29	3729	2614	1480	707	---	e1153	4168	7929	7702	6552	5471	3851
30	3722	2568	1444	675	---	e1228	4243	7999	7655	6510	5436	e3783
31	3695	---	1402	667	---	e1236	---	8094	---	6473	5392	---
MAX	5155	3676	2523	1369	641	1236	4243	8094	8410	7612	6437	5353
MIN	3695	2568	1402	667	472	475	1298	4317	7655	6473	5392	3783
a	11.62	8.54	4.94	2.44	1.83		13.06	21.71	20.82	18.27	15.89	
b	-1512	-1127	-1166	-735	-175	+744	+3007	+3851	-439	-1182	-1081	-1609

CAL YR 1993 MAX 8640 MIN 1402 b -1634
WTR YR 1994 MAX 8410 MIN 472 b -1424

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

C-042352

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA

LOCATION.--Lat 38°40'18", long 120°07'19", in NE 1/4 SW 1/4 sec.32, T.10 N., R.17 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 1,000 ft downstream from Silver Lake Dam and 3.5 mi southwest of Kirkwood.

DRAINAGE AREA.--15.2 mi^2.

PERIOD OF RECORD.--September 1922 to current year. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WDR CA-75-4: 1927(M), 1929(M), 1932(M), 1937-38(M), 1940-45(M), 1950-53(M), 1955-58(M), 1963(M), 1965(M), 1967(M), 1969-70(M), 1973(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 8, 1986. Datum of gage is 7,198.0 ft above sea level (levels by Pacific Gas & Electric Co).

REMARKS.--No estimated daily discharges. Low and medium flow regulated by Silver Lake (station 11435900) 1,000 ft upstream. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation and is measured at staff gage (station 11436500) 0.25 mi east of station. For leakage from Silver Lake, refer to monthly figures below. See schematic diagram of South Fork American River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,160 ft^3/s, Feb. 19, 1986, gage height, 6.22 ft, from rating curve extended above 430 ft^3/s; no flow many days in February and March 1948, Jan. 13, 14, 1954, Nov. 3, 1959, to Feb. 5, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 98 ft^3/s, Apr. 22, gage height, 4.24 ft; minimum daily, 3.3 ft^3/s, June 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	5.7	22	16	9.2	5.5	16	9.4	4.6	4.8	3.4	8.5
2	16	5.7	22	16	8.9	5.4	16	10	3.7	4.7	4.3	8.4
3	16	5.7	22	16	8.6	5.2	17	11	4.2	4.3	6.0	8.3
4	15	5.7	22	16	8.4	5.4	17	11	4.6	4.4	5.9	8.2
5	15	5.7	21	16	8.1	5.6	18	12	3.8	4.5	5.8	8.0
6	16	10	21	15	7.8	5.8	18	11	3.3	4.4	5.6	8.2
7	18	14	21	15	8.0	5.7	18	10	3.6	4.4	5.6	8.4
8	17	14	21	15	8.0	5.7	18	11	3.6	4.3	5.7	19
9	17	14	21	15	7.7	6.0	18	12	3.6	4.3	5.6	27
10	17	14	21	15	7.7	6.4	18	12	3.6	4.0	5.5	26
11	17	14	21	15	7.8	6.6	18	13	3.6	4.1	5.4	26
12	16	14	20	14	7.6	5.2	18	11	3.6	4.1	5.3	27
13	16	14	20	14	7.3	7.0	19	8.5	3.6	4.2	5.2	27
14	16	14	20	14	7.0	7.5	19	8.6	3.5	4.4	5.2	26
15	16	14	20	14	6.7	8.6	20	8.4	3.5	4.2	5.1	26
16	18	18	20	13	6.6	9.8	21	8.4	3.5	3.9	4.9	26
17	19	20	19	13	4.4	10	23	8.3	3.9	4.0	4.8	26
18	19	20	19	12	8.4	11	19	16	4.0	4.1	4.8	25
19	27	20	19	12	7.3	11	14	23	3.7	4.1	4.6	25
20	38	20	19	12	7.4	12	15	23	3.7	4.1	4.8	25
21	37	22	18	11	7.2	13	41	23	4.0	4.2	4.8	24
22	42	24	18	11	6.9	13	79	23	4.5	4.1	4.8	24
23	44	24	18	11	6.5	14	77	23	4.4	4.0	4.8	24
24	44	24	18	11	6.3	14	74	19	4.4	4.0	4.9	24
25	42	24	18	11	6.0	14	72	5.3	4.2	3.9	5.1	23
26	39	23	18	11	6.0	14	67	4.0	4.6	3.9	4.8	23
27	18	23	17	10	6.0	14	36	3.6	5.4	3.9	4.8	23
28	5.8	23	17	10	5.8	14	12	4.0	5.3	4.0	4.8	23
29	5.7	23	17	9.9	---	14	8.4	5.1	5.1	3.9	6.5	22
30	5.7	23	17	9.6	---	15	9.0	6.8	4.8	3.9	8.7	22
31	5.7	---	16	9.4	---	15	---	6.4	---	3.5	8.7	---
TOTAL	653.9	495.5	603	402.9	203.6	299.4	835.4	360.8	121.9	128.6	166.0	621.0
MEAN	21.1	16.5	19.5	13.0	7.27	9.66	27.8	11.6	4.06	4.15	5.35	20.7
MAX	44	24	22	16	9.2	15	79	23	5.4	4.8	8.7	27
MIN	5.7	5.7	16	9.4	4.4	5.2	8.4	3.6	3.3	3.5	3.4	8.0
AC-FT	1300	983	1200	799	404	594	1660	716	242	255	329	1230
a	11	0	0	0	0	0	0	292	697	408	168	22

a Leakage, in acre-feet, from Silver Lake, provided by Pacific Gas & Electric Co.

C-042353

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.8	18.6	16.0	12.8	12.7	14.6	41.3	125	83.5	17.0	8.52	38.2
MAX	54.3	110	116	71.2	93.2	98.2	133	306	353	186	50.5	74.6
(WY)	1953	1951	1951	1970	1963	1986	1943	1969	1983	1983	1987	1983
MIN	.11	.15	.000	.000	.093	.013	.20	1.37	1.43	.91	.44	.16
(WY)	1930	1929	1960	1960	1948	1948	1924	1977	1977	1959	1925	1923

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1923 - 1994	
ANNUAL TOTAL	19670.4		4892.0			
ANNUAL MEAN	53.9		13.4		34.4	
HIGHEST ANNUAL MEAN					85.4	1983
LOWEST ANNUAL MEAN					8.76	1976
HIGHEST DAILY MEAN	346	May 26	79	Apr 22	606	Nov 21 1950
LOWEST DAILY MEAN	3.5	Aug 12	3.3	Jun 6	.00	Feb 24 1948
ANNUAL SEVEN-DAY MINIMUM	3.8	Aug 7	3.6	Jun 6	.00	Feb 28 1948
INSTANTANEOUS PEAK FLOW			98	Apr 22	1160	Feb 19 1986
INSTANTANEOUS PEAK STAGE			4.24	Apr 22	6.22	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	39020		9700		24960	
TOTAL LEAKAGE (AC-FT) a	2250		1600			
10 PERCENT EXCEEDS	190		23		93	
50 PERCENT EXCEEDS	18		11		10	
90 PERCENT EXCEEDS	5.0		4.1		.60	

a Leakage, in acre-feet, from Silver Lake, provided by Pacific Gas & Electric Co.

C-042354

11436950 CAPLES LAKE NEAR KIRKWOOD, CA

LOCATION.--Lat 38°42'27", long 120°02'55", in SW 1/4 SW 1/4 sec.18, T.10 N., R.18 E., Alpine County, Hydrologic Unit 18020129, Eldorado National Forest, on Caples Lake Dam near the center of the earthfill portion and 1.3 mi east of Kirkwood.
DRAINAGE AREA.--13.5 mi^2.
PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder since Oct. 1, 1991. Datum of gage is 7,894.0 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to Oct. 1, 1991, nonrecording gage read periodically except for the periods Oct. 16, 1986, to Sept. 30, 1987, Dec. 18, 1990, to May 26, 1991, and July 30 to Sept. 16, 1991, when there was a water-stage recorder at same site and datum.
REMARKS.--Lake is formed by one earthfill and one concrete dam at spillway; dam was completed and storage began in 1924. Capacity, 21,581 acre-ft, between gage heights 6.0 and 62.0 ft, top of 3 ft of flashboards; capacity, 19,751 acre-ft at spillway level. Released water is measured at Caples Creek Release (station 11436999). When gage height is above spillway crest of 59.0 ft, there is leakage or spill which is not measured. Released water is used for power development on South Fork American River. See schematic diagram of South Fork American River basin.
COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum observed contents, 21,581 acre-ft, many days in 1986 and 1989, gage height, 62.0 ft; minimum, 2,427 acre-ft, Mar. 30, 31, 1987, gage height, 20.7 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 19,516 acre-ft, Oct. 1, gage height, 58.61 ft; minimum, 10,379 acre-ft, Mar. 29, gage height 41.57 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated Mar. 24, 1934)

15.0	1,061	45.0	12,037
20.0	2,238	50.0	14,609
25.0	3,703	55.0	17,390
30.0	5,442	60.0	20,356
35.0	7,432	63.0	22,201
40.0	9,648		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19516	18023	16630	15050	13102	11119	10441	12505	17257	18434	17754	15951
2	19474	17970	16601	14980	13000	11003	10464	12580	17384	18410	17720	15845
3	19444	17812	16550	14964	12924	10921	10526	12676	17482	18398	17673	15768
4	19379	17853	16483	14894	12822	10873	10526	12832	17598	18369	17662	15674
5	19349	17795	16443	14834	12711	10826	10554	12965	17714	18363	17621	15564
6	19265	17760	16392	14764	12661	10826	10578	13123	17749	18339	17604	15509
7	19194	17725	16325	14684	12635	10778	10578	13210	17830	18339	17563	15421
8	19158	17656	16302	14625	12535	10740	10592	13312	17888	18316	17517	15339
9	19128	17615	16291	14582	12490	10706	10597	13514	17982	18263	17482	15295
10	19044	17557	16269	14481	12460	10668	10626	13763	18081	18257	17448	15257
11	19015	17494	16179	14427	12365	10659	10626	14104	18163	18269	17448	15235
12	18937	17448	16151	14369	12280	10673	10621	14401	18239	18222	17425	15208
13	18890	17390	16101	14316	12190	10621	10697	14679	18310	18181	17390	15208
14	18866	17332	16068	14226	12140	10616	10859	14931	18334	18175	17367	15175
15	18872	17286	16068	14173	12060	10621	10907	15088	18369	18151	17332	15143
16	18818	17286	16029	14115	11938	10621	11027	15175	18381	18128	17292	15143
17	18812	17234	15995	14104	11938	10626	11147	15257	18410	18081	17252	15105
18	18718	17211	15917	13978	11900	10616	11341	15333	18422	18058	17223	15088
19	18676	17154	15884	13915	11870	10626	11540	15366	18410	18052	17137	15067
20	18641	17102	15834	13847	11780	10630	11731	15443	18422	18017	17034	15012
21	18588	17028	15762	e13768	11770	10630	11888	15547	18410	17970	16942	15002
22	18558	16982	15707	e13716	11711	10616	11997	15608	18428	17982	16840	14991
23	18499	16931	15619	13654	11687	10559	12091	15735	18487	17958	16754	14958
24	18434	16885	15591	13638	11477	10526	12166	15779	18499	17952	16664	14958
25	18375	16828	15520	13586	11447	10483	12220	16051	18505	17976	16590	14926
26	18316	16794	15454	13524	11365	10441	12280	16246	18499	17917	16511	14926
27	18275	16737	15388	13457	11273	10384	12370	16421	18475	17882	16387	14883
28	18245	16703	15328	13395	11205	10384	12385	16590	18469	17859	16269	14867
29	18182	16675	15251	13323	---	10379	12410	16743	18469	17882	16190	14840
30	18146	16664	15186	13251	---	10393	12470	16937	18452	17842	16179	14802
31	18058	---	15115	13169	---	10426	---	17091	---	17789	16056	---
MAX	19516	18023	16630	15050	13102	11119	12470	17091	18505	18434	17754	15951
MIN	18058	16664	15115	13169	11205	10379	10441	12505	17257	17789	16056	14802
a	56.15	53.73	50.94	47.25	43.30	41.67	45.87	54.48	56.82	55.69	52.65	50.36
b	-1512	-1394	-1549	-1946	-1964	-779	+2044	+4621	+1361	-663	-1733	-1254

CAL YR 1993 MAX 21568 MIN 11229 b +3570
WTR YR 1994 MAX 19516 MIN 10379 b -4768
e Estimated.
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

C—042355

C-042355

11436999 CAPLES CREEK RELEASE BELOW CAPLES DAM NEAR KIRKWOOD, CA

LOCATION.--Lat 38°42'31", long 120°03'02", in NW 1/4 SW 1/4 sec.18, T.10 N., R.18 E., Alpine County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 500 ft downstream from main dam and outlet gate of Caples Lake and 1.3 mi east of Kirkwood.

DRAINAGE AREA.--13.5 mi^2.

PERIOD OF RECORD.--October 1992 to current year. Records for September 1922 to September 1992 were published as station 11437000, Caples Lake Outlet. This record combined the spillway discharge. Records for water year 1945 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1969, published as Twin Lakes Outlet near Kirkwood.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,730 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Caples Lake (station 11436950) 500 ft upstream. Flow over Caples Lake Spillway bypasses this gage. No diversion upstream from station. See schematic diagram of South Fork American River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145 ft^3/s, June 28, 1993, gage height, 2.66 ft; minimum daily, 6.3 ft^3/s, Oct. 18, 1992.

EXTREMES FOR CURRENT YEAR.-- Maximum discharge, 48 ft^3/s, Feb. 16, gage height, 2.02 ft; minimum daily, 7.5 ft^3/s, Sept 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	23	23	32	42	47	9.2	8.2	9.2	13	10	40
2	26	23	23	32	42	47	9.2	8.3	8.6	13	10	40
3	26	23	23	32	42	34	9.2	8.2	8.2	13	11	40
4	26	23	23	32	42	25	9.2	8.2	8.1	13	11	40
5	26	23	23	32	42	25	9.2	8.2	8.1	13	11	40
6	26	23	23	32	42	25	9.1	8.2	8.2	13	11	40
7	25	23	23	32	42	25	9.0	8.3	8.1	13	11	40
8	25	23	23	32	42	25	9.0	8.2	7.9	13	11	28
9	25	23	23	32	42	17	9.1	8.2	8.0	13	11	12
10	25	23	25	32	42	11	9.2	8.2	8.3	13	11	8.5
11	25	23	28	32	42	11	12	8.4	9.0	12	11	8.5
12	25	23	28	32	42	11	14	8.4	9.4	11	11	8.6
13	25	23	28	32	42	11	15	8.4	9.0	11	11	8.8
14	25	23	28	32	42	11	15	8.4	8.4	11	11	8.9
15	25	23	28	32	42	11	11	8.7	8.3	11	11	8.8
16	25	23	28	32	44	9.6	8.1	8.8	8.2	11	11	8.8
17	24	23	28	33	48	8.6	8.2	8.8	8.2	11	11	8.6
18	24	23	27	33	48	8.6	8.3	8.9	8.2	11	18	8.4
19	24	23	27	33	48	8.3	8.1	9.0	8.3	11	26	8.5
20	24	23	27	33	48	8.2	8.1	8.8	8.1	11	31	8.5
21	24	23	27	32	48	8.2	8.2	8.8	8.1	11	35	7.8
22	24	23	30	32	47	18	8.2	8.8	8.1	11	38	7.8
23	24	23	33	32	47	28	8.2	8.9	8.1	11	41	7.7
24	24	23	33	32	47	28	8.2	9.0	10	11	41	7.5
25	24	23	33	32	47	27	8.1	9.0	13	11	41	7.8
26	24	23	33	32	47	27	8.2	9.0	13	11	40	7.8
27	24	23	33	32	47	28	8.2	9.0	13	11	40	10
28	24	23	33	38	47	17	8.2	9.0	13	11	40	13
29	24	23	33	43	---	9.1	8.2	9.0	13	11	40	13
30	24	23	32	43	---	9.1	8.2	9.0	13	10	40	13
31	23	---	33	42	---	9.2	---	9.2	---	10	40	---
TOTAL	765	690	862	1034	1243	587.9	281.1	267.5	280.1	360	696	510.3
MEAN	24.7	23.0	27.8	33.4	44.4	19.0	9.37	8.63	9.34	11.6	22.5	17.0
MAX	26	23	33	43	48	47	15	9.2	13	13	41	40
MIN	23	23	23	32	42	8.2	8.1	8.2	7.9	10	10	7.5
AC-FT	1520	1370	1710	2050	2470	1170	558	531	556	714	1380	1010

C-042356

11436999 CAPLES CREEK RELEASE BELOW CAPLES DAM NEAR KIRKWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.5	16.3	20.4	23.7	29.2	16.5	12.3	18.2	62.3	43.0	22.7	18.4
MAX	24.7	23.0	27.8	33.4	44.4	19.0	15.1	27.8	115	74.4	22.9	19.7
(WY)	1994	1994	1994	1994	1994	1994	1993	1993	1993	1993	1993	1993
MIN	8.42	9.68	12.9	14.0	14.0	14.1	9.37	8.63	9.34	11.6	22.5	17.0
(WY)	1993	1993	1993	1993	1993	1993	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1993 - 1994	
ANNUAL TOTAL	11963		7576.9			
ANNUAL MEAN	32.8		20.8		24.9	
HIGHEST ANNUAL MEAN					29.0	1993
LOWEST ANNUAL MEAN					20.8	1994
HIGHEST DAILY MEAN	142	Jun 29	48	Feb 17	142	Jun 29 1993
LOWEST DAILY MEAN	11	Aug 11	7.5	Sep 24	6.3	Oct 16 1992
ANNUAL SEVEN-DAY MINIMUM	11	Aug 11	7.8	Sep 20	6.5	Oct 16 1992
INSTANTANEOUS PEAK FLOW			48	Feb 16	145	Jun 28 1993
INSTANTANEOUS PEAK STAGE			2.02	Feb 16	2.66	Jun 28 1993
ANNUAL RUNOFF (AC-FT)	23730		15030		18040	
10 PERCENT EXCEEDS	97		40		48	
50 PERCENT EXCEEDS	20		23		14	
90 PERCENT EXCEEDS	14		8.2		8.4	

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA

LOCATION.--Lat 38°45'49", long 120°19'39", in SW 1/4 SW 1/4 sec.29, T.11 N., R.15 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 0.8 mi downstream from Silver Fork American River, and 1.9 mi southwest of Kyburz.

DRAINAGE AREA.--193 mi^2.

PERIOD OF RECORD.--August to December 1907, October 1922 to current year. Prior to October 1956, records for river and El Dorado Canal published separately; combined flow only, October 1956 to September 1960.
CHEMICAL DATA: Water years 1979, 1980.
BIOLOGICAL DATA: Water years 1979, 1980.
SUSPENDED SEDIMENT: Water year 1980.
WATER TEMPERATURE: Water years 1966-79.

REVISED RECORDS.--WSP 1445: 1923(M), 1925(M), 1927(M), 1928 (river only), 1935-37(M). WSP 1515: 1928 (combined). WSP 1931: Drainage area.

GAGE.--Water-stage recorder on river; water-stage recorder for canal diversion (station 11439000). Elevation of gage is 3,840 ft above sea level, from topographic map. Prior to Oct. 1, 1962, at datum 1.00 ft higher.

REMARKS.--Low and medium flows regulated by Echo Lake, Silver Lake, Caples Lake (stations 10336608, 11435900, and 11436950), and Lake Aloha, total capacity, 37,100 acre-ft. Some water is diverted out of river 0.6 mi upstream at diversion dam to El Dorado Canal. Part of this water is used for irrigation and domestic use and the remainder is returned to river at El Dorado Powerplant (station 11439300). See schematic diagram of South Fork American River basin.

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

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 17,400 ft^3/s, Dec. 23, 1964, gage height, 10.92 ft, from rating curve extended above 6,300 ft^3/s on basis of contracted-opening measurement at gage height 10.40 ft; minimum daily, 0.13 ft^3/s, Nov. 26, 1977.
Combined flow: Maximum discharge, 17,500 ft^3/s, Dec. 23, 1964; minimum daily, 10 ft^3/s, Oct. 17, 19, 1929.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 937 ft^3/s, Apr. 20, gage height, 4.56 ft; minimum daily, 20 ft^3/s, Aug. 20.
Combined flow: Maximum discharge, 961 ft^3/s, Apr. 20; minimum daily, 54 ft^3/s, Nov. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	83	77	67	76	135	268	277	257	27	34	26
2	94	81	76	67	74	147	286	305	225	31	35	24
3	94	81	72	66	80	157	364	341	209	30	38	21
4	93	71	72	84	76	137	304	404	180	30	40	23
5	100	58	70	133	73	167	250	439	169	29	39	25
6	102	54	70	82	76	168	245	439	158	28	38	25
7	99	60	69	80	87	150	206	416	138	26	37	25
8	96	61	74	74	91	151	204	419	127	25	34	26
9	95	61	86	71	84	165	197	527	126	27	31	36
10	95	60	75	72	91	165	178	589	117	29	33	33
11	96	60	80	71	82	162	174	648	109	27	33	26
12	98	64	e75	74	84	139	220	637	103	26	32	29
13	95	62	e83	72	86	135	286	547	96	26	31	34
14	96	58	e81	72	81	180	356	503	93	27	30	35
15	128	57	e71	64	85	238	433	448	83	26	28	35
16	137	58	e59	62	85	244	538	325	74	26	27	34
17	121	66	e59	67	112	191	591	279	65	25	26	31
18	113	66	e64	68	97	185	633	293	59	25	24	30
19	106	64	e61	69	101	191	679	360	55	25	22	29
20	119	64	e66	68	97	186	650	360	51	29	20	30
21	117	65	e70	69	98	210	587	361	48	33	24	28
22	124	72	e71	66	100	214	516	332	45	31	23	26
23	135	74	e65	81	93	182	456	325	42	31	24	26
24	133	68	e59	81	93	168	363	328	42	30	24	25
25	129	68	e59	78	102	158	330	333	37	31	24	29
26	125	68	e62	73	116	148	309	310	35	33	24	24
27	118	71	e71	67	132	157	308	325	33	40	24	22
28	90	72	e65	66	127	203	264	297	31	42	24	25
29	87	79	e68	71	---	232	276	270	30	40	23	42
30	86	91	67	77	---	252	269	275	27	37	24	38
31	85	---	66	71	---	290	---	274	---	35	25	---
TOTAL	3301	2017	2163	2283	2579	5607	10740	11986	2864	927	895	862
MEAN	106	67.2	69.8	73.6	92.1	181	358	387	95.5	29.9	28.9	28.7
MAX	137	91	86	133	132	290	679	648	257	42	40	42
MIN	85	54	59	62	73	135	174	270	27	25	20	21
AC-FT	6550	4000	4290	4530	5120	11120	21300	23770	5680	1840	1780	1710

e Estimated.

C-042358

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1994, BY WATER YEAR (WY)

MEAN	32.5	77.1	125	124	153	246	611	1164	794	153	19.1	19.2
MAX	223	1283	1587	937	1333	1252	1497	2765	3551	1526	343	417
(WY)	1984	1951	1951	1980	1986	1986	1982	1969	1983	1983	1983	1983
MIN	.77	.49	.69	.57	.76	2.42	38.9	56.8	.76	.62	.58	.54
(WY)	1929	1929	1931	1929	1931	1933	1977	1977	1924	1924	1926	1924

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1923 - 1994	
ANNUAL TOTAL	200258		46224			
ANNUAL MEAN	549		127		293	
HIGHEST ANNUAL MEAN					907	1983
LOWEST ANNUAL MEAN					19.4	1977
HIGHEST DAILY MEAN	2980	May 25	679	Apr 19	12300	Dec 23 1964
LOWEST DAILY MEAN	54	Nov 6	20	Aug 20	.13	Nov 26 1977
ANNUAL SEVEN-DAY MINIMUM	59	Nov 5	23	Aug 18	.36	Nov 5 1928
INSTANTANEOUS PEAK FLOW			937	Apr 20	17400	Dec 23 1964
INSTANTANEOUS PEAK STAGE			4.56	Apr 20	10.92	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	397200		91690		212500	
10 PERCENT EXCEEDS	1650		309		969	
50 PERCENT EXCEEDS	189		76		39	
90 PERCENT EXCEEDS	70		26		2.6	

11439501 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

SOUTH FORK AMERICAN RIVER AND EL DORADO CANAL NEAR KYBURZ, CA,
COMBINED DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	83	77	80	86	144	284	302	298	70	84	71
2	94	81	76	80	83	159	304	330	266	75	82	72
3	94	81	72	78	89	171	383	366	251	75	83	71
4	93	71	72	94	85	151	324	429	222	75	83	70
5	100	58	70	143	82	181	273	464	212	73	82	70
6	102	54	70	95	85	181	270	464	202	71	81	70
7	99	60	69	90	96	161	230	441	182	69	79	70
8	96	61	78	86	101	162	226	444	171	69	78	73
9	95	61	95	83	93	177	216	552	170	72	76	83
10	95	60	90	80	100	177	197	614	161	78	78	82
11	96	60	95	76	91	173	193	673	153	77	77	73
12	98	64	84	79	92	150	240	662	146	75	76	74
13	95	62	85	77	96	146	306	574	139	73	75	76
14	96	58	85	78	91	193	376	532	136	72	74	72
15	128	57	75	77	94	251	455	476	126	71	72	71
16	137	58	63	77	93	258	562	353	117	70	71	72
17	121	66	64	79	121	205	616	307	108	69	71	71
18	113	66	69	80	106	199	658	321	103	68	70	69
19	106	64	66	81	110	205	703	388	98	66	65	66
20	119	64	71	79	106	200	674	388	94	73	57	66
21	117	65	77	79	107	224	612	389	92	79	63	63
22	124	72	78	77	109	228	541	360	89	79	65	60
23	135	74	76	92	101	196	481	359	85	78	68	60
24	133	68	75	92	102	182	388	367	82	77	69	60
25	129	68	74	89	110	171	355	375	81	74	69	65
26	125	68	73	84	124	161	334	356	79	74	69	60
27	118	71	78	78	140	170	333	371	77	82	69	59
28	90	72	77	73	135	216	289	343	75	88	69	61
29	87	79	81	81	---	246	301	316	72	86	68	72
30	86	91	80	90	---	266	294	321	70	85	70	65
31	85	---	79	84	---	306	---	320	---	85	71	---
TOTAL	3301	2017	2374	2611	2828	6010	11418	12957	4157	2326	2264	2067
MEAN	106	67.2	76.6	84.2	101	194	381	418	139	75.0	73.0	68.9
MAX	137	91	95	143	140	306	703	673	298	86	84	83
MIN	85	54	63	73	82	144	193	302	70	66	57	59
AC-FT	6550	4000	4710	5180	5610	11920	22650	25700	8250	4610	4490	4100
a	0	0	419	651	495	799	1340	1930	2560	2770	2720	2390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1994, BY WATER YEAR (WY)

MEAN	111	165	221	216	256	352	719	1282	925	283	147	133
MAX	365	1301	1697	1058	1412	1344	1533	2905	3561	1537	357	424
(WY)	1983	1951	1951	1980	1986	1986	1982	1969	1983	1983	1983	1983
MIN	20.8	25.1	44.2	35.6	38.4	53.7	178	207	99.7	74.9	73.0	46.4
(WY)	1978	1930	1960	1929	1977	1977	1977	1977	1924	1931	1994	1987

SUMMARY STATISTICS	FOR 1994 WATER YEAR		WATER YEARS 1923 - 1994	
ANNUAL TOTAL	54330			
ANNUAL MEAN	149		401	
HIGHEST ANNUAL MEAN			980	1983
LOWEST ANNUAL MEAN			104	1977
HIGHEST DAILY MEAN	703	Apr 19	12400	Dec 23 1964
LOWEST DAILY MEAN	54	Nov 6	10	Oct 17 1929
ANNUAL SEVEN-DAY MINIMUM	59	Nov 5	13	Oct 6 1929
INSTANTANEOUS PEAK FLOW	961	Apr 20	17500	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	107800		290600	
ANNUAL TOTAL, DIVERSION (AC-FT) a	16080			
10 PERCENT EXCEEDS	347		1080	
50 PERCENT EXCEEDS	86		165	
90 PERCENT EXCEEDS	67		75	

a Diversion, in acre-feet, to El Dorado Canal, provided by Pacific Gas & Electric Co.

C-042360

11441001 UNION VALLEY RESERVOIR NEAR RIVERTON, CA

LOCATION (REVISED).--Lat 38°51'33", long 120°26'13", in NW 1/4 NW 1/4 sec.29, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in valve control house near left bank at Union Valley Dam on Silver Creek, 0.7 mi upstream from Little Silver Creek, and 6.6 mi north of Riverton.
DRAINAGE AREA.--83.7 mi^2.
PERIOD OF RECORD.--October 1962 to current year.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District).
REMARKS.--Reservoir is formed by earthfill dam completed in December 1962; storage began May 1962. Usable capacity, 269,514 acre-ft between elevations 4,645.0 ft, minimum operating level, and 4,870.0 ft, top of radial spillway gates. Dead storage, 7,921 acre-ft. Reservoir receives water from the South Fork Rubicon River via Robbs Peak Powerplant (station 11429300) and from South Fork Silver Creek, since April 1985, via Jones Fork Powerplant (station 11440900). Water is used for power development in the South Fork American River basin. Discharge to Union Valley Powerplant (station 11441002) is shown as a line item below this table. Records, including extremes, represent total contents. See schematic diagrams of Middle Fork American and Rubicon River basins and South Fork American River basin.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 279,100 acre-ft, July 9, 1974, elevation, 4,870.6 ft; minimum since reservoir first filled, 18,300 acre-ft, Jan. 13, 1977, elevation, 4,683.3 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 185,827 acre-ft, Oct. 16, elevation, 4,835.12 ft; minimum, 117,167 acre-ft, Feb. 26, elevation, 4,799.22 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

4,680	17,675	4,780	89,926
4,700	25,160	4,800	118,894
4,720	35,266	4,820	154,489
4,740	48,883	4,840	197,460
4,760	66,841	4,870	277,435

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	182683	177639	154508	130129	126399	118428	148964	166178	179382	162002	150879	138720
2	182993	177010	153434	129579	125861	119183	149231	166633	178879	161394	150533	138557
3	183104	176534	151979	129031	125341	120104	150456	167152	178552	160607	150379	138071
4	183326	175693	150360	128774	125057	121096	151361	167463	178313	159762	149805	137567
5	183460	175005	148451	128535	124523	122685	151689	167817	177986	159221	149250	136904
6	183571	174490	147389	128092	124074	123825	152211	168860	177487	158442	148888	136315
7	183793	173891	146333	127566	123676	124241	152075	170223	177530	157904	149098	135639
8	183949	173400	145508	127007	122998	124723	152404	170961	176729	157625	148603	135071
9	184261	172910	145227	126467	122833	125057	152928	171891	176081	157109	148413	134258
10	184841	172188	144797	126029	122603	126046	153006	173144	175650	156476	148204	133537
11	184819	171658	143867	125542	121913	127566	152715	174169	174984	156219	147881	132749
12	184864	170982	142738	125107	121716	128416	153142	174769	174726	156061	147484	131894
13	184842	170371	142332	124723	121340	128842	153356	175715	174084	155667	146785	131391
14	185043	169404	141817	124523	120802	130353	153902	175995	173507	155293	146220	130474
15	185580	168547	140956	124707	120510	131842	154959	176361	173123	154999	145695	129905
16	185827	167526	140207	124307	120137	133239	156002	176189	172825	154763	145171	129596
17	185625	166488	139245	123859	120039	133765	157248	176275	172082	154606	144816	129219
18	185199	165621	138594	123263	119716	134753	158162	176902	171595	154274	144294	128433
19	185020	164654	138017	122225	119183	136672	159642	177053	170813	153746	144071	127854
20	184328	163732	136583	121815	118797	138395	160607	177205	170181	153863	143885	127294
21	183860	162916	136725	121684	118621	140189	161536	177509	169425	153668	143403	126686
22	183238	162164	136511	122373	118380	141799	161961	177812	168547	153434	143126	126517
23	182750	161273	135727	123527	117980	143015	162815	177878	168150	153123	143015	125811
24	182262	160224	134682	124324	117549	144406	163181	178030	167671	152579	142738	125141
25	181489	159301	133976	125392	117342	145096	163528	178095	166882	152327	142314	124290
26	180895	158481	133449	125794	117167	144965	163794	178639	166075	151862	141688	123660
27	180389	157804	133099	125912	117310	144928	163876	179229	165250	151631	141267	123329
28	179994	157070	132277	126248	117469	145657	164736	179141	164306	151014	140499	122652
29	179403	156397	131720	126517	---	146766	165209	179032	163344	150841	140062	122718
30	178879	155313	131183	126787	---	147768	165394	178923	162754	151033	139589	122258
31	178400	---	130681	126855	---	148223	---	178923	---	151361	139281	---
MAX	185827	177639	154508	130129	126399	148223	165394	179229	179382	162002	150879	138720
MIN	178400	155313	130681	121684	117167	118428	148964	166178	162754	150841	139281	122258
a	4831.60	4820.72	4807.37	4805.13	4799.41	4817.05	4825.72	4832.08	4824.36	4818.59	4812.13	4802.27
b	-4283	-23087	-24632	-3826	-9386	+30754	+17171	+13529	-16169	-11393	-12080	-17023
c	18310	25590	32780	18340	17830	8150	11540	11400	20930	22600	24150	23230

CAL YR 1993 MAX 273285 MIN 73535 b +54257 c 439700
WTR YR 1994 MAX 185827 MIN 117167 b -60425 c 234800

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Diversion, in acre-feet, to Union Valley Powerplant, provided by Sacramento Municipal Utility District.

C—0 4 2 3 6 1

C-042361

11441100 ICE HOUSE RESERVOIR NEAR KYBURZ, CA

LOCATION.--Lat 38°49'51", long 120°21'35", in SE 1/4 NW 1/4 sec.1, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in powerplant intake structure near right bank, 0.5 mi north of Ice House Dam on South Fork Silver Creek, and 5.2 mi northwest of Kyburz.
DRAINAGE AREA.--27.2 mi^2.
PERIOD OF RECORD.--October 1959 to current year.
REVISED RECORDS.--WSP 1931: 1960.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to July 15, 1985, at site 0.5 mi downstream at Ice House Dam at same datum.
REMARKS.--Reservoir is formed by an earthfill dam; storage began Dec. 15, 1959. Usable capacity, 45,839 acre-ft between elevations 5,327.5 ft, centerline of fishwater outlet, and 5,450.0 ft, top of spillway gates. Dead storage, 160 acre-ft. Reservoir is used to store water for power development. Reservoir is also forebay for Jones Fork Powerplant (station 11440900), which diverts up to 350 ft^3/s to powerplant completed in April 1985, then to Union Valley Reservoir (station 11441001). Records, including extremes, represent total contents. See schematic diagram of South Fork American River basin.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 46,400 acre-ft, June 27, 1971, elevation, 5,450.6 ft; minimum since reservoir first filled, 1,450 acre-ft, Dec. 8, 1983, elevation, 5,347.9 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 36,642 acre-ft, June 26, elevation, 5,436.03 ft; minimum, 20,422 acre-ft, Mar. 23, elevation, 5,406.04 ft.

Capacity table (elevation, in feet, and contents in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed in October 1991)

5,345	1,080	5,400	17,665
5,350	1,801	5,420	27,406
5,360	3,751	5,440	39,167
5,380	9,663	5,451	48,721

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35299	31490	29961	26733	24472	23148	21451	27952	35311	36605	36127	35360
2	35268	31342	29967	26665	24356	23093	21642	28146	35457	36599	36102	35335
3	35244	31182	29967	26601	24260	23049	21873	28362	35586	36599	36072	35317
4	35225	31035	29972	26580	24200	23004	22033	28601	35702	36592	36047	35292
5	35195	30887	29967	26549	24134	22995	22183	28852	35800	36580	36022	35274
6	35092	30729	29978	26497	24029	22950	22334	29148	35899	36574	35991	35250
7	34934	30588	29983	26439	23984	22931	22441	29445	35973	36567	35979	35232
8	34771	30470	29722	26376	23949	22906	22578	29722	36047	36555	35936	35201
9	34620	30274	29512	26313	23883	22881	22695	30050	36109	36536	35917	35189
10	34457	30128	29236	26251	23818	22715	22773	30420	36164	36524	35899	35158
11	34295	30061	29335	26183	23813	22587	22867	30836	36238	36505	35868	35140
12	34133	30033	29340	26125	23768	22441	22990	31205	36313	36493	35850	35128
13	34032	30033	29082	26063	23723	22499	23167	31519	36375	36480	35825	35110
14	33924	30028	28896	25995	23674	22275	23390	31806	36431	36456	35807	35092
15	33942	29978	28634	25928	23634	22125	23704	32048	36474	36431	35782	34952
16	33805	29967	28406	25871	23599	22227	24089	32204	36498	36424	35757	34764
17	33687	29955	28173	25803	23654	22339	24487	32378	36511	36406	35739	34692
18	33544	29950	28017	25777	23639	22275	24914	32546	36530	36381	35714	34596
19	33414	29944	27801	25726	23604	21960	25349	32739	36555	36381	35690	34421
20	33267	29939	27801	25669	23594	21575	25772	32932	36561	36362	35665	34259
21	33131	29933	27534	25607	23584	21198	26131	33137	36574	36325	35641	34103
22	32979	29944	27267	25483	23524	20837	26402	33343	36580	36319	35610	33966
23	32832	29933	27008	25426	23460	20422	26633	33521	36617	36313	35580	33841
24	32692	29928	26992	25370	23390	20483	26812	33728	36630	36288	35555	33669
25	32529	29922	26997	25267	23326	20549	27013	34068	36636	36263	35525	33651
26	32389	29916	27013	25159	23296	20601	27161	34181	36642	36238	35506	33639
27	32250	29916	27023	25037	23251	20676	27310	34397	36624	36226	35482	33296
28	32071	29922	26986	24934	23197	20790	27459	34583	36624	36201	35463	33284
29	31944	29955	26933	24812	---	20927	27619	34752	36624	36189	35421	32791
30	31789	29967	26875	24700	---	21088	27785	34922	36605	36170	35402	32675
31	31622	---	26802	24589	---	21274	---	35140	---	36158	35384	---
MAX	35299	31490	29983	26733	24472	23148	27785	35140	36642	36605	36127	35360
MIN	31622	29916	26802	24589	23197	20422	21451	27952	35311	36158	35384	32675
a	5427.63	5424.70	5418.86	5414.58	5411.80	5407.84	5420.70	5433.46	5435.97	5435.30	5434.06	5429.52
b	-3707	-1655	-3165	-2213	-1392	-1923	+6511	+7355	+1465	-447	-774	-2709

CAL YR 1993 MAX 45050 MIN 11537 b +8327
WTR YR 1994 MAX 36642 MIN 20422 b -2654

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

C—042362

C-042362

11441500 SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CA

LOCATION.--Lat 38°49'08", long 120°21'51", in NW 1/4 NW 1/4 sec.12, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 300 ft upstream from Peavine Creek, 0.4 mi downstream from Ice House Dam, and 4.8 mi northwest of Kyburz.

DRAINAGE AREA.--27.5 mi^2.

PERIOD OF RECORD.--October 1924 to current year.

REVISED RECORDS.--WSP 1395: 1928, 1938. WSP 1635: Drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 5,290 ft above sea level, from topographic map. Prior to Oct. 1, 1959, at site 0.3 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Flow regulated by Ice House Reservoir (station 11441100) beginning in December 1959. Diversion to Jones Fork Powerplant (station 11440900) starting April 1985 bypasses station and returns to Silver Creek at Union Valley Reservoir (station 11441001). See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,940 ft^3/s, Dec. 23, 1955, gage height, 6.71 ft, site and datum then in use, from rating curve extended above 540 ft^3/s on basis of slope-area measurement at gage height 6.69 ft; no flow Oct. 31 to Nov. 9, 1958. Maximum discharge since construction of Ice House Dam in 1959, 1,930 ft^3/s, May 26, 1982, gage height, 5.74 ft, from rating curve extended above 730 ft^3/s on basis of computation of flow over dam at gage height 5.66 ft; minimum daily, 1.2 ft^3/s, Mar. 17-19, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16 ft^3/s, Oct. 1, gage height, 2.64 ft; minimum daily, 3.1 ft^3/s, Jan. 22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	12	4.4	4.6	3.5	4.4	4.0	5.6	5.1	5.9	6.2	6.2
2	13	11	4.5	4.9	3.5	4.4	4.1	5.6	5.1	5.8	6.2	6.2
3	13	11	4.4	5.2	3.7	4.4	4.2	5.6	5.1	5.8	6.2	6.2
4	13	11	4.8	4.6	4.0	4.5	4.2	5.8	5.1	5.6	6.2	5.9
5	13	11	4.9	3.4	4.0	5.0	4.0	5.9	5.1	5.6	6.2	5.9
6	13	11	4.7	3.5	4.0	4.6	4.0	6.0	5.1	5.6	6.2	5.6
7	13	11	4.6	3.6	4.2	4.4	4.0	6.1	5.1	5.7	6.2	5.7
8	13	11	4.8	3.5	4.6	4.3	4.1	6.0	5.1	6.1	6.2	6.4
9	13	11	5.5	3.8	4.4	4.3	4.2	5.9	5.1	6.1	6.2	6.5
10	13	11	5.1	4.0	4.2	4.4	4.2	5.8	5.1	5.9	6.2	6.5
11	12	11	5.0	3.7	4.2	4.5	4.2	5.7	5.1	6.0	6.2	6.5
12	12	11	4.6	3.4	4.2	4.3	4.2	5.9	5.1	6.0	6.2	6.4
13	12	11	4.7	3.6	4.2	4.3	4.2	5.9	5.1	6.1	6.2	6.2
14	12	11	4.7	3.4	4.2	4.4	5.0	6.0	5.1	6.0	6.2	6.2
15	13	11	4.7	3.8	4.2	4.5	5.4	6.2	5.1	6.3	6.2	6.2
16	12	8.2	4.7	3.9	4.2	4.4	5.4	5.7	5.4	6.4	6.2	6.2
17	12	4.8	4.9	3.3	4.5	4.3	5.4	5.4	6.2	6.2	6.2	6.2
18	12	4.4	5.1	3.2	4.2	4.3	5.5	5.5	6.2	6.2	6.2	6.2
19	12	4.3	4.9	3.3	4.2	4.4	5.9	5.6	6.2	6.2	6.2	6.2
20	12	4.5	4.6	3.3	4.1	4.4	5.7	5.4	6.2	6.4	6.2	6.2
21	12	5.1	4.8	3.2	4.1	4.2	5.8	5.4	6.4	6.5	6.2	6.2
22	12	5.1	4.6	3.1	4.2	4.2	5.8	5.4	6.5	6.5	6.2	6.2
23	12	4.8	4.6	3.1	4.0	4.2	5.7	5.4	6.1	6.5	6.2	6.2
24	12	4.4	4.6	3.3	4.0	4.2	5.8	5.4	5.9	6.4	6.2	6.2
25	12	4.4	4.6	3.5	4.1	4.2	5.9	5.4	5.8	6.2	6.2	6.2
26	12	4.5	4.8	3.5	4.3	4.0	6.2	5.4	5.6	6.2	6.2	6.2
27	12	4.5	5.1	3.5	4.7	4.0	6.2	5.3	5.7	6.2	6.2	6.2
28	12	4.4	5.2	3.5	4.3	4.0	5.9	5.1	5.9	6.2	6.2	6.4
29	12	4.5	5.1	3.5	---	4.2	5.8	5.1	5.9	6.2	6.2	6.3
30	13	4.6	4.6	3.5	---	4.2	5.6	5.1	5.9	6.2	6.2	6.2
31	13	---	4.6	3.5	---	4.2	---	5.2	---	6.2	6.2	---
TOTAL	386	238.5	148.2	113.2	116.0	134.1	150.6	173.8	166.4	189.2	192.2	185.9
MEAN	12.5	7.95	4.78	3.65	4.14	4.33	5.02	5.61	5.55	6.10	6.20	6.20
MAX	14	12	5.5	5.2	4.7	5.0	6.2	6.2	6.5	6.5	6.2	6.5
MIN	12	4.3	4.4	3.1	3.5	4.0	4.0	5.1	5.1	5.6	6.2	5.6
AC-FT	766	473	294	225	230	266	299	345	330	375	381	369
a	3400	1490	3780	2970	2320	4560	30	55	88	42	83	2270

a Diversion, in acre-feet, to Jones Fork Powerplant, provided by Sacramento Municipal Utility District.

C—042363

C-042363

11441500 SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1959, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.98	24.1	36.6	31.3	35.8	61.6	155	296	197	42.7	5.82	2.03
MAX	28.0	326	305	163	91.7	191	280	531	418	132	22.8	7.62
(WY)	1948	1951	1951	1956	1925	1928	1943	1952	1952	1952	1952	1952
MIN	.65	.64	2.34	3.00	3.00	6.92	54.9	66.2	35.0	2.92	.22	.18
(WY)	1933	1930	1933	1933	1933	1933	1944	1934	1931	1934	1931	1931

SUMMARY STATISTICS	WATER YEARS 1925 - 1959	
ANNUAL MEAN	74.5	
HIGHEST ANNUAL MEAN	123	1956
LOWEST ANNUAL MEAN	25.3	1931
HIGHEST DAILY MEAN	2780	Dec 23 1955
LOWEST DAILY MEAN	.00	Oct 31 1958
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 31 1958
INSTANTANEOUS PEAK FLOW	3940	Dec 23 1955
INSTANTANEOUS PEAK STAGE	6.71	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	53970	
10 PERCENT EXCEEDS	237	
50 PERCENT EXCEEDS	20	
90 PERCENT EXCEEDS	1.4	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1984, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	112	87.6	49.4	57.1	71.2	43.6	56.0	125	157	78.1	80.9	90.1
MAX	330	332	171	216	316	199	348	449	382	363	378	360
(WY)	1970	1966	1980	1982	1971	1969	1983	1982	1983	1983	1983	1983
MIN	5.64	5.05	5.21	4.76	5.48	3.67	2.94	4.17	3.80	4.02	3.79	3.97
(WY)	1965	1963	1963	1967	1973	1984	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	WATER YEARS 1961 - 1984	
ANNUAL MEAN	84.0	
HIGHEST ANNUAL MEAN	226	1983
LOWEST ANNUAL MEAN	24.8	1977
HIGHEST DAILY MEAN	1560	Jan 22 1970
LOWEST DAILY MEAN	1.3	Jan 26 1984
ANNUAL SEVEN-DAY MINIMUM	1.4	Jan 24 1984
INSTANTANEOUS PEAK FLOW	1930	May 26 1982
INSTANTANEOUS PEAK STAGE	5.74	May 26 1982
ANNUAL RUNOFF (AC-FT)	60830	
10 PERCENT EXCEEDS	256	
50 PERCENT EXCEEDS	12	
90 PERCENT EXCEEDS	5.3	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.87	6.95	5.32	5.11	5.57	11.2	5.27	7.33	6.93	9.17	9.19	9.22
MAX	13.9	8.51	6.12	6.84	7.02	55.0	6.13	9.72	9.66	16.0	16.1	16.4
(WY)	1990	1987	1993	1993	1986	1986	1990	1989	1986	1986	1989	1986
MIN	5.32	5.65	4.78	3.65	3.97	4.13	4.01	5.49	5.54	5.46	5.21	5.29
(WY)	1989	1993	1990	1987	1987	1987	1986	1988	1988	1987	1992	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1986 - 1994	
ANNUAL TOTAL	3537.9		2194.1			
ANNUAL MEAN	9.69		6.01		7.53	
HIGHEST ANNUAL MEAN					13.7	1986
LOWEST ANNUAL MEAN					5.68	1988
HIGHEST DAILY MEAN	18	Aug 11	14	Oct 1	649	Mar 8 1986
LOWEST DAILY MEAN	3.5	Apr 21	3.1	Jan 22	2.8	Jan 3 1986
ANNUAL SEVEN-DAY MINIMUM	3.6	Apr 23	3.2	Jan 17	3.0	Apr 11 1989
INSTANTANEOUS PEAK FLOW			16	Oct 1	1000	Mar 8 1986
INSTANTANEOUS PEAK STAGE			2.64	Oct 1	5.07	Mar 8 1986
ANNUAL RUNOFF (AC-FT)	7020		4350		5460	
ANNUAL DIVERSION (AC-FT) a	57010		21090			
10 PERCENT EXCEEDS	16		11		13	
50 PERCENT EXCEEDS	8.4		5.5		5.9	
90 PERCENT EXCEEDS	4.6		4.0		4.4	

a Diversion, in acre-feet, to Jones Fork Powerplant, provided by Sacramento Municipal Utility District.

11441760 JUNCTION RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°51'07", long 120°27'22", in SW 1/4 SW 1/4 sec.30, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, in outlet structure to Jaybird Powerplant 100 ft upstream from left abutment of Junction Diversion Dam, 0.3 mi downstream from South Fork Silver Creek and 9.0 mi northeast of Pollock Pines.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--October 1991 to current year. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to Apr. 13, 1987, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete arch dam completed in 1962. Storage began in 1962. Usable capacity, 2,368 acre-ft, between elevations 4,397 ft, maximum drawdown level, and 4,450 ft, crest of spillway. Dead storage, 862 acre-ft. Most of the flow is diverted at this reservoir to Jaybird Powerplant (station 11441780). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,236 acre-ft, Jan. 21, 1993, elevation, 4,450.11 ft; minimum, 875 acre-ft, Oct. 3, 1991, elevation, 4,397.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,165 acre-ft, Apr. 27, elevation, 4,448.82 ft; minimum, 1,414 acre-ft, Jan. 16, elevation, 4,413.17 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

4,390	692	4,420	1,703
4,400	949	4,440	2,687
4,410	1,290	4,460	3,788

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3104	3107	2870	2926	2938	2701	2803	2886	2656	2957	3037	2891
2	3102	3090	2803	2957	2951	2824	3048	2902	2943	2992	3090	2852
3	2986	2804	2940	2847	3020	2741	2720	2770	2957	2995	3013	2901
4	2982	3047	2902	2880	2847	2781	2769	2850	2984	3102	3045	2772
5	3107	3103	2945	2928	2818	2921	2899	3036	2964	3032	2984	2701
6	2973	3005	2788	2891	2799	2798	2710	2936	3110	3096	3098	2704
7	2968	3035	2985	2901	2898	2842	2952	2750	2822	2999	2823	2892
8	3083	2978	3018	2953	3015	2767	2818	2947	3101	2961	2925	2880
9	3053	2899	2833	3102	2791	2799	2695	3004	2974	2995	3007	2869
10	3062	3054	2839	3026	2784	3125	2806	2967	3028	3104	3020	2909
11	2982	3089	2847	2942	2926	2906	2912	2920	3111	3058	3027	2969
12	2989	3091	2910	3006	2937	2888	2709	3081	2965	3039	2938	2856
13	3055	2948	2804	2820	2901	2869	2792	2735	3031	3072	2942	2984
14	2978	2965	2896	2325	3011	2814	2940	2973	3101	2964	2995	2941
15	2917	2823	2729	1489	2789	2762	2692	2877	3021	3017	3040	3067
16	2935	2866	2722	1414	2596	2662	2980	3008	2837	3097	3010	3041
17	2913	2911	2886	1477	2659	2959	2889	3007	2979	3059	2974	2895
18	2973	2773	2906	2310	2628	3070	2997	2742	2962	3054	2989	2956
19	2747	2801	3035	3028	2766	3035	2703	2892	3058	3119	2996	2991
20	2949	2927	3038	3055	2862	2928	2891	3030	2982	2953	2846	3007
21	2985	2974	2901	2806	2810	2728	2714	2976	2934	3005	3073	3068
22	3010	2808	2682	2891	2674	2768	2916	2839	2982	3052	3072	2960
23	3032	2892	2730	2807	2787	2792	2809	2930	3015	3098	2925	3002
24	3122	2943	2981	2978	2818	2736	2780	2996	2889	2978	2997	3016
25	3050	2999	3000	2717	2696	2917	2895	2931	2958	3010	3028	2890
26	3009	3048	2927	2642	2760	2945	2811	3008	2893	2978	3107	3037
27	3022	2983	2871	2920	2748	3092	3165	2673	2976	2821	3039	3034
28	2928	2994	3092	2952	2882	2787	2769	2773	2955	2996	2942	3077
29	3004	2969	3046	2855	---	2940	2852	2884	2959	3084	2976	2843
30	3010	2989	2874	2818	---	2878	3125	2960	2967	2959	2920	2891
31	2896	---	2958	2878	---	3039	---	3096	---	2850	2888	---
MAX	3122	3107	3092	3102	3020	3125	3165	3096	3111	3119	3107	3077
MIN	2747	2773	2682	1414	2596	2662	2692	2673	2656	2821	2823	2701
a	4443.90	4445.61	4445.04	4443.56	4443.63	4446.53	4448.10	4447.57	4445.21	4443.04	4443.74	4443.80
b	+15	+93	-31	-80	+4	+157	+86	-29	-129	-117	+38	+3

CAL YR 1993 MAX 3236 MIN 2213 b +64
WTR YR 1994 MAX 3165 MIN 1414 b +10

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

C—042365

C-042365

11441800 SILVER CREEK BELOW JUNCTION DAM, NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°51'08", long 120°27'22", in SW 1/4 SW 1/4 sec.30, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, at outlet structure on Junction Dam, and 9 mi northeast of Pollock Pines.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--October 1987 to current year (low-flow records only). Unpublished records for water years 1965-87 available in files of the U.S. Geological Survey.

GAGE.--Differential-pressure gage and orifice control in outlet pipe. Auxiliary nonrecording gage 550 ft downstream at different datum. Elevation of gage is 4,280 ft above sea level, from topographic map. August 1964 to December 1986, nonrecording gage at site 500 ft downstream at different datum. December 1986 to September 1987, nonrecording gage at site 550 ft downstream.

REMARKS.--No estimated daily discharges. Records not computed above 30 ft^3/s. Flow completely regulated by Junction Dam. Flow over the spillway bypasses this station. Diversion through Jaybird Powerplant (station 11441780) since 1962 bypasses this station. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	19	12	11	11	12	11	12	5.7	5.7	5.7	5.8
2	23	12	11	12	11	12	12	8.5	5.6	5.7	5.8	5.8
3	23	12	12	11	11	11	11	6.9	5.7	5.7	5.8	5.7
4	23	13	12	11	12	12	12	6.8	5.7	5.7	5.8	5.6
5	23	13	12	11	11	12	12	6.2	5.7	5.7	5.8	5.7
6	23	13	12	12	12	11	12	5.8	6.4	5.7	5.8	5.6
7	23	13	12	11	12	12	12	5.7	5.6	5.7	5.7	5.8
8	23	13	12	11	12	12	12	5.7	5.8	5.7	5.7	5.8
9	23	13	12	12	11	12	12	5.8	5.9	5.7	5.7	5.8
10	23	13	12	12	11	12	12	5.7	5.8	5.7	5.8	5.8
11	23	13	11	11	12	11	12	5.7	5.7	5.7	5.8	5.8
12	23	13	12	12	11	12	12	5.8	5.9	5.7	5.8	5.8
13	23	13	11	12	11	12	12	5.7	5.8	5.7	5.8	5.8
14	23	13	12	11	12	12	12	5.6	5.9	5.7	5.8	5.8
15	23	13	11	12	12	12	12	5.8	5.8	5.7	5.8	5.8
16	23	12	12	12	12	12	12	5.7	5.7	5.7	5.8	5.9
17	23	12	12	12	12	12	12	5.8	5.6	5.7	5.8	5.8
18	23	11	12	12	11	12	12	5.7	5.7	5.8	5.8	5.8
19	23	11	12	12	12	11	12	5.8	5.9	5.8	5.8	5.8
20	23	11	12	12	11	11	12	5.9	5.8	5.8	5.7	5.8
21	23	11	12	11	11	12	12	5.8	5.6	5.7	5.8	5.8
22	23	11	11	12	11	12	12	5.7	5.6	5.7	5.8	5.8
23	23	11	12	11	12	12	12	5.7	5.7	5.8	5.8	5.8
24	23	11	12	12	12	11	12	5.7	5.7	5.7	5.8	5.8
25	23	11	11	12	11	12	12	5.7	5.6	5.7	5.8	5.7
26	23	11	12	11	11	12	12	5.7	5.7	5.8	5.8	5.7
27	23	11	11	12	12	11	12	5.7	5.7	5.7	5.8	5.8
28	23	11	12	12	12	11	12	5.6	5.7	5.7	5.8	5.8
29	23	11	11	12	---	12	11	5.6	5.7	5.8	5.8	5.8
30	23	12	11	11	---	12	12	5.7	5.7	5.7	5.8	5.7
31	23	---	11	11	---	12	---	5.7	---	5.8	5.7	---
TOTAL	713	367	362	359	322	364	357	189.2	172.4	177.4	179.2	173.2
MEAN	23.0	12.2	11.7	11.6	11.5	11.7	11.9	6.10	5.75	5.72	5.78	5.77
MAX	23	19	12	12	12	12	12	12	6.4	5.8	5.8	5.9
MIN	23	11	11	11	11	11	11	5.6	5.6	5.7	5.7	5.6
AC-FT	1410	728	718	712	639	722	708	375	342	352	355	344
a	19010	26630	34140	19820	19580	12540	13450	13480	22500	23730	24970	24020

CAL YR 1993 TOTAL 5469.8 MEAN 15.0 MAX 23 MIN 6.8 AC-FT 10850 a 501200
WTR YR 1994 TOTAL 3735.4 MEAN 10.2 MAX 23 MIN 5.6 AC-FT 7410 a 253900

a Diversion, in acre-feet, to Jaybird Powerplant, provided by Sacramento Municipal Utility District.

C-042366

11441890 CAMINO RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°49'44", long 120°32'09", in NW 1/4 NW 1/4 sec.4, T.11 N., R.13 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in outlet tower to Camino Powerplant 100 ft upstream from right abutment of Camino Diversion Dam, 0.3 mi upstream from Round Tent Canyon, and 5.3 mi northwest of Pollock Pines.

DRAINAGE AREA.--160 mi^2.
PERIOD OF RECORD.--October 1991 to current year. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to Apr. 8, 1987, nonrecording gage at same site and datum.
REMARKS.--Reservoir is formed by concrete-arch dam completed in 1961. Storage began in 1961. Usable capacity, 763 acre-ft, between elevations 2,840 ft, centerline of outlet valve, and 2,915 ft, maximum water surface level. Dead storage, 50 acre-ft. Most of the water is diverted at this reservoir to Camino Powerplant (station 11441895). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River basin.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 819 acre-ft, Jan. 21, 1993, elevation, 2,915.29 ft; minimum, 260 acre-ft, Jan. 27, 1993, elevation, 2,874.27 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 715 acre-ft, Aug. 8, elevation, 2,909.51 ft; minimum, 488 acre-ft, June 28, elevation, 2,894.60 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

2,860	149	2,900	564
2,870	223	2,910	724
2,880	315	2,920	910
2,890	428		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	633	657	619	641	615	636	607	641	628	675	619	651
2	673	631	647	635	601	626	625	601	643	622	671	587
3	650	644	585	646	596	643	600	674	641	673	648	626
4	596	634	630	679	624	649	617	609	669	625	649	606
5	641	655	660	637	599	604	599	615	619	622	626	647
6	677	652	660	622	601	613	620	649	608	675	677	616
7	671	631	703	612	609	663	601	608	634	651	634	638
8	605	643	652	649	683	617	575	701	619	617	715	635
9	632	620	625	677	636	661	614	672	630	621	660	607
10	623	670	614	606	598	552	654	636	617	640	659	643
11	630	680	674	638	652	630	639	656	570	673	600	622
12	684	668	666	617	658	626	599	654	685	655	640	610
13	612	653	705	649	630	641	681	684	651	655	646	595
14	632	649	673	570	600	597	578	633	657	638	653	637
15	695	650	638	678	659	586	586	661	672	628	632	679
16	637	613	615	660	537	642	600	624	645	629	628	676
17	617	551	624	671	547	650	600	654	665	662	686	628
18	632	587	577	611	582	673	632	633	626	636	620	653
19	644	668	635	636	624	653	707	629	667	643	645	646
20	645	642	651	653	640	644	644	613	636	623	640	680
21	648	635	623	573	631	624	613	666	699	595	654	649
22	614	666	609	654	595	660	690	649	658	650	642	641
23	641	635	648	625	614	626	624	601	656	654	609	610
24	625	628	654	673	643	562	700	625	569	635	620	581
25	650	636	649	562	619	637	611	638	604	621	657	654
26	646	621	647	614	615	628	636	690	595	655	647	690
27	648	617	624	630	633	662	628	624	588	659	633	688
28	644	633	645	589	622	635	655	613	488	626	646	656
29	656	646	626	651	---	611	648	683	606	647	644	664
30	625	655	638	681	---	654	638	592	624	666	645	604
31	626	---	647	583	---	637	---	621	---	649	627	---
MAX	695	680	705	681	683	673	707	701	699	675	715	690
MIN	596	551	577	562	537	552	575	592	488	595	600	581
a	2904.07	2905.87	2905.36	2901.24	2903.84	2904.79	2904.82	2903.75	2903.91	2905.49	2904.16	2902.63
b	-60	+29	-8	-64	+39	+15	+1	-17	+3	+25	-22	-23

CAL YR 1993 MAX 819 MIN 260 b -5
WTR YR 1994 MAX 715 MIN 488 b -82

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

C-042367

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA

LOCATION.--Lat 38°49'26", long 120°32'18", on line between secs.4 and 5, T.11 N., R.13 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 300 ft downstream from Round Tent Canyon, 0.4 mi downstream from diversion dam, and 5 mi northeast of Pollock Pines.

DRAINAGE AREA.--171 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 2,754.06 ft above sea level (Sacramento Municipal Utility District benchmark).

REMARKS.--No estimated daily discharges. Flow is regulated by Ice House Reservoir (station 11441100) since 1959, Union Valley Reservoir (station 11441001) since 1962, and Junction and Camino Reservoirs. Diversion to Camino Powerplant (station 11441895) since 1961 bypasses this station. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,800 ft^3/s, Feb. 17, 1986, gage height, 11.70 ft, from rating curve extended above 4,700 ft^3/s on basis of slope-area measurement at gage height 11.28 ft; minimum daily, 1.0 ft^3/s, Nov. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28 ft^3/s, Oct. 15, gage height, 2.86 ft; minimum daily, 5.3 ft^3/s, on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	21	10	11	11	15	11	11	5.4	5.6	5.3	5.5
2	21	17	11	11	11	15	11	7.9	5.4	5.4	5.3	5.6
3	21	12	11	11	11	15	11	6.8	5.4	5.6	5.9	5.6
4	21	12	11	11	11	15	11	7.1	5.6	5.4	5.4	5.5
5	21	11	11	11	11	17	11	6.4	5.5	5.4	5.6	5.6
6	21	11	11	11	11	18	11	6.2	5.4	5.4	5.5	5.6
7	21	11	11	11	11	16	11	6.1	5.4	5.5	5.5	5.6
8	20	11	11	11	11	15	11	5.9	5.5	5.5	5.4	5.4
9	21	11	11	11	11	14	11	6.1	5.4	5.4	5.5	5.5
10	21	11	11	11	12	14	11	6.1	5.4	5.4	5.5	5.4
11	21	11	11	11	11	14	11	6.1	5.4	5.4	5.4	5.4
12	20	10	10	11	11	14	11	6.1	5.5	5.4	5.5	5.4
13	20	11	10	11	11	13	11	6.2	5.5	5.4	5.5	5.4
14	22	11	11	11	11	12	11	6.1	5.5	5.4	5.5	5.3
15	24	11	10	11	11	12	11	6.4	5.5	5.5	5.5	5.5
16	23	10	10	11	11	12	11	6.2	5.4	5.4	5.5	5.4
17	23	11	11	11	12	11	11	6.2	5.5	5.6	5.5	5.4
18	22	11	11	11	11	11	11	6.3	5.5	5.6	5.5	5.3
19	22	11	11	11	11	11	11	6.7	5.5	5.5	5.4	5.3
20	22	11	11	11	11	11	11	7.2	5.4	5.5	5.5	5.3
21	21	11	11	11	11	11	11	6.2	5.4	5.4	5.5	5.3
22	21	11	10	11	11	11	11	6.1	5.5	5.4	5.6	5.3
23	21	10	11	11	11	11	11	6.2	5.4	5.5	5.5	5.4
24	21	11	11	11	11	11	11	5.9	5.3	5.4	5.5	5.5
25	21	11	11	11	11	11	11	5.8	5.6	5.5	5.6	5.4
26	21	10	11	11	12	11	11	5.9	5.5	5.4	5.6	5.5
27	21	11	11	11	15	11	11	5.4	5.5	5.3	5.5	5.5
28	21	11	11	11	15	11	11	5.5	5.4	5.3	5.6	5.5
29	21	11	11	11	---	11	11	5.4	5.5	5.3	5.5	5.3
30	21	10	11	11	---	11	11	5.4	5.6	5.4	5.6	5.4
31	21	---	11	11	---	11	---	5.5	---	5.3	5.5	---
TOTAL	659	343	335	341	319	396	330	196.4	163.8	168.5	170.7	163.1
MEAN	21.3	11.4	10.8	11.0	11.4	12.8	11.0	6.34	5.46	5.44	5.51	5.44
MAX	24	21	11	11	15	18	11	11	5.6	5.6	5.9	5.6
MIN	20	10	10	11	11	11	11	5.4	5.3	5.3	5.3	5.3
AC-FT	1310	680	664	676	633	785	655	390	325	334	339	324
a	20050	27550	35250	20970	21580	16240	15180	14950	23290	24280	25450	24500

a Diversion, in acre-feet, to Camino Powerplant, provided by Sacramento Municipal Utility District.

C-042368

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.0	48.3	69.5	107	117	109	119	143	106	53.9	33.5	26.4
MAX	130	1088	856	996	1168	1207	956	991	920	412	364	188
(WY)	1963	1984	1965	1970	1986	1986	1962	1982	1983	1983	1962	1962
MIN	3.12	3.44	5.39	5.21	5.45	3.56	3.14	3.30	3.29	2.98	3.11	3.18
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1961 - 1994	
ANNUAL TOTAL	9068.9		3585.5			
ANNUAL MEAN	24.8		9.82		79.6	
HIGHEST ANNUAL MEAN					320	1983
LOWEST ANNUAL MEAN					4.16	1977
HIGHEST DAILY MEAN	818	Jan 22	24	Oct 15	9810	Feb 17 1986
LOWEST DAILY MEAN	6.6	Jan 5	5.3	Jun 24	1.0	Nov 1 1980
ANNUAL SEVEN-DAY MINIMUM	9.3	Jan 1	5.3	Jul 27	2.7	Mar 2 1977
INSTANTANEOUS PEAK FLOW			28	Oct 15	22800	Feb 17 1986
INSTANTANEOUS PEAK STAGE			2.86	Oct 15	11.70	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	17990		7110		57650	
ANNUAL DIVERSION (AC-FT) a	557800		269300			
10 PERCENT EXCEEDS	33		15		103	
50 PERCENT EXCEEDS	21		11		18	
90 PERCENT EXCEEDS	11		5.4		6.7	

a Diversion, in acre-feet, to Camino Powerplant, provided by Sacramento Municipal Utility District.

11442690 BRUSH CREEK RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°48'42", long 120°37'14", in NW 1/4 SE 1/4 sec.10, T.11 N., R.12 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in outlet tower to Camino Powerplant 200 ft upstream from left abutment of Brush Creek Diversion Dam, and 4.0 mi northwest of Pollock Pines.

DRAINAGE AREA.--7.99 mi^2.
PERIOD OF RECORD.--October 1991 to current year. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to Apr. 7, 1987, nonrecording gage at same site and datum.
REMARKS.--Reservoir is formed by concrete-arch dam completed in 1970. Storage began in 1970. Usable capacity, 1,273 acre-ft, between elevations 2,825 ft, invert of tunnel, and 2,915 ft, crest of spillway. Dead storage, 259 acre-ft. Most of the water is diverted at this reservoir to Camino Powerplant (station 11441895). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River basin.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,495 acre-ft, Feb. 23, 1992, elevation, 2,913.23 ft; minimum, 766 acre-ft, Oct. 3, 1991, elevation, 2,870.97 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,412 acre-ft, Jan. 16, elevation, 2,909.07 ft; minimum, 1,040 acre-ft, Oct. 12, elevation, 2,888.72 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

2,820	220	2,870	753
2,830	300	2,880	900
2,840	393	2,890	1,062
2,850	499	2,900	1,239
2,860	619	2,915	1,532

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1342	1252	1170	1231	1237	1245	1293	1295	1242	1243	1262	1247
2	1337	1241	1161	1223	1228	1252	1282	1291	1241	1239	1256	1242
3	1331	1230	1151	1214	1250	1260	1279	1284	1311	1235	1251	1237
4	1325	1220	1141	1211	1309	1333	1275	1276	1300	1231	1245	1231
5	1321	1211	1130	1253	1299	1393	1270	1268	1286	1228	1240	1224
6	1369	1315	1120	1247	1291	1393	1266	1266	1270	1224	1235	1219
7	1364	1304	1111	1239	1289	1316	1261	1267	1272	1234	1230	1214
8	1319	1293	1105	1233	1286	1316	1258	1371	1263	1293	1225	1282
9	1247	1282	1107	1225	1281	1319	1253	1368	1256	1261	1320	1265
10	1179	1272	1238	1217	1354	1312	1319	1335	1254	1252	1309	1256
11	1132	1264	1236	1291	1282	1276	1273	1305	1251	1247	1300	1250
12	1040	1257	1231	1282	1279	1274	1253	1297	1279	1241	1280	1244
13	1107	1298	1223	1272	1273	1271	1303	1293	1260	1236	1287	1238
14	1236	1336	1222	1261	1265	1270	1226	1289	1255	1231	1281	1232
15	1268	1357	1215	1354	1258	1172	1253	1286	1255	1226	1274	1304
16	1249	1238	1206	1412	1250	1296	1250	1281	1247	1317	1268	1287
17	1232	1228	1265	1401	1251	1282	1246	1277	1240	1283	1262	1280
18	1315	1217	1256	1344	1217	1350	1242	1275	1235	1268	1256	1274
19	1311	1207	1247	1334	1213	1345	1390	1276	1229	1255	1250	1267
20	1308	1198	1236	1324	1212	1331	1359	1273	1223	1250	1244	1261
21	1304	1187	1228	1313	1211	1302	1346	1270	1287	1233	1240	1255
22	1300	1244	1218	1341	1209	1286	1349	1266	1269	1222	1316	1249
23	1296	1234	1209	1348	1208	1286	1323	1262	1259	1224	1304	1243
24	1292	1224	1301	1346	1207	1283	1373	1258	1253	1220	1297	1237
25	1288	1213	1291	1289	1204	1246	1333	1254	1250	1215	1291	1290
26	1284	1203	1282	1284	1206	1228	1309	1372	1246	1208	1285	1282
27	1280	1193	1274	1277	1224	1229	1306	1356	1235	1208	1279	1277
28	1276	1183	1265	1269	1235	1230	1300	1263	1292	1192	1272	1273
29	1273	1182	1256	1262	---	1228	1299	1251	1268	1191	1270	1268
30	1269	1180	1247	1255	---	1343	1297	1247	1254	1271	1260	1263
31	1261	---	1239	1247	---	1306	---	1243	---	1267	1253	---
MAX	1369	1357	1301	1412	1354	1393	1390	1372	1311	1317	1320	1304
MIN	1040	1180	1105	1211	1204	1172	1226	1243	1223	1191	1225	1214
a	2901.23	2896.75	2900.03	2900.43	2899.82	2903.60	2903.15	2900.25	2900.85	2901.51	2900.79	2901.34
b	-87	-81	+59	+8	-12	+71	-9	-54	+11	+13	-14	+10

CAL YR 1993 MAX 1489 MIN 983 b -107
WTR YR 1994 MAX 1412 MIN 1040 b -85

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

C-042370

11442700 BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES, CA

LOCATION (REVISED).--Lat 38°48'41", long 120°37'20", in NW 1/4 SE 1/4 sec.10, T.11 N., R.12 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, at outlet structure on Brush Creek Dam, and 4.0 mi northwest of Pollock Pines.

DRAINAGE AREA.--7.99 mi^2.

PERIOD OF RECORD.--October 1987 to current year. Unpublished records for water years 1971-87 available in files of the U.S. Geological Survey.

GAGE.--Differential-pressure gage and orifice control in outlet pipe. Auxiliary water-stage recorder 200 ft downstream at different datum. Elevation of gage is 2,700 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage 400 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Flow completely regulated by Brush Creek Reservoir (station 11442690). See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8.4 ft^3/s, Nov. 27-29, 1989; minimum daily, 2.1 ft^3/s, many days in 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	6.8	6.8	6.8	6.8	6.8	4.8	4.7	3.3	2.5	2.6	2.6
2	3.8	6.8	6.8	6.8	6.8	6.8	4.8	4.7	2.7	2.5	2.6	2.6
3	3.8	6.8	6.8	6.8	6.8	6.8	4.8	4.7	2.7	2.5	2.6	2.6
4	3.8	6.8	6.7	6.8	6.8	6.8	4.8	4.7	2.6	2.5	2.6	2.6
5	3.8	6.8	6.8	6.8	6.8	6.8	4.8	4.8	2.6	2.6	2.6	2.6
6	3.8	6.8	6.8	6.8	6.8	6.9	4.8	4.8	2.6	2.7	2.6	2.6
7	3.8	6.8	6.8	6.8	6.8	6.8	4.8	4.8	2.6	2.7	2.6	2.6
8	3.8	6.8	6.8	6.8	6.8	6.7	4.8	4.8	2.6	2.7	2.6	2.6
9	3.8	6.8	6.8	6.8	6.8	6.7	4.8	4.8	2.6	2.7	2.6	2.6
10	3.7	6.8	6.8	6.8	6.8	6.8	4.8	4.8	2.6	2.6	2.6	2.6
11	3.8	6.8	6.8	6.8	6.8	6.8	4.8	4.8	2.6	2.6	2.6	2.6
12	3.8	6.8	6.8	6.8	6.8	6.8	4.8	4.7	2.6	2.6	2.6	2.6
13	3.8	6.8	6.8	6.8	6.8	6.8	4.8	4.7	2.6	2.6	2.6	2.6
14	3.9	6.8	6.8	6.8	6.8	5.5	4.8	4.7	2.6	2.6	2.6	2.6
15	3.9	6.8	6.8	6.8	6.7	4.8	4.8	4.8	2.6	2.6	2.6	2.6
16	3.9	6.8	6.8	6.8	6.7	4.8	4.8	4.8	2.5	2.6	2.6	2.6
17	3.8	6.8	6.8	6.8	6.7	4.8	4.8	4.8	2.5	2.6	2.6	2.6
18	3.8	6.7	6.9	6.8	6.8	4.8	4.8	4.8	2.5	2.6	2.6	2.6
19	3.9	6.7	6.8	6.7	6.8	4.9	4.8	4.8	2.5	2.6	2.6	2.6
20	3.9	6.8	6.8	6.7	6.8	4.8	4.8	4.8	2.5	2.6	2.6	2.6
21	3.8	6.8	6.8	6.8	6.8	4.8	4.8	4.8	2.6	2.6	2.6	2.6
22	3.8	6.8	6.8	6.8	6.7	4.8	4.8	4.8	2.6	2.6	2.6	2.6
23	3.8	6.8	6.8	6.9	6.8	4.8	4.8	4.8	2.5	2.6	2.6	2.6
24	3.8	6.7	6.8	6.9	6.7	4.8	4.8	4.8	2.5	2.6	2.6	2.6
25	3.8	6.7	6.7	6.9	6.7	4.8	4.8	4.8	2.5	2.6	2.6	2.6
26	3.8	6.9	6.8	6.8	6.7	4.7	4.8	4.8	2.5	2.6	2.7	2.6
27	3.8	6.8	6.8	6.8	6.8	4.7	4.7	4.8	2.6	2.6	2.7	2.6
28	3.8	6.8	6.8	6.8	6.8	4.7	4.7	4.8	2.6	2.6	2.7	2.6
29	3.8	6.8	6.8	6.7	---	4.7	4.7	4.8	2.6	2.6	2.6	2.6
30	3.8	6.8	6.8	6.7	---	4.8	4.7	4.8	2.5	2.6	2.6	2.6
31	5.2	---	6.8	6.7	---	4.8	---	4.8	---	2.6	2.6	---
TOTAL	119.6	203.7	210.7	210.6	189.7	175.1	143.6	148.1	77.9	80.6	80.9	78.0
MEAN	3.86	6.79	6.80	6.79	6.77	5.65	4.79	4.78	2.60	2.60	2.61	2.60
MAX	5.2	6.9	6.9	6.9	6.8	6.9	4.8	4.8	3.3	2.7	2.7	2.6
MIN	3.7	6.7	6.7	6.7	6.7	4.7	4.7	4.7	2.5	2.5	2.6	2.6
AC-FT	237	404	418	418	376	347	285	294	155	160	160	155

C-042371

11442700 BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.83	5.23	5.18	5.06	5.08	5.06	5.11	5.01	2.82	2.76	2.74	2.77
MAX	3.86	8.06	7.81	6.92	6.79	6.50	7.05	6.41	3.72	3.72	3.70	3.81
(WY)	1994	1990	1990	1990	1990	1993	1989	1993	1989	1989	1993	1993
MIN	2.44	4.16	4.09	4.10	4.12	4.39	4.23	4.28	2.24	2.18	2.14	2.14
(WY)	1993	1991	1988	1988	1988	1992	1988	1988	1988	1988	1988	1988

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1988 - 1994	
ANNUAL TOTAL	1836.2		1718.5			
ANNUAL MEAN	5.03		4.71		4.13	
HIGHEST ANNUAL MEAN					4.80	1990
LOWEST ANNUAL MEAN					3.39	1988
HIGHEST DAILY MEAN	6.9	Nov 26	6.9	Nov 26	8.4	Nov 27 1989
LOWEST DAILY MEAN	3.4	Aug 3	2.5	Jun 16	2.1	Jul 4 1988
ANNUAL SEVEN-DAY MINIMUM	3.5	Jul 29	2.5	Jun 14	2.1	Aug 15 1988
ANNUAL RUNOFF (AC-FT)	3640		3410		2990	
10 PERCENT EXCEEDS	6.8		6.8		6.8	
50 PERCENT EXCEEDS	4.5		4.8		4.3	
90 PERCENT EXCEEDS	3.5		2.6		2.4	

C-042372

11443450 SLAB CREEK RESERVOIR NEAR CAMINO, CA

LOCATION.--Lat 38°46'21", long 120°41'58", in SW 1/4 NE 1/4 sec.25, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on left bank 100 ft upstream from dam on South Fork American River, 1,600 ft upstream from Iowa Canyon, and 2.7 mi northwest of Camino.
DRAINAGE AREA.--493 mi^2.
PERIOD OF RECORD.--May 1987 to current year. Unpublished records for water years 1969-86 available in files of the U.S. Geological Survey.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to May 26, 1987, nonrecording gage at same site and datum. Since September 1980, supplementary water-stage recorder operated by U.S. Geological Survey during periods of spill at left abutment of dam.
REMARKS.--Reservoir is formed by concrete-arch dam completed in 1967. Storage began in October 1967. Usable capacity, 16,567 acre-ft, between elevations 1,670 ft, invert of tunnel, and 1,850 ft, crest of spillway. Dead storage, 600 acre-ft. Reservoir receives water from South Fork American River and Silver Creek via El Dorado and Camino Powerplants (stations 11439300 and 11441895) 10 mi upstream. Nearly the entire flow is diverted at this reservoir to White Rock Powerplant (station 11443460). See South Fork American River near Camino (station 11443500) for additional information on diversions and releases from Slab Creek Reservoir. Records, including extremes, represent usable contents. See schematic diagram of South Fork American River basin.
COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,137 acre-ft, Jan. 22, 1993, elevation, 1,852.74 ft; minimum, 3,917 acre-ft, Oct. 27, 1991, elevation, unknown.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 16,380 acre-ft, Oct. 17, elevation, 1,849.09 ft, minimum, 14,177 acre-ft, Feb. 16, elevation, 1,837.83.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Sacramento Municipal Utility District recomputed October 1991)

1,730	1,688	1,800	8,124
1,740	2,276	1,820	11,073
1,750	2,966	1,840	14,587
1,760	3,763	1,850	16,567
1,780	5,700	1,855	17,615

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15415	15356	14953	15445	15023	14972	15828	15360	15415	15286	15402	15707
2	15321	15356	14437	15325	14947	15147	15764	15286	15512	15122	15349	15721
3	15542	15923	14182	15390	14837	15167	15909	15550	15587	15294	15157	15437
4	15993	16108	14499	15204	14930	15498	15659	15766	15573	15573	15360	15556
5	16142	15776	15699	15575	15040	15139	15184	15776	15705	15463	15508	15633
6	16149	15398	15611	15415	15058	15225	14999	16179	15878	15516	15675	15506
7	16118	15508	15239	15239	15145	15165	15130	16199	15426	15814	15794	15738
8	16173	15635	15169	15009	15358	15009	15120	16072	15435	15615	15800	15651
9	16082	15477	15471	15013	15311	15331	14837	16226	15243	15840	15408	15562
10	16146	15410	14980	15030	15274	15317	14615	15392	14780	15719	15245	15429
11	16153	15294	15159	15052	15398	15623	14959	15048	15254	15415	15108	15406
12	16283	15408	15554	14774	15155	15558	15605	15575	15013	15370	15329	15991
13	16039	15170	15153	14864	15256	15534	15695	15522	15198	15392	15339	15625
14	16163	15288	15067	15329	14634	15657	15810	15570	15325	15735	15435	15893
15	16217	15247	15653	15611	14934	16025	15748	15500	15157	15756	15408	15872
16	16293	14901	15370	15546	14177	16060	15490	15568	15139	15585	15572	16001
17	16380	14772	15703	15605	14606	15933	15433	15550	15272	15655	15605	15744
18	15989	14755	15358	15820	14646	15792	16138	15198	15208	15721	15429	15860
19	15782	15341	15025	15570	14988	15496	15796	15705	15378	15729	15243	15878
20	15919	15412	15911	15296	15380	15380	15603	15987	15613	15522	15309	15872
21	15435	15750	14741	15457	15112	15483	15816	16049	15425	15703	15325	15675
22	15631	15689	14841	14672	14734	15556	16112	15965	15870	15721	15196	15583
23	15347	15502	15311	14724	14674	15073	15431	15605	15973	15764	15451	15738
24	15071	15611	15376	15247	15038	14571	14909	15548	15832	15846	15192	15776
25	14824	15758	15617	14968	15378	14648	15062	16149	15768	15575	15439	15798
26	15208	15524	15736	15449	15425	15128	15233	15764	15506	15488	15288	15876
27	15190	15347	14909	15102	15585	15455	15323	15591	15560	15512	15410	15679
28	15388	15253	14636	15116	15198	15689	15490	15550	15909	15585	15558	15752
29	15292	15178	15036	15309	---	15607	15390	15429	15778	15536	15366	15872
30	15366	14928	15577	15056	---	15621	15477	15319	15502	15457	15830	15661
31	15818	---	15376	14955	---	15671	---	15368	---	15239	15740	---
MAX	16380	16108	15911	15820	15585	16060	16138	16226	15973	15846	15830	16001
MIN	14824	14755	14182	14672	14177	14571	14615	15048	14780	15122	15108	15406
a	1846.31	1841.78	1844.08	1841.92	1843.17	1845.57	1844.59	1844.04	1844.72	1843.38	1845.92	1845.52
b	+789	-890	+448	-421	+243	+473	-194	-108	+134	-263	+501	-79

CAL YR 1993 MAX 16602 MIN 11872 b -482
WTR YR 1994 MAX 16380 MIN 14177 b +632
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA

LOCATION (REVISED).--Lat 38°46'23", long 120°42'02", in SW 1/4 NE 1/4 sec.25, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, on right bank 500 ft upstream from Iowa Canyon Creek, and 2.8 mi northwest of Camino.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--October 1922 to current year. Monthly discharge only for October 1922, WSP 1315-A. Records for river and American River Flume, published separately October 1922 to September 1956, October 1962 to December 1964 when flume was destroyed. Records of river and flume combined October 1956 to September 1962.

REVISED RECORDS.--WSP 931: 1928, 1938, 1940(M). WSP 1931: Drainage area at former site.

GAGE.--Acoustic-velocity meter. Elevation of gage is 1,625 ft above sea level, from topographic map. Prior to May 26, 1987, water-stage recorder at different datum at site 1,000 ft downstream. Auxiliary water-stage recorder on Slab Creek Dam records spill discharges which are combined with release discharges. See WSP 2131 for history of changes prior to Oct. 12, 1966.

REMARKS.--No estimated daily discharges. Flow regulated by several reservoirs. Since 1967 diversion from Slab Creek Dam to White Rock Powerplant (station 11443460) bypasses this station. Echo Lake Conduit (station 11434500) imports up to 1,900 acre-ft each year from Truckee River basin. Variable amounts of El Dorado Canal water, up to 40 ft^3/s May to October, and about 7 ft^3/s remainder of the year, diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Cosumnes River basin diverted to Camino and substituted for flow from El Dorado Canal in some years. Since October 1962, water is imported from the Upper Rubicon River basin by way of Robbs Peak Powerplant (station 11429300). See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft^3/s, Dec. 23, 1955, gage height, 32.6 ft, from floodmarks, site and datum then in use, from rating curve extended above 24,000 ft^3/s on basis of computation of peak flow over dam; minimum daily, 1.3 ft^3/s, Aug. 24, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 47.5 ft^3/s, June 29; minimum daily, 10 ft^3/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	36	37	36	36	36	10	10	36	36	36	36
2	36	36	36	36	36	36	10	10	36	36	36	36
3	36	36	36	36	36	36	10	10	36	36	36	36
4	36	36	36	36	36	36	10	10	36	36	36	36
5	36	36	37	36	36	36	10	10	36	36	36	36
6	36	36	37	36	36	36	10	10	36	36	36	36
7	36	36	37	36	36	36	10	10	36	36	36	36
8	36	36	36	36	36	36	10	10	36	36	36	36
9	36	36	37	36	36	36	10	10	36	36	36	36
10	36	36	37	36	36	36	10	10	36	36	36	36
11	36	36	37	36	36	36	10	10	36	36	36	36
12	36	36	37	36	36	36	10	10	36	36	36	36
13	36	36	36	36	36	36	10	10	36	36	36	36
14	36	36	36	36	36	36	10	10	36	36	36	36
15	36	36	36	36	36	21	10	10	36	36	36	36
16	36	36	36	36	36	10	10	10	36	36	36	36
17	36	36	36	36	36	10	10	10	36	36	36	36
18	36	36	36	36	36	10	10	10	36	36	36	36
19	36	36	36	36	36	10	10	10	36	36	36	36
20	36	36	36	36	36	10	10	10	36	36	36	36
21	36	36	36	36	36	10	10	10	36	36	36	36
22	36	36	36	36	36	10	10	10	36	36	36	36
23	33	36	36	36	36	10	10	10	36	36	36	36
24	36	36	36	36	36	10	10	10	36	36	36	36
25	36	36	36	36	36	10	10	10	36	36	36	36
26	37	36	36	36	36	10	10	10	36	36	36	36
27	36	36	36	36	36	10	10	10	36	36	36	36
28	36	36	36	36	36	10	10	10	36	36	36	36
29	36	36	36	36	---	10	10	10	36	36	36	36
30	36	36	36	36	---	10	10	10	41	36	36	36
31	36	---	36	36	---	10	---	23	---	36	36	---
TOTAL	1114	1080	1124	1116	1008	685	300	323	1085	1116	1116	1080
MEAN	35.9	36.0	36.3	36.0	36.0	22.1	10.0	10.4	36.2	36.0	36.0	36.0
MAX	37	36	37	36	36	36	10	23	41	36	36	36
MIN	33	36	36	36	36	10	10	10	36	36	36	36
AC-FT	2210	2140	2230	2210	2000	1360	595	641	2150	2210	2210	2140
a	26910	32990	40700	27830	30620	33870	41930	43240	28960	25450	25170	25160

a Diversion, in acre-feet, to White Rock Powerplant, provided by Sacramento Municipal Utility District.

C—042374

C-042374

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1957, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.8	254	569	601	855	1171	2069	2681	1557	285	39.7	31.1
MAX	221	3951	4780	3422	2125	3367	4015	6382	4031	1310	168	150
(WY)	1952	1951	1951	1956	1927	1943	1952	1952	1952	1952	1951	1951
MIN	4.43	5.46	12.9	43.0	116	146	620	418	13.8	1.97	2.01	6.97
(WY)	1930	1930	1950	1929	1929	1924	1924	1934	1924	1931	1931	1955

SUMMARY STATISTICS	WATER YEARS 1923 - 1957	
ANNUAL MEAN	846	
HIGHEST ANNUAL MEAN	1760	1951
LOWEST ANNUAL MEAN	161	1924
HIGHEST DAILY MEAN	40000	Dec 23 1955
LOWEST DAILY MEAN	1.3	Aug 24 1931
ANNUAL SEVEN-DAY MINIMUM	1.5	Jul 29 1931
INSTANTANEOUS PEAK FLOW	49800	Dec 23 1955
INSTANTANEOUS PEAK STAGE	32.6	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	612700	
10 PERCENT EXCEEDS	2520	
50 PERCENT EXCEEDS	230	
90 PERCENT EXCEEDS	13	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1957, COMBINED RIVER PLUS FLUME, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	167	364	684	713	959	1259	2176	2815	1695	413	154	142
MAX	288	4051	4780	3422	2229	3490	4181	6552	4201	1474	324	227
(WY)	1948	1951	1951	1956	1927	1943	1952	1952	1952	1952	1952	1952
MIN	44.1	49.8	134	141	212	252	727	533	97.3	50.2	35.5	53.4
(WY)	1930	1930	1924	1929	1933	1924	1924	1934	1924	1931	1931	1924

SUMMARY STATISTICS	WATER YEARS 1923 - 1957	
ANNUAL MEAN	960	
HIGHEST ANNUAL MEAN	1860	1952
LOWEST ANNUAL MEAN	249	1924
HIGHEST DAILY MEAN	40000	Dec 23 1955
LOWEST DAILY MEAN	20	Aug 24 1931
ANNUAL SEVEN-DAY MINIMUM	30	Aug 19 1931
ANNUAL RUNOFF (AC-FT)	695700	
10 PERCENT EXCEEDS	2660	
50 PERCENT EXCEEDS	350	
90 PERCENT EXCEEDS	120	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.6	97.5	124	216	206	106	135	230	188	54.8	34.4	34.2
MAX	453	1093	1112	1994	2709	1090	1402	1815	2577	526	45.1	48.2
(WY)	1968	1968	1984	1970	1986	1986	1971	1971	1983	1983	1980	1980
MIN	9.97	10.2	10.0	10.0	5.62	10.9	10.0	9.73	9.98	9.93	10.4	10.1
(WY)	1978	1978	1988	1988	1970	1992	1988	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1968 - 1994	
ANNUAL TOTAL	13432		11147			
ANNUAL MEAN	36.8		30.5		122	
HIGHEST ANNUAL MEAN					516	1983
LOWEST ANNUAL MEAN					13.3	1977
HIGHEST DAILY MEAN	1460	Jan 22	41	Jun 30	20200	Feb 17 1986
LOWEST DAILY MEAN	10	Jan 1	10	Mar 16	2.4	Feb 12 1970
ANNUAL SEVEN-DAY MINIMUM	10	Jan 1	10	Mar 16	2.6	Feb 9 1970
INSTANTANEOUS PEAK FLOW			47	Jun 29	49800	Dec 23 1955
INSTANTANEOUS PEAK STAGE			.00	Jun 29	32.60	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	26640		22110		88740	
ANNUAL DIVERSION (AC-FT) a	1082000		382800			
10 PERCENT EXCEEDS	37		36		72	
50 PERCENT EXCEEDS	36		36		36	
90 PERCENT EXCEEDS	10		10		11	

a Diversion, in acre-feet, to White Rock Powerplant, provided by Sacramento Municipal Utility District.

C-042375

11444201 ROCK CREEK NEAR PLACERVILLE, CA

LOCATION.--Lat 38°47'39", long 120°46'28", in NE 1/4 NW 1/4 sec.20, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, on left bank 500 ft downstream from Rock Creek Road and 4.0 mi north of Placerville.

DRAINAGE AREA.--73.0 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 1,305 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11444200) and flow over a sharp-crested weir (station 11444260). Water is diverted upstream of weirs through a tunnel to Rock Creek Powerplant (station 11444280), returning to Rock Creek at its confluence with the South Fork American River. Extremes also represent combined flows. See schematic diagram of South Fork American River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,220 ft^3/s, Jan. 20, 1993; no flow Sept. 29 to Oct. 3, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 232 ft^3/s, Feb. 17; minimum daily, 1.2 ft^3/s, Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	e13	21	15	19	28	16	17	14	7.5	2.6	1.5
2	8.7	e13	14	15	19	28	16	17	15	7.4	2.7	1.5
3	8.4	e13	12	14	17	30	15	16	14	7.5	2.6	1.4
4	7.8	14	12	18	17	27	14	16	13	7.7	2.6	1.5
5	8.4	14	14	34	16	28	14	17	14	7.6	2.6	1.4
6	9.7	14	14	21	20	29	14	19	15	7.5	2.5	1.5
7	9.5	15	14	18	65	34	14	32	15	7.2	2.2	1.5
8	9.1	15	20	17	86	34	15	24	14	6.7	2.2	1.5
9	8.9	15	70	16	48	33	31	22	13	5.9	2.3	1.5
10	8.9	14	32	16	64	31	23	20	12	5.6	2.5	1.9
11	9.1	15	61	15	91	32	17	18	11	5.5	2.4	2.0
12	10	19	60	15	50	29	15	17	11	5.4	2.3	2.1
13	10	16	29	15	39	28	14	16	11	5.6	2.3	2.2
14	10	15	72	14	32	27	13	15	11	5.5	2.1	2.3
15	18	14	49	14	28	26	13	15	11	5.5	2.0	2.3
16	21	14	30	14	26	24	12	15	11	5.4	2.0	2.0
17	14	11	24	14	99	24	12	18	11	5.4	1.9	1.8
18	12	13	20	15	160	24	11	20	10	5.3	2.0	2.0
19	11	14	19	14	77	23	11	29	10	5.4	1.5	2.8
20	11	14	18	13	98	22	10	22	9.5	5.6	1.5	3.3
21	11	14	17	13	102	22	10	18	10	5.5	1.4	4.2
22	10	16	17	13	65	22	10	16	11	5.2	1.5	4.1
23	e11	19	16	23	26	23	13	14	11	3.3	1.6	3.5
24	e12	19	16	49	50	22	18	14	11	3.3	1.6	4.0
25	e12	20	16	49	41	21	28	13	10	3.2	1.6	4.6
26	e12	20	16	52	25	21	37	13	8.9	3.1	1.6	4.8
27	e12	19	16	36	33	20	24	12	8.9	2.8	1.5	4.6
28	e12	15	15	28	30	18	21	12	8.9	2.8	1.4	6.2
29	e12	32	15	23	---	18	18	11	8.7	3.1	1.2	8.8
30	e12	63	15	20	---	18	18	12	8.1	2.8	1.4	5.6
31	e12	---	15	19	---	17	---	15	---	2.6	1.5	---
TOTAL	341.8	522	779	652	1443	783	497	535	342.0	162.9	61.1	88.4
MEAN	11.0	17.4	25.1	21.0	51.5	25.3	16.6	17.3	11.4	5.25	1.97	2.95
MAX	21	63	72	52	160	34	37	32	15	7.7	2.7	8.8
MIN	7.8	11	12	13	16	17	10	11	8.1	2.6	1.2	1.4
AC-FT	678	1040	1550	1290	2860	1550	986	1060	678	323	121	175
a	0	0	0	0	803	279	0	0	0	0	0	0

e Estimated.
a Discharge, in acre-feet, through Rock Creek Powerplant, provided by Sithe Energies U.S.A., Inc.

11444201 ROCK CREEK NEAR PLACERVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.10	14.8	23.6	53.5	59.3	78.9	29.8	19.7	13.5	6.28	3.77	4.61
MAX	18.9	23.3	64.7	249	191	157	67.7	29.5	28.7	11.3	5.99	8.73
(WY)	1987	1990	1993	1993	1993	1989	1993	1993	1993	1993	1993	1993
MIN	4.60	6.15	9.97	11.4	12.5	16.4	16.6	11.3	6.35	3.18	1.97	1.86
(WY)	1993	1993	1990	1991	1991	1988	1994	1992	1992	1988	1994	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1987 - 1994	
ANNUAL TOTAL	23746.3		6207.2			
ANNUAL MEAN	65.1		17.0		26.3	
ANNUAL MEAN b	68.4		18.5		27.6	
HIGHEST ANNUAL MEAN					66.9	1993
LOWEST ANNUAL MEAN					14.3	1988
HIGHEST DAILY MEAN	1000	Jan 20	160	Feb 18	1020	Mar 25 1989
LOWEST DAILY MEAN	2.7	Jul 22	1.2	Aug 29	.00	Sep 29 1987
ANNUAL SEVEN-DAY MINIMUM	4.9	Aug 9	1.4	Aug 28	.35	Sep 28 1987
INSTANTANEOUS PEAK FLOW			232	Feb 17	3220	Jan 20 1993
ANNUAL RUNOFF (AC-FT)	47100		12310		19040	
ANNUAL RUNOFF (AC-FT) b	49515		13393		20000	
10 PERCENT EXCEEDS	170		31		49	
50 PERCENT EXCEEDS	20		14		13	
90 PERCENT EXCEEDS	7.0		2.3		3.5	

b Adjusted for Rock Creek Powerplant.

C-042377

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA

LOCATION.--Lat 38°46'16", long 120°48'55", in NE 1/4 SW 1/4 sec.25, T.11 N., R.10 E., El Dorado County, Hydrologic Unit 18020128, on right bank 700 ft downstream from Chili Bar Dam, 0.5 mi upstream from Big Canyon, and 2.5 mi north of Placerville.

DRAINAGE AREA.--598 mi^2.

PERIOD OF RECORD.--August 1911 to July 1920 (monthly discharge only for some periods, published in WSP 1315-A), July 1964 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 931.05 ft above sea level (levels by Pacific Gas & Electric Co.). Aug. 11, 1911, to July 31, 1920, nonrecording gage 0.6 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Flow regulated by Chili Bar Reservoir, capacity, 3,700 acre-ft, Chili Bar Powerplant, and other storage and powerplants (see station 11443500). See schematic diagram of South Fork American River basin.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft^3/s, Dec. 23, 1964, gage height, 17.4 ft, from floodmarks, from rating curve extended above 18,000 ft^3/s on basis of computations of flow over dam; minimum daily, 0.2 ft^3/s, Nov. 12, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,930 ft^3/s, Oct. 13, gage height, 5.43 ft; minimum daily, 165 ft^3/s, Oct. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	394	772	846	596	416	844	583	591	801	502	248	463
2	355	599	884	522	622	547	746	678	404	594	392	415
3	557	370	905	462	454	498	737	697	556	373	474	549
4	165	290	920	709	501	392	829	514	566	364	430	427
5	199	487	387	335	473	722	847	846	442	395	382	449
6	365	716	889	757	422	723	798	727	469	559	535	544
7	430	633	891	662	628	521	536	571	539	445	356	451
8	390	418	846	619	614	875	676	754	597	445	565	459
9	417	366	881	553	1080	514	778	714	698	518	408	413
10	374	576	861	457	252	547	667	1170	826	513	653	536
11	435	536	889	495	868	567	643	1210	541	512	360	488
12	422	510	442	756	490	681	421	717	387	418	431	395
13	859	531	971	382	713	543	348	748	476	408	544	369
14	404	535	897	357	871	586	671	831	486	425	437	441
15	330	680	675	360	462	446	811	798	473	442	419	406
16	513	894	897	495	1040	756	957	717	399	528	565	465
17	492	628	497	543	691	698	974	754	489	454	486	546
18	701	733	787	288	908	484	461	649	561	450	533	438
19	591	544	885	642	548	813	1070	458	490	445	574	415
20	446	382	471	379	697	577	981	599	442	464	495	495
21	694	212	970	390	768	509	849	703	426	401	405	623
22	534	642	681	736	1200	531	586	779	413	444	369	533
23	638	668	531	496	424	668	1130	877	415	474	471	407
24	604	640	264	218	533	786	946	654	523	370	455	501
25	929	488	340	698	488	656	693	573	557	487	443	402
26	496	637	590	214	718	382	734	652	656	598	419	378
27	428	629	851	733	665	375	713	515	716	475	555	520
28	338	579	622	270	828	475	638	785	403	433	458	459
29	407	839	360	350	---	574	594	678	579	429	466	388
30	532	905	529	535	---	668	574	597	617	489	480	491
31	458	---	329	702	---	527	---	651	---	418	449	---
TOTAL	14897	17439	21788	15711	18374	18485	21991	22207	15947	14272	14257	13866
MEAN	481	581	703	507	656	596	733	716	532	460	460	462
MAX	929	905	971	757	1200	875	1130	1210	826	598	653	623
MIN	165	212	264	214	252	375	348	458	387	364	248	369
AC-FT	29550	34590	43220	31160	36440	36660	43620	44050	31630	28310	28280	27500

C—042378

C-042378

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	494	791	1297	1625	1654	1756	1929	2314	1811	1094	920	780
MAX	935	3808	5386	4871	6613	5561	5382	5444	6496	3648	1483	1328
(WY)	1984	1984	1965	1970	1986	1983	1982	1983	1983	1983	1983	1980
MIN	204	106	320	188	125	124	255	295	228	88.2	142	244
(WY)	1988	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1965 - 1994	
ANNUAL TOTAL	581614		209234			
ANNUAL MEAN	1593		573		1370	
HIGHEST ANNUAL MEAN					3275	1983
LOWEST ANNUAL MEAN					224	1977
HIGHEST DAILY MEAN	6330	Jan 22	1210	May 11	42000	Dec 23 1964
LOWEST DAILY MEAN	165	Oct 4	165	Oct 4	.20	Nov 12 1964
ANNUAL SEVEN-DAY MINIMUM	334	Oct 4	334	Oct 4	20	Feb 11 1977
INSTANTANEOUS PEAK FLOW			1930	Oct 13	47300	Dec 23 1964
INSTANTANEOUS PEAK STAGE			5.43	Oct 13	17.40	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	1154000		415000		992800	
10 PERCENT EXCEEDS	3280		846		3040	
50 PERCENT EXCEEDS	1150		535		961	
90 PERCENT EXCEEDS	478		381		327	

C-042379

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA

LOCATION.--Lat 38°49'07", long 120°56'45", in NW 1/4 SW 1/4 sec.11, T.11 N., R.9 E., El Dorado County, Hydrologic Unit 18020129, on left bank 0.4 mi downstream from Greenwood Creek, 2.4 mi northwest of Lotus, and 3.3 mi northwest of Coloma.

DRAINAGE AREA.--673 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1931: Drainage area. WDR CA-75-4: 1964, 1966, 1970.

GAGE.--Water-stage recorder. Elevation of gage is 635 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagrams of South Fork American River and lower Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft^3/s, Dec. 23, 1955, gage height, 21.37 ft; minimum daily, 14 ft^3/s, several days during July 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1862 and prior to beginning of record, 20.4 ft from floodmarks, Nov. 21, 1950, discharge, 64,500 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,040 ft^3/s, Feb. 18, gage height, 6.89 ft; minimum daily, 171 ft^3/s, Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	381	521	840	600	318	832	518	554	712	429	352	397
2	337	521	864	529	678	638	776	633	464	617	363	374
3	456	596	869	392	449	435	718	759	537	344	438	507
4	204	183	924	725	495	483	821	527	548	334	405	392
5	171	310	394	415	475	751	874	857	422	363	357	413
6	291	873	872	751	331	746	777	726	460	515	507	469
7	391	545	885	656	631	563	494	559	499	432	327	455
8	383	318	845	528	782	846	596	718	593	403	409	430
9	337	376	925	606	967	511	872	767	570	505	381	383
10	379	609	892	462	525	532	648	952	844	486	625	500
11	367	507	938	486	907	599	670	1430	625	487	327	455
12	370	481	481	701	454	712	426	793	366	397	410	366
13	641	503	1030	418	773	548	332	641	444	381	523	335
14	661	514	1000	355	736	565	551	933	461	409	411	408
15	313	585	702	357	509	465	878	785	450	422	389	379
16	490	791	921	521	1090	728	926	722	368	523	445	434
17	463	759	503	515	793	641	921	806	462	431	546	513
18	665	710	722	299	1150	577	512	632	533	426	510	414
19	559	522	797	609	704	700	964	474	465	423	547	389
20	429	360	624	377	830	646	864	598	412	435	473	477
21	627	200	734	383	821	540	1070	664	396	376	382	566
22	534	478	892	651	1190	534	566	807	384	416	306	536
23	611	783	458	533	707	677	1010	835	384	444	383	387
24	572	617	327	315	571	816	1060	708	464	345	374	478
25	855	471	311	685	528	656	690	618	558	407	378	382
26	504	570	476	266	694	383	730	504	437	610	351	353
27	394	635	827	703	743	372	750	596	749	462	489	483
28	312	568	659	309	804	407	643	820	515	403	396	430
29	378	838	418	355	---	631	595	681	436	404	398	360
30	491	933	537	340	---	611	555	602	704	460	405	452
31	424	---	345	880	---	572	---	664	---	387	372	---
TOTAL	13990	16677	22012	15722	19655	18717	21805	22365	15262	13476	12979	12817
MEAN	451	556	710	507	702	604	727	721	509	435	419	431
MAX	855	933	1030	880	1190	846	1070	1430	844	617	625	566
MIN	171	183	311	266	318	372	332	474	366	334	306	335
AC-FT	27750	33080	43660	31180	38990	37130	43250	44360	30270	26730	25740	25620

C-042380

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	205	261	939	1078	1326	1470	2286	2892	1851	569	252	211
MAX	315	455	5869	4488	2839	2401	4263	6329	4095	1474	531	330
(WY)	1957	1952	1956	1956	1958	1958	1952	1952	1952	1952	1962	1962
MIN	138	105	116	175	452	583	940	1055	454	134	105	127
(WY)	1961	1960	1960	1961	1961	1961	1961	1959	1959	1959	1959	1960

SUMMARY STATISTICS	WATER YEARS 1952 - 1962	
ANNUAL MEAN	1110	
HIGHEST ANNUAL MEAN	2166	1952
LOWEST ANNUAL MEAN	445	1961
HIGHEST DAILY MEAN	62400	Dec 23 1955
LOWEST DAILY MEAN	80	Jan 2 1960
ANNUAL SEVEN-DAY MINIMUM	95	Nov 27 1959
INSTANTANEOUS PEAK FLOW	71800	Dec 23 1955
INSTANTANEOUS PEAK STAGE	21.37	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	803800	
10 PERCENT EXCEEDS	2930	
50 PERCENT EXCEEDS	424	
90 PERCENT EXCEEDS	152	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	523	816	1357	1780	1871	1849	1997	2308	1780	1052	882	751
MAX	1108	3826	5512	5410	8347	6149	5956	5516	6397	3560	1448	1323
(WY)	1964	1984	1965	1970	1986	1983	1982	1983	1983	1983	1983	1980
MIN	201	117	350	206	133	136	250	285	217	86.8	137	225
(WY)	1988	1988	1977	1977	1977	1977	1977	1977	1977	1977	1977	1963

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1963 - 1994	
ANNUAL TOTAL	620499		205577			
ANNUAL MEAN	1700		563		1411	
HIGHEST ANNUAL MEAN					3398	1983
LOWEST ANNUAL MEAN					229	1977
HIGHEST DAILY MEAN	7000	Jan 22	1430	May 11	42600	Dec 23 1964
LOWEST DAILY MEAN	171	Oct 5	171	Oct 5	14	Jul 13 1977
ANNUAL SEVEN-DAY MINIMUM	308	Oct 4	308	Oct 4	16	Jul 12 1977
INSTANTANEOUS PEAK FLOW			2040	Feb 18	61500	Dec 23 1964
INSTANTANEOUS PEAK STAGE			6.89	Feb 18	20.00	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	1231000		407800		1022000	
10 PERCENT EXCEEDS	3470		845		3120	
50 PERCENT EXCEEDS	1190		521		958	
90 PERCENT EXCEEDS	474		359		327	

C-042381

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-68, 1970 to September 1994 (discontinued).
CHEMICAL DATA: Water years 1958-66, 1978 to November 1980, December 1983 to September 1994 (discontinued).
BIOLOGICAL DATA: Water years 1979-80.
WATER TEMPERATURE: Water years 1960-68, 1970 to September 1994 (discontinued).
SEDIMENT DATA: Water years 1957-62.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: December 1959 to September 1968, February 1970 to September 1994 (discontinued).

INSTRUMENTATION.--Temperature recorder December 1959 to September 1968, February 1970 to September 1994.

REMARKS.--Water temperatures can be affected by releases from Chili Bar Reservoir located approximately 10 mi upstream from station.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 29.5°C, July 20, 1968, Aug. 12, 22, 1977; minimum recorded, 1.0°C, several days in 1960 and 1962.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.0°C, July 4; minimum recorded, 4.5°C, Feb. 1, 2, 12, 13, 15.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)
DEC											
16...	0925	1640	39	7.2	9.0	748	11.2	99	14	0	3.4
MAR											
21...	1430	1200	46	7.5	10.5	745	12.5	115	14	0	3.7
JUN											
17...	1015	153	31	7.4	16.5	744	9.2	97	11	0	3.0
SEP											
12...	1030	155	25	7.0	14.5	742	9.8	99	9	0	2.4

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
DEC											
16...	1.3	2.0	23	0.2	0.50	17	14	2.1	1.8	<0.10	7.6
MAR											
21...	1.2	2.8	29	0.3	0.50	18	15	1.4	3.3	<0.10	10
JUN											
17...	0.86	2.1	28	0.3	0.60	17	14	0.80	2.0	<0.10	8.9
SEP											
12...	0.61	1.5	27	0.2	0.40	12	10	0.70	1.4	<0.10	6.0

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
DEC										
16...	34	27	0.05	<0.010	0.062	<0.010	<0.20	0.010	<0.010	<0.010
MAR										
21...	36	32	0.05	<0.010	0.097	0.030	<0.20	<0.010	<0.010	<0.010
JUN										
17...	20	27	0.03	<0.010	<0.050	0.030	<0.20	0.050	<0.010	<0.010
SEP										
12...	21	19	0.03	<0.010	<0.050	<0.010	<0.20	<0.010	<0.010	<0.010

C—042382

C-042382

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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

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

C-042383

11446200 FOLSOM LAKE NEAR FOLSOM, CA

LOCATION.--Lat 38°42'29", long 121°09'22", in NW 1/4 NE 1/4 sec.24, T.10 N., R.7 E., Sacramento County, Hydrologic Unit 18020128, near center of dam on American River, 0.7 mi downstream from South Fork American River, and 2.3 mi northeast of Folsom.
DRAINAGE AREA.--1,861 mi^2.
PERIOD OF RECORD.--February 1955 to current year. Prior to October 1959, published as Folsom Reservoir near Folsom.
REVISED RECORDS.--WSP 1931: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).
REMARKS.--Reservoir is formed by concrete gravity-type dam with rolled-earth-wing dams, auxiliary dams, and dikes, completed May 14, 1958; storage began Feb. 25, 1955. Total capacity, 1,010,300 acre-ft between elevations 205.5 ft, invert of lower tier of river outlets, and 466.0 ft gross pool elevation, all of which are available for release. Spillway design flood pool elevation, 475.4 ft, capacity, 1,120,200 acre-ft. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of lower Sacramento River basin.
COOPERATION.--Records provided by U.S. Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,024,400 acre-ft, June 15, 1963, elevation, 467.23 ft; minimum since storage pool first filled, 140,600 acre-ft, Nov. 20, 21, 1977, elevation, 347.57 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 558,500 acre-ft, Oct. 1, elevation, 423.96 ft; minimum, 216,900 acre-ft, Sept. 30, elevation, 370.88 ft.

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

(Survey by U.S. Bureau of Reclamation in 1955) Oct. 1 to Jan. 16				(Survey by U.S. Bureau of Reclamation in 1992) Jan. 17 to Sept. 30			
380	270,000	400	393,300	345	123,600	400	376,900
390	327,800	420	548,300	350	137,900	420	525,500
				360	170,600	440	703,800
				370	210,500	460	908,400
				380	258,600	479	1,125,000
				390	314,100		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	558500	465700	430100	392200	353300	379600	412300	446000	472700	411400	315300	249400
2	555000	464700	430500	390700	352300	381200	413000	446600	473400	409500	312600	248700
3	553300	463500	430600	389300	351300	382400	413600	447300	474500	406300	309900	247900
4	552200	460900	430900	388800	350100	383500	415200	447200	475200	402200	307400	246600
5	550900	458800	429900	387700	348700	385300	416800	448100	474900	397700	304800	245600
6	549500	456900	428400	387400	348000	388800	418100	449500	473900	394300	302200	244700
7	549000	454400	427100	386600	349300	391400	418800	450900	472900	390800	299200	243900
8	548200	451000	426100	385700	351500	392700	420000	452600	470700	384400	296000	242500
9	545900	450000	426300	384000	352600	393600	422000	454500	468400	378600	293100	240900
10	541600	449300	422700	382300	352800	394400	423500	456600	467200	374000	290900	239500
11	537200	448100	417400	380600	354100	396200	424700	459900	465800	370700	288600	238400
12	532100	446900	410900	379600	354000	398000	425000	461900	462700	368300	285900	237000
13	524900	446000	406100	378400	354300	399400	425000	463000	459500	366300	283600	235300
14	518900	443800	404600	376500	353800	400300	425600	464500	457200	364500	280300	233900
15	511600	442400	403200	374800	353200	401400	426800	465200	455100	362500	277700	233000
16	504800	442000	402800	373300	353300	403000	428600	465800	452200	360900	274700	232700
17	497700	441900	403200	371900	354700	404300	430700	466700	448700	357800	272600	233100
18	491400	441300	403200	370200	359600	405200	432100	467400	445500	354700	270400	232100
19	487300	440300	402500	369000	362100	405800	433900	467900	441400	352000	268000	230600
20	484600	438900	401700	367400	364500	406600	434900	467800	438100	348900	265300	229400
21	484100	436600	401600	365700	366700	407100	436300	468100	436100	346000	261800	228000
22	483000	435100	402000	364500	369300	407300	436700	468500	433700	343400	258500	227100
23	482400	434800	401400	363400	371300	407600	438000	469400	431300	341200	256400	225700
24	480900	434100	400600	362300	371700	408600	439800	469900	429000	337300	255100	224700
25	479800	432800	399100	362600	372300	409100	441000	470600	426600	333500	254700	223400
26	478400	430800	397300	362200	373300	408700	442300	470200	422800	331700	254000	221900
27	476400	429100	397200	361600	375100	408200	443600	470700	420400	329700	253200	220500
28	474200	427600	396700	360000	377400	408000	444600	471300	417900	326800	252100	219200
29	472100	428000	395500	358400	---	408400	445200	471600	415800	324100	251200	218200
30	469900	429600	394500	356000	---	408800	445600	471900	414100	321600	250800	216900
31	467500	---	393100	355100	---	412000	---	471900	---	318600	250200	---
MAX	558500	465700	430900	392200	377400	412000	445600	471900	475200	411400	315300	249400
MIN	467500	427600	393100	355100	348000	379600	412300	446000	414100	318600	250200	216900
a	412.68	407.59	402.41	396.66	400.08	404.77	409.43	412.93	405.07	390.33	377.86	370.88
b	-95400	-37900	-36500	-38000	+22300	+34600	+33600	+26300	-57800	-95500	-68400	-33300
c	2133	1215	519	435	680	1602	2474	3126	4602	4448	3452	2512

CAL YR 1993 b +133200
WTR YR 1994 b -346000
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by U.S. Bureau of Reclamation; not reviewed by U.S. Geological Survey.

C-042384

11446500 AMERICAN RIVER AT FAIR OAKS, CA

LOCATION.--Lat 38°38'08", long 121°13'36", in SE 1/4 NE 1/4 sec.17, T.9 N., R.7 E., Sacramento County, Hydrologic Unit 18020111, on right bank 2,100 ft downstream from Nimbus Dam, 2.4 mi east of Fair Oaks, 8.1 mi downstream from South Fork, and at mile 22.2.

DRAINAGE AREA.--1,888 mi^2.

PERIOD OF RECORD.--November 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
WATER TEMPERATURE: Water years 1961-65.
CHEMICAL DATA: Water years 1960-62.

REVISED RECORDS.--WSP 1181: 1928(M). WSP 1515: 1907(M), 1910, 1931(M), 1943(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 71.53 ft above sea level. See WSP 2131 for history of changes prior to July 15, 1970.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Folsom Lake beginning Feb. 25, 1955 (station 11446200). Some minor regulation of high flows by temporary pondage during period of construction January 1953 to February 1955. Diurnal fluctuations from Folsom Powerplant re-regulated by Nimbus Reservoir, capacity, 2,800 acre-ft between normal operating elevations 118.5 and 125.0 ft and by Nimbus Powerplant. Many diversions upstream from station for irrigation, municipal, and domestic water supply. Diversions for San Juan Suburban Water District, city of Folsom, city of Roseville, and State of California are made at Folsom Dam. Diversion to Folsom South Canal from Nimbus Reservoir started in June 1973. Some inflow from Bear and Yuba River basins. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft^3/s, Nov. 21, 1950, gage height, 31.85 ft, site and datum then in use; minimum, 3.6 ft^3/s, Aug. 16, 1924. Maximum discharge since regulation by Folsom Lake in 1955, 134,000 ft^3/s, Feb. 19, 1986, gage height, 27.98 ft; minimum daily, 160 ft^3/s, Apr. 17, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,480 ft^3/s, Dec. 11, gage height, 7.95 ft; minimum daily, 780 ft^3/s, June 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3300	2110	1800	1730	1870	1680	1580	1010	1010	2160	2090	1010
2	2150	2090	1820	1750	1870	1670	1570	1010	1010	2160	2080	1010
3	1460	2050	1810	1770	1570	1670	1460	1050	780	2200	2090	1010
4	965	2130	1800	1760	1540	1630	1350	1260	975	2730	2090	1010
5	937	2180	1800	1750	1550	1600	1240	1010	1020	2750	2050	1010
6	939	2180	1910	1740	1540	1590	1220	1250	1290	2760	2090	1010
7	935	2180	2460	1750	1520	1610	1140	1250	1660	2800	2100	1010
8	930	1820	2900	1760	1520	1600	1130	1010	2380	4090	2090	1000
9	2000	1760	3270	1760	1540	1590	1030	1000	2370	3890	2090	1010
10	3600	1770	4240	1760	1550	1590	1020	1010	2370	3200	2070	1010
11	3690	1750	5300	1760	1570	1620	1010	1010	2090	2450	1990	1010
12	3690	1760	5310	1760	1560	1630	1020	1010	2100	2130	2070	1000
13	5020	1770	4720	1760	1560	1600	1010	1010	2120	1810	2070	1010
14	5050	1770	3840	1760	1570	1630	1020	1000	2130	1800	2070	1010
15	5090	1770	3060	1750	1610	1590	1010	1010	2110	1790	2070	1010
16	5070	1780	2240	1740	1610	1580	1020	1010	2510	1790	2070	1010
17	5040	1790	1690	1750	1610	1580	1020	1010	2930	2090	2080	1010
18	4990	1770	1690	1770	1560	1560	1020	1010	2940	2090	2070	1010
19	3770	1760	1680	1770	1610	1560	1100	1010	2930	2090	2080	1010
20	2780	1760	1680	1770	1620	1560	1540	1010	2190	2080	2070	1010
21	1810	1760	1680	1800	1600	1570	1510	1010	2140	2090	2070	1010
22	2000	1760	1670	1790	1590	1610	1260	1010	2120	2090	2070	1000
23	1970	1770	1670	1800	1600	1640	1010	1010	2120	2080	1530	1000
24	2000	1780	1660	1800	1580	1600	1000	1010	2130	2090	1260	996
25	2100	1780	1680	1820	1580	1580	1010	1010	2430	2090	1030	996
26	2120	1770	1690	1830	1600	1580	1010	1010	2440	2100	1020	995
27	2100	1750	1690	1850	1610	1540	1010	1010	2130	2090	1030	999
28	2090	1770	1690	1850	1660	1550	1000	1010	2110	2100	1030	1000
29	2090	1790	1740	1840	---	1560	1010	1010	2110	2090	1030	997
30	2100	1780	1780	1840	---	1580	1010	1010	2110	2080	1020	1000
31	2100	---	1750	1850	---	1590	---	1010	---	2070	1020	---
TOTAL	83886	55660	73720	55190	44770	49540	34340	32060	60755	71830	55590	30173
MEAN	2706	1855	2378	1780	1599	1598	1145	1034	2025	2317	1793	1006
MAX	5090	2180	5310	1850	1870	1680	1580	1260	2940	4090	2100	1010
MIN	930	1750	1660	1730	1520	1540	1000	1000	780	1790	1020	995
AC-FT	166400	110400	146200	109500	88800	98260	68110	63590	120500	142500	110300	59850

C-042385

11446500 AMERICAN RIVER AT FAIR OAKS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	455	1327	2504	4483	5831	6647	8258	8656	5149	1293	342	269
MAX	1430	16450	17360	24290	15540	24710	15640	18200	17720	6336	1497	813
(WY)	1905	1951	1951	1909	1909	1907	1907	1952	1911	1906	1907	1907
MIN	100	85.0	254	284	650	879	1998	1488	206	26.8	15.8	24.4
(WY)	1930	1930	1906	1918	1920	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1905 - 1954	
ANNUAL MEAN	3752	
HIGHEST ANNUAL MEAN	7896	1907
LOWEST ANNUAL MEAN	731	1924
HIGHEST DAILY MEAN	132000	Nov 21 1950
LOWEST DAILY MEAN	4.6	Jul 29 1924
ANNUAL SEVEN-DAY MINIMUM	4.8	Jul 29 1924
INSTANTANEOUS PEAK FLOW	180000	Nov 21 1950
INSTANTANEOUS PEAK STAGE	31.85	Nov 21 1950
ANNUAL RUNOFF (AC-FT)	2718000	
10 PERCENT EXCEEDS	9980	
50 PERCENT EXCEEDS	1420	
90 PERCENT EXCEEDS	216	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1899	2424	3869	4908	5209	4868	4129	3899	3633	3512	2785	2229
MAX	4102	11700	19360	19190	31140	19340	17760	12310	9828	7055	4500	3924
(WY)	1970	1984	1965	1970	1986	1983	1982	1983	1983	1983	1983	1983
MIN	284	272	252	350	408	273	258	520	1135	869	855	602
(WY)	1978	1978	1978	1962	1991	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1956 - 1994	
ANNUAL TOTAL	1546789		647514			
ANNUAL MEAN	4238		1774		3607	
HIGHEST ANNUAL MEAN					8854	1983
LOWEST ANNUAL MEAN					778	1977
HIGHEST DAILY MEAN	16100	Jan 23	5310	Dec 12	131000	Feb 19 1986
LOWEST DAILY MEAN	492	Jan 12	780	Jun 3	215	Apr 20 1977
ANNUAL SEVEN-DAY MINIMUM	497	Jan 4	972	May 29	237	Jan 7 1978
INSTANTANEOUS PEAK FLOW			5480	Dec 11	134000	Feb 19 1986
INSTANTANEOUS PEAK STAGE			7.95	Dec 11	27.96	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	3068000		1284000		2613000	
10 PERCENT EXCEEDS	8250		2370		7500	
50 PERCENT EXCEEDS	3840		1730		2480	
90 PERCENT EXCEEDS	1660		1010		835	

C-042386

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA

LOCATION.--Lat 38°35'12", long 121°30'16", T.9 N., R.4 E., Sacramento County, Hydrologic Unit 18020109, on left bank 1,000 ft upstream from I Street Bridge, in city of Sacramento, and 0.5 mi downstream from American River.

DRAINAGE AREA.--23,502 mi^2.

REVISED RECORDS.--WDR CA-76-4: Drainage area.

PERIOD OF RECORD.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to September 1979 (water discharge), October 1985 to September 1989 (peak elevation of year only, see station 11447650), October 1989 to current year (elevation only). Gage heights collected in this vicinity November 1879 to May 1888, December 1890 to September 1963, are contained in reports of National Weather Service. Elevation for October 1979 to September 1989 in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Oct. 15, 1912, nonrecording gage in vicinity of I Street Bridge. Oct. 15, 1912, to Nov. 16, 1956, water-stage recorder at various sites in vicinity of I Street Bridge. Prior to Nov. 16, 1956, datum of gages at low-water mark of Oct. 23, 1856, 0.12 ft above sea level.

REMARKS.--Natural flow of stream affected by storage reservoirs, power development, diversions for irrigation, and return flow from irrigated areas. Floodflows bypass station through Yolo Bypass (see stations 11426000 and 11453000). See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD (since 1949).--Maximum elevation, 30.58 ft, Feb. 19, 1986; minimum elevation prior to October 1989 is unknown. Minimum elevation since October 1989, 0.67 ft, Nov. 15, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 9.22 ft, Feb. 9; minimum, 1.41 ft, June 1.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	5.13	4.35	4.56	3.37	4.79	3.74	5.05	4.17	4.70	3.68	5.79	4.88
2	5.00	4.10	4.78	3.06	4.76	3.55	4.73	3.81	4.64	3.38	5.91	5.03
3	4.91	3.89	4.75	3.05	4.62	3.59	4.36	3.52	4.78	3.36	5.82	4.82
4	4.89	3.86	4.80	3.11	4.54	3.55	4.45	3.36	5.02	3.42	5.71	4.63
5	4.87	3.75	4.56	3.16	4.58	3.65	4.60	3.40	4.91	3.39	5.61	4.46
6	4.88	3.56	4.44	3.05	4.82	3.86	4.55	3.28	5.23	3.31	5.42	4.46
7	4.81	3.58	4.33	3.01	5.26	4.15	4.57	3.28	6.02	3.86	5.50	4.45
8	4.78	3.50	4.10	2.92	6.06	4.69	5.16	3.28	7.78	5.04	5.50	4.58
9	4.70	3.55	4.25	2.99	6.69	5.56	5.25	3.59	9.22	7.78	5.41	4.54
10	4.93	4.03	4.42	3.08	7.33	6.07	5.17	3.61	9.10	8.50	5.31	4.42
11	5.18	4.18	4.89	3.44	8.40	7.06	4.94	3.52	8.50	7.15	4.86	3.95
12	4.87	4.02	4.83	3.51	8.03	7.41	4.77	3.42	7.15	6.59	4.40	3.58
13	5.32	4.11	4.91	3.43	8.14	7.18	4.59	3.23	6.88	6.47	4.36	3.48
14	5.47	4.62	4.36	3.13	8.50	7.69	4.52	3.16	6.60	5.78	4.50	3.55
15	5.72	4.62	4.75	2.99	8.25	7.62	4.29	3.13	5.84	5.10	4.70	3.64
16	5.81	4.69	4.69	3.22	8.34	7.60	4.16	3.08	5.55	4.78	4.67	3.52
17	5.75	4.66	4.66	3.27	8.30	7.46	4.07	2.96	6.47	4.98	4.48	3.24
18	5.98	4.70	4.44	3.22	7.56	6.65	4.27	2.92	5.76	4.81	4.57	3.34
19	5.93	4.60	4.17	2.96	6.76	6.02	4.56	3.12	6.56	4.87	4.70	3.40
20	5.43	3.94	3.85	2.77	6.06	5.41	4.69	3.22	7.40	6.52	4.33	3.14
21	4.83	3.07	3.96	2.81	5.81	5.09	4.77	3.26	7.98	6.81	4.20	3.00
22	4.52	3.23	4.23	2.93	5.79	5.06	4.82	3.23	8.69	7.89	4.51	3.03
23	4.26	3.08	4.01	3.00	6.10	5.16	5.61	3.32	8.38	7.83	4.27	3.04
24	4.05	2.94	3.93	2.80	6.02	5.33	5.88	3.81	7.83	7.19	4.29	2.96
25	4.04	2.94	4.13	2.93	6.08	5.25	6.28	4.41	7.19	6.59	4.38	3.03
26	3.98	2.95	4.24	2.97	6.34	5.28	7.42	5.75	6.71	5.94	4.33	3.10
27	4.20	3.03	4.38	3.03	6.39	5.47	7.39	6.96	6.15	5.45	4.42	2.98
28	4.40	3.07	4.79	3.10	6.16	5.34	7.07	6.26	5.78	5.00	4.53	2.90
29	4.86	3.20	5.37	3.38	5.84	5.06	6.31	5.24	---	---	4.54	2.81
30	4.88	3.34	5.06	4.19	5.64	4.75	5.52	4.57	---	---	4.56	2.80
31	5.01	3.37	---	---	5.35	4.53	4.93	4.08	---	---	4.32	2.42
MONTH	5.98	2.94	5.37	2.77	8.50	3.55	7.42	2.92	9.22	3.31	5.91	2.42

C-042387

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.16	2.35	3.86	1.96	3.59	1.41	4.12	2.24	4.71	2.89	5.32	4.09
2	4.19	2.38	3.47	1.85	3.47	1.77	4.04	2.48	4.60	2.77	5.37	4.25
3	4.01	2.31	3.58	1.84	3.69	1.96	4.26	2.55	4.67	2.84	5.42	4.24
4	3.58	2.06	3.59	1.98	3.86	1.83	4.61	2.85	4.71	2.86	5.32	4.23
5	3.51	2.06	3.73	1.88	3.83	1.86	4.84	2.94	4.59	2.64	5.32	4.30
6	3.60	2.03	3.83	1.86	3.93	1.62	5.01	2.92	4.48	2.63	5.27	4.26
7	3.62	2.23	3.97	2.30	3.98	1.59	5.18	3.24	4.55	2.89	5.29	4.24
8	3.49	2.02	4.11	2.33	3.81	1.62	5.49	3.67	4.67	2.98	5.42	4.24
9	3.77	2.19	4.62	3.00	3.92	1.69	5.59	4.12	4.33	2.74	5.30	4.12
10	3.58	1.90	4.69	3.00	4.03	1.83	5.59	4.11	3.99	2.60	5.35	4.04
11	3.52	1.90	4.73	2.96	4.34	2.23	5.37	3.88	4.10	2.55	5.35	3.94
12	3.74	2.03	4.66	2.83	4.40	2.40	5.15	3.79	4.26	2.65	5.25	3.89
13	3.85	2.05	4.46	2.54	4.18	2.36	4.94	3.72	4.31	2.63	5.14	3.77
14	3.94	1.92	4.48	2.71	3.61	1.83	4.89	3.54	4.30	2.64	5.17	3.86
15	3.88	1.83	4.45	2.62	3.44	1.74	4.94	3.73	4.46	2.71	4.94	3.68
16	4.12	2.04	4.18	2.39	3.42	1.51	5.30	3.69	4.69	2.85	4.88	3.68
17	3.72	1.61	3.63	1.78	3.38	1.72	5.24	3.71	4.81	3.01	5.07	3.80
18	3.54	1.73	3.42	1.68	3.68	1.92	5.41	3.76	5.14	3.39	5.09	3.89
19	3.37	1.60	3.63	1.72	3.97	2.26	5.48	3.58	5.02	3.29	4.83	3.71
20	3.23	1.81	3.58	1.65	4.44	2.53	5.44	3.38	4.82	3.24	4.74	3.59
21	3.47	1.84	3.83	1.81	4.48	2.44	5.24	3.22	4.85	3.51	4.80	3.54
22	3.63	2.02	4.19	2.05	4.54	2.49	5.07	3.12	4.89	3.68	4.91	3.64
23	3.88	2.21	4.47	2.26	4.83	2.55	5.14	3.33	4.72	3.56	4.64	3.48
24	4.30	2.31	4.62	2.27	4.72	2.45	4.75	3.01	4.63	3.52	4.75	3.19
25	4.34	2.22	4.96	2.52	4.39	2.51	4.36	2.80	4.86	3.63	4.62	3.24
26	4.49	2.32	5.05	2.58	4.08	2.24	4.32	2.77	4.84	3.62	4.72	3.08
27	4.68	2.55	4.90	2.42	3.79	2.18	4.43	2.86	5.09	3.80	4.72	3.15
28	4.74	2.72	4.42	2.22	3.71	2.25	4.43	2.78	5.12	3.82	4.52	2.99
29	4.78	2.68	3.88	1.78	3.66	2.21	4.47	2.65	5.12	3.82	4.30	2.80
30	4.31	2.21	3.46	1.60	4.03	2.26	4.28	2.77	5.02	3.87	4.21	2.73
31	---	---	3.67	1.88	---	---	4.56	2.96	5.26	4.03	---	---
MONTH	4.78	1.60	5.05	1.60	4.83	1.41	5.59	2.24	5.26	2.55	5.42	2.73

C-042388

11447650 SACRAMENTO RIVER AT FREEPORT, CA
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 38°27'15", long 121°29'54", in SW 1/4 SW 1/4 sec.13, T.7 N., R.4 E., Sacramento County, Hydrologic Unit 18020109, on left bank 630 ft downstream from drawbridge at Freeport and 11 mi south of Sacramento.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to current year. Prior to October 1979, published as Sacramento River at Sacramento (station 11447500).

GAGE.--Water-stage recorder and acoustic-velocity system. Datum of gage is sea level.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power development, diversions for irrigation, return flow from irrigated areas, and tide. Floodflows bypass station through Sacramento Weir Spill to Yolo Bypass (stations 11426000 and 11453000). See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD (since 1949).--Maximum discharge, 117,000 ft^3/s, Feb. 19, 1986, elevation, 25.00 ft; minimum daily, 3,970 ft^3/s, Oct. 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known prior to Nov. 21, 1950, 103,000 ft^3/s, Jan. 17, 1909, elevation, 29.6 ft, site then in use at present datum, from reports of California Department of Water Resources.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,200 ft^3/s, Feb. 10, elevation, 6.12 ft; maximum elevation, 6.86 ft, Feb. 9; minimum daily, 6,120 ft^3/s, June 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e15500	11800	14200	15400	14200	18100	9390	8460	7680	9680	11000	15900
2	e14300	11500	14200	14800	13200	18400	9790	8060	e7710	9150	11100	15800
3	e13500	11400	14400	14200	12600	17500	9900	8250	e7420	9460	11200	16500
4	e13100	11400	14200	13800	12300	17200	9640	8170	e7040	9890	11000	16800
5	e13300	11800	14800	13600	12000	16500	8710	8030	e6390	10200	10700	16900
6	e13100	11800	15700	13300	11900	16400	8360	7580	e6120	10200	10300	16400
7	e13300	12000	16700	12800	13400	16400	8600	8970	6610	10900	10200	15900
8	e13200	11800	17900	12400	19900	16500	8010	9240	6800	13000	10900	15700
9	14200	11700	21100	12400	29800	15900	8130	10900	7260	14700	10600	16200
10	15100	11600	22700	12600	29900	15000	8440	11400	7140	15000	10400	15700
11	15600	11800	25400	12500	26400	14800	8460	10800	6970	14600	10400	15600
12	15200	12000	26300	12400	23800	14000	8650	10600	7560	14300	10700	15500
13	15500	12200	26000	11900	23400	13600	8400	9980	7720	14200	11200	15200
14	16500	12400	27600	11700	21500	13400	8550	9380	8240	14000	11000	15600
15	16100	11800	27000	11600	19200	12900	7810	10300	7750	13800	11000	15100
16	16200	12200	27900	11800	17300	13000	7350	9670	7610	14200	11000	14700
17	16200	12300	27600	11900	16200	12600	7610	9500	8130	13800	10800	14400
18	16700	12600	25000	11800	17100	12000	7170	8490	8680	12900	11800	14700
19	16900	12500	22800	12200	19400	12900	7480	8000	8980	11900	11800	13800
20	14800	12300	21300	12200	23500	12800	7760	7510	9130	11400	11900	13000
21	13100	12300	19800	12200	25000	12000	7910	7450	9070	10900	12500	12700
22	12900	12200	19700	11900	28900	11500	7830	7970	8600	10800	13700	12700
23	12500	12500	20100	11800	28200	11800	7880	8400	9010	10900	13600	12900
24	11900	12100	20200	13200	25500	11100	7890	e8700	9090	11300	13700	12200
25	11400	12000	19700	15900	22900	10900	7400	e9150	9000	11100	13600	12300
26	11300	12000	19300	21800	20800	10900	8340	e9600	9620	10800	14300	12000
27	11400	12000	19200	24000	19200	10600	8890	e9260	9430	11000	14400	12200
28	11200	11800	18800	22100	18000	9520	9900	8610	9480	11100	14900	12300
29	11400	12500	18000	19200	---	10000	9540	8030	9270	11300	15500	12000
30	11500	14500	16900	17000	---	9630	9260	7190	9220	10600	15500	11700
31	11500	---	16100	15500	---	9430	---	6630	---	10700	15800	---
TOTAL	428400	362800	630600	439900	565500	417280	253050	274280	242730	367780	376500	432400
MEAN	13820	12090	20340	14190	20200	13460	8435	8848	8091	11860	12150	14410
MAX	16900	14500	27900	24000	29900	18400	9900	11400	9620	15000	15800	16900
MIN	11200	11400	14200	11600	11900	9430	7170	6630	6120	9150	10200	11700
AC-FT	849700	719600	1251000	872500	1122000	827700	501900	544000	481500	729500	746800	857700

e Estimated.

C-042389

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12470	16670	26140	33400	38570	36370	29110	23750	17170	14000	13870	14460
MAX	28690	48820	74510	74830	79040	78290	76580	69820	48380	31000	25040	25060
(WY)	1963	1984	1984	1974	1983	1983	1982	1952	1983	1983	1983	1974
MIN	4494	6380	7208	8984	8003	6573	5961	6414	6865	6345	7061	6838
(WY)	1978	1993	1960	1991	1977	1977	1977	1992	1977	1949	1949	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1949 - 1994	
ANNUAL TOTAL	10536300		4791220			
ANNUAL MEAN	28870		13130		22920	
HIGHEST ANNUAL MEAN					46900	1983
LOWEST ANNUAL MEAN					7608	1977
HIGHEST DAILY MEAN	82300	Mar 28	29900	Feb 10	115000	Feb 19 1986
LOWEST DAILY MEAN	11200	Oct 28	6120	Jun 6	3970	Oct 15 1977
ANNUAL SEVEN-DAY MINIMUM	11400	Oct 25	6760	Jun 5	4060	Oct 13 1977
INSTANTANEOUS PEAK FLOW			33200	Feb 10	117000	Feb 19 1986
INSTANTANEOUS PEAK STAGE			6.86	Feb 9	25.00	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	20900000		9503000		16600000	
10 PERCENT EXCEEDS	60200		19200		52800	
50 PERCENT EXCEEDS	22100		12200		15600	
90 PERCENT EXCEEDS	12500		8050		8740	

C-042390

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1957 to current year.
CHEMICAL DATA: Water year 1959 to current year.
BIOLOGICAL DATA: Water years 1974-81.
SPECIFIC CONDUCTANCE: Water years 1974-75, November 1988 to September 1994 (discontinued).
WATER TEMPERATURE: Water year 1960 to current year.
SEDIMENT DATA: Water year 1957 to current year (prior to water year 1980, published as 11447500 Sacramento River at Sacramento).
PERIOD OF DAILY RECORD.--
CHEMICAL DATA: June 1960 to June 1963.
SPECIFIC CONDUCTANCE: February 1974 to July 1975, November 1988 to September 1994 (discontinued).
WATER TEMPERATURE: June 1960 to current year.
SUSPENDED SEDIMENT: October 1956 to current year.
INSTRUMENTATION.--Temperature recorder June 1960 to November 1988. Water-quality monitor since November 1988.
REMARKS.--Records of sediment discharge from 1957 to 1979 were obtained at Sacramento and are considered equivalent. Additional specific-conductance and monthly chemical and trace-element data are available in files of the U.S. Geological Survey.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 318 microsiemens, Nov. 22, 1974; minimum recorded, 32 microsiemens, Apr. 6, 1974.
WATER TEMPERATURE: Maximum recorded, 27.0°C, Sept. 8, 1977; minimum recorded, 3.0°C, Dec. 25-27, 1990.
SEDIMENT CONCENTRATION: Maximum daily mean, 1,960 mg/L, Dec. 24, 1964; minimum daily, 2 mg/L, Jan. 27, 31, and Nov. 21, 1991.
SEDIMENT LOAD: Maximum daily, 525,000 tons, Dec. 24, 1964; minimum daily, 35 tons, Jan. 31, 1991.
EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 259 microsiemens, Feb. 9; minimum recorded, 103 microsiemens, July 10.
WATER TEMPERATURE: Maximum recorded, 24.5°C, Aug. 7; minimum recorded, 7.0°C, Dec. 23-27.
SEDIMENT CONCENTRATION: Maximum daily mean, 130 mg/L, Feb. 22, minimum daily mean, 8 mg/L, May 22.
SEDIMENT LOAD: Maximum daily, 10,400 tons, Feb. 9; minimum daily, 210 tons, May 21.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
DEC										
15...	1120	27500	121	7.7	10.5	17	763	10.2	91	K240
MAR										
15...	1000	15100	197	7.7	15.0	3.0	763	9.6	96	600
JUN										
14...	1230	11600	126	7.6	22.5	2.3	760	8.4	97	K7
SEP										
14...	1000	19500	174	7.8	19.0	7.3	765	8.6	92	25

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3
DEC										
15...	1400	46	0	10	5.0	7.4	25	0.5	1.3	62
MAR										
15...	240	72	0	15	8.4	12	26	0.6	1.3	95
JUN										
14...	K10	47	0	9.5	5.6	6.7	23	0.4	0.90	62
SEP										
14...	34	63	0	13	7.5	11	27	0.6	1.4	94

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
DEC										
15...	51	6.3	4.6	<0.10	17	85	84	0.12	<0.010	0.270
MAR										
15...	78	10	9.4	<0.10	18	123	122	0.17	<0.010	0.170
JUN										
14...	50	4.9	5.4	<0.10	14	84	78	0.11	<0.010	<0.050
SEP										
14...	77	6.3	7.0	<0.10	19	108	112	0.15	<0.010	0.052

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)	COBALT, DISSOLVED (UG/L AS CO)	IRON, DISSOLVED (UG/L AS FE)	LITHIUM DISSOLVED (UG/L AS LI)
DEC										
15...	0.030	0.30	0.070	0.020	0.030	<10	19	<3	12	<4
MAR										
15...	0.030	<0.20	0.050	0.040	0.030	20	25	<3	21	4
JUN										
14...	0.030	0.20	0.070	0.010	0.020	20	19	<3	13	<4
SEP										
14...	0.020	<0.20	0.030	0.040	0.030	30	24	<3	36	<4

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
DEC									
15...	3	<10	<1	<1	<1.0	72	<6	0.04	0.09
MAR									
15...	5	<10	<1	<1	<1.0	120	<6	--	--
JUN									
14...	5	<10	<1	<1	<1.0	74	<6	0.04	0.14
SEP									
14...	5	<10	<1	<1	<1.0	95	<6	--	--

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DEPTH AT SAMPLE LOCATION, TOTAL (FEET)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC											
15...*	1055	18.2	180	122	7.7	10.5	763	10.1	90	51	88
15...*	1115	24.0	290	122	7.7	10.5	763	10.2	91	40	96
15...*	1119	24.6	368	121	7.7	10.5	763	10.2	91	42	97
15...*	1125	25.1	460	121	7.7	10.5	763	10.2	91	51	92
15...*	1130	27.5	525	121	7.8	10.5	763	10.2	92	39	97
JUN											
14...*	1215	21.0	172	125	7.5	22.5	760	8.2	95	10	88
14...*	1223	21.4	294	125	7.4	22.5	760	8.3	97	12	92
14...*	1229	22.2	377	126	7.4	22.5	760	8.2	95	12	89
14...*	1236	23.5	462	125	7.4	23.0	760	8.2	96	10	92
14...*	1242	25.1	547	126	7.5	23.0	760	8.3	97	9	96

*Instantaneous streamflow at the time of cross-sectional measurements: Dec. 15, 27,400 ft^3/s; June 14, 11,600 ft^3/s.

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC						
15...	1120	27500	10.5	45	3340	94
MAR						
01...	1240	20700	12.5	38	2120	--
15...	1000	15100	15.0	18	734	99
JUN						
14...	1230	11600	22.5	11	345	91
AUG						
31...	1050	19600	22.0	51	2700	--
SEP						
14...	1000	19500	19.0	41	2160	94

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM
MAR							
15...	1005	1	15100	15.0	11	26	39
15...	1006	1	15100	15.0	1	3	10
15...	1007	1	15100	15.0	1	3	20
15...	1008	1	15100	15.0	2	5	20
15...	1009	1	15100	15.0	--	1	32
SEP							
14...	0900	1	19600	19.0	34	54	63
14...	0901	1	19600	19.0	5	11	17
14...	0902	1	19600	19.0	3	6	24
14...	0903	1	19600	19.0	2	4	25
14...	0904	1	19600	19.0	25	37	64

DATE	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
MAR						
15...	52	92	99	100	--	--
15...	53	94	99	100	--	--
15...	60	95	99	100	--	--
15...	79	98	100	--	--	--
15...	93	100	--	--	--	--
SEP						
14...	73	91	99	100	--	--
14...	46	92	98	100	--	--
14...	47	66	72	78	91	100
14...	87	100	--	--	--	--
14...	92	98	100	--	--	--

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	130	122	127	122	140	130	156	140	200	181	234	189
2	135	124	159	122	148	137	159	144	197	185	200	181
3	137	129	148	124	149	142	157	147	194	180	193	172
4	138	125	128	124	147	141	157	148	192	180	179	172
5	140	127	128	124	147	139	162	151	197	186	206	176
6	146	130	128	124	145	134	169	158	203	186	204	188
7	132	121	128	124	137	123	168	159	192	175	210	198
8	133	125	128	124	125	120	182	156	235	173	215	196
9	133	125	129	124	140	117	164	155	259	148	208	191
10	129	119	147	127	130	118	165	155	148	125	201	187
11	122	112	148	132	128	122	166	159	168	137	207	187
12	123	115	135	121	131	124	171	158	188	161	212	191
13	119	113	140	121	131	126	175	160	189	160	216	192
14	114	108	148	138	133	129	162	157	190	168	195	181
15	119	113	148	134	131	120	173	160	191	154	200	178
16	116	112	140	136	132	120	167	152	191	164	184	176
17	114	106	141	134	132	122	164	154	208	188	199	178
18	112	108	143	137	139	122	158	153	220	193	189	177
19	115	108	141	137	147	134	162	152	238	198	191	179
20	118	111	144	137	154	143	187	162	225	172	187	174
21	121	115	140	135	156	144	192	182	182	157	179	170
22	128	121	142	137	155	141	187	178	182	135	173	166
23	127	123	141	136	152	139	186	173	153	122	169	162
24	129	122	144	136	150	138	175	168	167	136	174	162
25	124	119	139	136	154	140	184	163	185	159	173	163
26	123	118	139	134	147	140	209	184	190	178	173	157
27	123	118	139	135	154	142	205	174	200	186	198	161
28	137	123	138	134	152	131	186	166	223	200	207	166
29	149	120	139	133	135	126	187	167	---	---	193	163
30	155	121	137	126	142	127	182	165	---	---	187	162
31	159	122	---	---	148	131	200	177	---	---	192	163
MONTH	159	106	159	121	156	117	209	140	259	122	234	157

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	196	152	182	149	186	154	140	120	132	128	194	173
2	176	152	170	140	186	152	125	121	135	126	191	163
3	191	169	164	139	179	149	125	120	137	133	193	172
4	198	184	166	139	176	147	134	119	139	133	190	174
5	221	180	177	142	160	143	124	117	136	131	189	180
6	205	158	178	141	177	143	135	116	133	128	194	178
7	190	158	162	132	174	148	137	116	132	126	193	175
8	226	178	150	130	175	148	120	111	134	127	189	168
9	223	175	155	134	179	147	111	105	135	130	196	174
10	208	173	180	151	185	142	106	103	138	133	213	176
11	224	172	185	170	173	135	112	106	136	131	208	183
12	215	177	174	166	158	132	114	112	137	129	201	187
13	220	179	171	157	156	129	115	111	141	128	195	157
14	225	173	162	146	161	126	116	112	141	128	187	157
15	201	164	148	140	162	128	118	113	136	129	207	168
16	196	161	149	140	162	128	118	113	136	131	192	168
17	204	165	177	136	159	124	119	114	147	130	191	171
18	191	163	177	140	151	120	120	114	135	129	190	173
19	187	159	169	143	140	121	120	116	165	132	189	165
20	193	159	178	145	145	121	121	117	162	135	182	163
21	174	148	185	148	144	120	122	115	141	134	167	148
22	169	139	184	150	148	122	123	118	143	133	167	149
23	172	136	188	155	155	121	123	120	166	143	176	150
24	166	134	237	159	140	119	123	121	166	158	164	149
25	164	136	244	163	139	124	137	120	165	156	158	147
26	168	138	183	159	130	120	157	121	166	159	147	139
27	174	136	184	153	130	119	158	122	182	166	146	141
28	168	136	178	146	125	120	167	121	188	178	145	141
29	172	137	174	146	141	121	167	122	185	171	143	139
30	182	149	172	147	141	121	131	125	190	169	141	137
31	---	---	174	152	---	---	131	126	188	170	---	---
MONTH	226	134	244	130	186	119	167	103	190	126	213	137

C-042394

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	15.5	18.0	17.0	23.0	22.0	23.5	22.5	22.5	21.5	21.0	20.5
2	16.5	15.5	18.5	17.0	23.0	21.5	23.5	22.5	22.5	21.5	21.0	20.5
3	17.0	16.0	19.0	17.5	23.0	21.5	23.5	22.5	23.0	22.0	21.0	20.0
4	17.0	16.0	19.5	18.0	22.5	21.5	23.5	22.5	23.5	22.5	21.0	20.5
5	17.5	16.5	20.0	18.5	22.0	21.5	23.0	22.5	23.5	22.5	21.0	20.5
6	17.0	16.5	19.5	18.5	21.5	21.0	23.5	22.0	24.0	23.0	21.5	20.5
7	16.5	16.0	18.5	17.5	21.5	20.5	24.0	22.5	24.5	23.5	21.0	20.5
8	16.0	15.5	18.0	16.5	22.0	20.5	24.0	23.0	24.0	23.5	20.5	20.0
9	16.0	15.5	18.5	17.5	22.0	21.0	23.5	22.5	23.5	23.0	20.5	20.0
10	16.0	15.0	19.5	18.0	22.5	21.5	23.0	22.5	23.0	22.5	20.5	20.0
11	16.5	15.5	20.0	19.0	23.0	22.0	23.0	22.5	23.0	22.0	20.0	19.5
12	17.0	16.0	21.0	19.5	23.5	22.0	23.0	23.0	23.5	22.5	20.0	19.5
13	18.0	16.5	21.5	20.5	23.0	22.0	23.0	23.0	23.5	22.5	19.5	19.5
14	18.5	17.0	22.0	21.0	22.5	21.5	23.0	22.5	24.0	22.5	19.5	19.5
15	19.0	17.5	21.5	20.5	22.0	21.5	23.0	22.5	24.0	22.5	20.0	19.5
16	19.0	18.5	20.5	19.5	22.0	21.0	22.5	22.5	24.0	23.0	20.5	20.0
17	19.5	18.5	19.5	18.5	21.5	20.5	23.0	22.5	24.0	23.0	20.5	20.0
18	20.0	19.0	18.5	18.0	21.5	20.0	23.0	22.5	24.0	23.0	20.0	20.0
19	20.5	19.0	18.0	17.5	22.0	20.5	23.0	22.5	23.5	23.0	20.5	20.0
20	21.0	19.5	18.5	17.5	22.0	21.0	22.5	22.0	23.5	22.5	20.5	20.5
21	20.5	19.0	19.5	17.5	22.0	21.0	22.5	21.5	23.0	22.5	21.0	20.5
22	20.5	19.0	20.0	18.5	22.5	21.0	22.5	21.5	22.5	22.0	21.0	20.5
23	19.0	18.0	20.5	19.0	22.5	21.0	22.5	21.5	22.0	22.0	21.0	20.5
24	18.0	17.0	21.5	20.0	22.5	21.5	22.5	21.5	22.0	21.5	20.5	20.5
25	17.0	16.0	22.0	21.0	22.5	21.5	22.5	22.0	22.0	21.5	20.5	20.0
26	16.5	15.5	22.0	21.0	22.5	21.5	23.0	22.0	22.0	21.5	20.5	20.0
27	16.5	15.5	21.5	21.0	23.0	21.5	23.0	22.5	21.5	21.0	20.5	20.0
28	17.0	16.0	22.0	20.5	23.5	22.0	22.5	22.0	21.5	21.0	20.5	19.5
29	17.5	16.5	22.5	21.0	23.5	22.5	22.5	22.0	21.5	20.5	19.5	19.0
30	17.5	17.0	22.5	21.5	23.5	22.5	22.5	22.0	21.0	20.5	19.5	19.0
31	---	---	23.0	22.0	---	---	22.5	22.0	21.0	20.5	---	---
MONTH	21.0	15.0	23.0	16.5	23.5	20.0	24.0	21.5	24.5	20.5	21.5	19.0

C-042395

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

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	e15500	e23	963	11800	e17	542	14200	e21	805
2	e14300	e21	811	11500	e17	528	14200	e21	805
3	e13500	e20	729	11400	e16	492	14400	e21	816
4	e13100	e19	672	11400	e16	492	14200	e21	805
5	e13300	e19	682	11800	e17	542	14800	e22	879
6	e13100	e19	672	11800	e17	542	15700	e24	1020
7	e13300	e19	682	12000	e17	551	16700	e26	1170
8	e13200	e19	677	11800	e17	542	17900	e28	1350
9	14200	e21	805	11700	e17	537	21100	e35	1990
10	15100	e23	938	11600	e17	532	22700	e38	2330
11	15600	e24	1010	11800	e17	542	25400	e43	2950
12	15200	e23	944	12000	e17	551	26300	e45	3200
13	15500	e24	1000	12200	e18	593	26000	e45	3160
14	16500	e25	1110	12400	e18	603	27600	e48	3580
15	16100	e25	1090	11800	e17	542	27000	e46	3350
16	16200	e25	1090	12200	e18	593	27900	e49	3690
17	16200	e25	1090	12300	e18	598	27600	e48	3580
18	16700	e26	1170	12600	e18	612	25000	e42	2830
19	16900	e26	1190	12500	e18	607	22800	e38	2340
20	14800	e22	879	12300	e18	598	21300	e35	2010
21	13100	e19	672	12300	e18	598	19800	e32	1710
22	12900	e19	662	12200	e18	593	19700	e32	1700
23	12500	e18	607	12500	e18	607	20100	e32	1740
24	11900	e17	546	12100	e17	555	20200	e32	1750
25	11400	e16	492	12000	e17	551	19700	e32	1700
26	11300	e16	488	12000	e17	551	19300	e31	1620
27	11400	e16	492	12000	e17	551	19200	e31	1610
28	11200	e16	484	11800	e17	542	18800	e30	1520
29	11400	e16	492	12500	e18	607	18000	e28	1360
30	11500	e17	528	14500	e22	861	16900	e26	1190
31	11500	e16	497	---	---	---	16100	e25	1090
TOTAL	428400	---	24164	362800	---	17155	630600	---	59650
		JANUARY			FEBRUARY			MARCH	
1	15400	e23	956	14200	e54	2070	18100	38	1870
2	14800	e22	879	13200	e49	1750	18400	37	1830
3	14200	e21	805	12600	e47	1600	17500	37	1750
4	13800	e20	745	12300	e47	1560	17200	37	1710
5	13600	e20	734	12000	e45	1460	16500	36	1590
6	13300	e20	718	11900	e45	1450	16400	35	1530
7	12800	e19	657	13400	e51	1850	16400	33	1480
8	12400	e18	603	19900	e79	4240	16500	32	1420
9	12400	e18	603	29800	125	10400	15900	30	1300
10	12600	e18	612	29900	122	9860	15000	29	1160
11	12500	e18	607	26400	117	8290	14800	25	1010
12	12400	e18	603	23800	97	6220	14000	22	837
13	11900	e17	546	23400	79	4990	13600	19	710
14	11700	e17	537	21500	68	3920	13400	17	619
15	11600	e17	532	19200	57	2970	12900	17	592
16	11800	e17	542	17300	39	1810	13000	19	667
17	11900	e17	546	16200	29	1250	12600	21	715
18	11800	e17	542	17100	27	1250	12000	23	747
19	12200	e18	593	19400	34	1790	12900	21	715
20	12200	e18	593	23500	47	3020	12800	17	591
21	12200	e18	593	25000	82	5650	12000	15	483
22	11900	e17	546	28900	130	10100	11500	13	406
23	11800	e30	956	28200	125	9520	11800	12	385
24	13200	e50	1780	25500	107	7390	11100	12	347
25	15900	e61	2620	22900	74	4560	10900	11	324
26	21800	e86	5060	20800	58	3280	10900	10	298
27	24000	e95	6160	19200	50	2610	10600	10	287
28	22100	e87	5190	18000	45	2200	9520	10	260
29	19200	e75	3890	---	---	---	10000	11	294
30	17000	e65	2980	---	---	---	9630	12	317
31	15500	e59	2470	---	---	---	9430	14	365
TOTAL	439900	---	45198	565500	---	117060	417280	---	26609

e Estimated

C—042396

C-042396

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	9390	13	329	8460	17	410	7680	14	332
2	9790	12	319	8060	15	326	e7710	13	273
3	9900	12	318	8250	13	305	e7420	13	259
4	9640	11	290	8170	12	284	e7040	12	233
5	8710	11	265	8030	12	280	e6390	13	227
6	8360	12	274	7580	14	331	e6120	15	242
7	8600	13	316	8970	12	323	6610	14	305
8	8010	17	374	9240	12	313	6800	15	330
9	8130	17	389	10900	12	357	7260	15	349
10	8440	16	364	11400	15	474	7140	16	368
11	8460	15	361	10800	22	644	6970	18	411
12	8650	14	317	10600	22	641	7560	16	361
13	8400	12	285	9980	19	503	7720	14	300
14	8550	11	282	9380	13	324	8240	12	276
15	7810	11	255	10300	14	388	7750	11	245
16	7350	13	285	9670	17	438	7610	10	229
17	7610	14	326	9500	16	402	8130	10	228
18	7170	14	287	8490	13	306	8680	9	235
19	7480	14	281	8000	10	248	8980	9	253
20	7760	13	279	7510	9	211	9130	9	238
21	7910	15	329	7450	9	210	9070	10	278
22	7830	17	381	7970	8	213	8600	12	321
23	7880	14	320	8400	10	274	9010	14	385
24	7890	12	291	e8700	12	278	9090	14	386
25	7400	10	227	e9150	15	359	9000	15	392
26	8340	9	235	e9600	17	443	9620	13	340
27	8890	12	338	e9260	19	492	9430	12	305
28	9900	14	399	8610	18	436	9480	12	306
29	9540	16	426	8030	16	372	9270	11	279
30	9260	17	440	7190	15	360	9220	11	274
31	---	---	---	6630	14	313	---	---	---
TOTAL	253050	---	9582	274280	---	11258	242730	---	8960
		JULY			AUGUST			SEPTEMBER	
1	9680	11	285	11000	14	419	15900	31	1300
2	9150	10	250	11100	12	362	15800	27	1140
3	9460	10	259	11200	10	316	16500	30	1340
4	9890	11	290	11000	9	272	16800	33	1500
5	10200	12	335	10700	9	263	16900	34	1570
6	10200	14	383	10300	10	271	16400	35	1560
7	10900	17	510	10200	9	257	15900	36	1520
8	13000	21	742	10900	11	311	15700	30	1260
9	14700	23	897	10600	12	342	16200	22	992
10	15000	26	1060	10400	13	367	15700	17	742
11	14600	31	1240	10400	14	402	15600	19	790
12	14300	32	1220	10700	13	382	15500	23	963
13	14200	35	1330	11200	12	363	15200	30	1220
14	14000	32	1200	11000	11	334	15600	38	1600
15	13800	30	1140	11000	12	357	15100	32	1310
16	14200	21	826	11000	14	424	14700	25	987
17	13800	15	563	10800	17	512	14400	20	784
18	12900	12	403	11800	20	630	14700	18	709
19	11900	9	272	11800	19	621	13800	16	592
20	11400	9	282	11900	22	713	13000	14	490
21	10900	14	432	12500	30	1000	12700	12	418
22	10800	23	692	13700	33	1200	12700	12	408
23	10900	20	592	13600	33	1200	12900	11	385
24	11300	16	481	13700	32	1190	12200	10	338
25	11100	12	362	13600	33	1210	12300	10	335
26	10800	13	376	14300	34	1310	12000	11	352
27	11000	16	471	14400	36	1390	12200	12	387
28	11100	20	603	14900	37	1480	12300	16	510
29	11300	20	623	15500	38	1590	12000	19	601
30	10600	19	535	15500	40	1650	11700	23	746
31	10700	16	474	15800	45	1910	---	---	---
TOTAL	367780	---	19128	376500	---	23048	432400	---	26849
YEAR	4791220		388661						

C—042397

C-042397

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA

LOCATION.--Lat 38°55'39", long 122°50'33", in SE 1/4 SE 1/4 sec.34, T.13 N., R.9 W., Lake County, Hydrologic Unit 18020116, on left bank 1.6 mi downstream from Widow Creek and 3.5 mi south of Kelseyville.

DRAINAGE AREA.--36.6 mi^2.

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1285: 1947-48(M), 1950-52(P). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,475.44 ft above sea level. Prior to July 16, 1955, at site 600 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Some minor diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,200 ft^3/s, Jan. 26, 1983, gage height, 13.31 ft; maximum gage height, 13.48 ft, Jan. 5, 1965; minimum daily, 0.13 ft^3/s, Sept. 6-11, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 17	0545	*941	*7.17				

Minimum daily, 0.32 ft^3/s, Aug. 21-25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	5.2	15	15	29	51	16	13	4.9	1.3	.42	.42
2	2.6	5.1	12	15	26	47	16	13	4.8	1.2	.41	.44
3	2.6	5.0	11	14	25	44	15	12	4.5	1.3	.40	.46
4	2.7	5.2	10	15	23	42	15	12	4.4	1.1	.40	.47
5	3.3	5.3	10	16	21	40	15	13	4.6	.98	.41	.47
6	3.5	5.3	10	14	112	38	15	12	5.5	1.0	.41	.47
7	3.7	5.2	11	14	442	35	15	16	5.2	.98	.39	.47
8	3.4	5.3	357	14	131	33	16	13	4.7	.92	.40	.48
9	3.3	5.4	105	14	76	31	21	11	4.3	.82	.39	.50
10	4.0	6.0	54	13	63	30	17	11	3.8	.71	.37	.51
11	4.6	7.8	248	13	54	29	15	9.7	3.3	.65	.37	.56
12	4.7	7.0	90	13	45	27	14	8.8	3.3	.59	.35	.70
13	4.6	6.8	84	12	41	25	14	8.8	2.9	.55	.35	.81
14	4.8	6.5	327	12	37	25	14	8.2	3.1	.54	.35	.95
15	5.7	6.4	94	12	34	24	13	8.8	3.1	.50	.36	.94
16	5.7	6.4	56	12	33	24	13	9.1	3.3	.49	.34	.83
17	5.3	6.5	43	11	486	23	13	10	3.4	.47	.34	.80
18	5.2	6.6	36	11	230	23	13	9.8	3.0	.47	.34	.72
19	5.0	6.7	31	11	161	22	12	10	2.8	.44	.33	.62
20	4.7	6.6	27	11	166	21	12	9.2	2.7	.44	.33	.56
21	4.6	6.7	25	11	200	20	11	8.8	2.3	.45	.32	.56
22	4.8	6.7	23	13	146	20	11	8.3	2.3	.44	.32	.56
23	4.8	6.8	21	51	109	20	13	7.7	2.1	.44	.32	.57
24	4.8	6.9	19	285	90	21	19	6.9	1.9	.45	.32	.58
25	4.7	6.9	18	193	77	20	31	6.3	1.8	.44	.32	.58
26	4.6	6.9	18	111	70	19	32	6.0	1.6	.42	.34	.58
27	4.6	6.8	17	68	63	18	20	6.0	1.5	.41	.36	.58
28	4.6	9.3	16	51	56	17	17	5.8	1.5	.42	.37	.62
29	4.8	28	15	41	---	17	15	5.3	1.5	.43	.40	.69
30	4.8	29	15	36	---	17	14	5.0	1.3	.42	.40	.77
31	5.1	---	15	32	---	16	---	4.8	---	.42	.41	---
TOTAL	134.1	234.3	1833	1154	3046	839	477	289.3	95.4	20.19	11.34	18.27
MEAN	4.33	7.81	59.1	37.2	109	27.1	15.9	9.33	3.18	.65	.37	.61
MAX	5.7	29	357	285	486	51	32	16	5.5	1.3	.42	.95
MIN	2.5	5.0	10	11	21	16	11	4.8	1.3	.41	.32	.42
AC-FT	266	465	3640	2290	6040	1660	946	574	189	40	22	36

C-042398

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.9	47.1	126	188	202	144	77.3	28.4	11.9	5.33	3.36	3.64
MAX	154	334	688	679	919	640	429	163	31.8	15.4	8.92	16.3
(WY)	1963	1974	1956	1970	1986	1983	1982	1983	1983	1983	1983	1957
MIN	1.22	3.55	4.19	4.83	8.97	11.4	5.67	6.12	1.98	.46	.20	.16
(WY)	1992	1991	1991	1991	1977	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1947 - 1994	
ANNUAL TOTAL	28509.2		8151.80			
ANNUAL MEAN	78.1		22.3		70.3	
HIGHEST ANNUAL MEAN					206	1983
LOWEST ANNUAL MEAN					4.78	1977
HIGHEST DAILY MEAN	2380	Jan 20	486	Feb 17	6020	Feb 17 1986
LOWEST DAILY MEAN	2.3	Sep 13	.32	Aug 21	.13	Sep 6 1992
ANNUAL SEVEN-DAY MINIMUM	2.4	Sep 25	.32	Aug 19	.13	Sep 5 1992
INSTANTANEOUS PEAK FLOW			941	Feb 17	9200	Jan 26 1983
INSTANTANEOUS PEAK STAGE			7.17	Feb 17	13.48	Jan 5 1965
ANNUAL RUNOFF (AC-FT)	56550		16170		50920	
10 PERCENT EXCEEDS	161		44		145	
50 PERCENT EXCEEDS	22		6.9		12	
90 PERCENT EXCEEDS	3.3		.42		2.4	

C-042399

11450000 CLEAR LAKE AT LAKEPORT, CA

LOCATION.--Lat 39°02'21", long 122°54'44", in NE 1/4 NE 1/4 sec.25, T.14 N., R.10 W., Lake County, Hydrologic Unit 18020116, in concrete block building at 410 Esplanade Street in Lakeport.

DRAINAGE AREA.--528 mi^2.

PERIOD OF RECORD.--1874-1900 (incomplete), January 1913 to April 1982, October 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,318.26 ft above sea level (California State Land Commission Benchmark). Prior to July 8, 1947, nonrecording gage, and July 8, 1947, to Mar. 17, 1949, at municipal wharf at foot of Third Street in Lakeport at datum 0.33 ft higher. Mar. 18, 1949, to Sept. 30, 1967, at private pier at foot of Fourth Street at datum 0.33 ft higher. Gage relocated at same datum, Apr. 20, 1982, and published as "at Clearlake" for 1982-84.

REMARKS.--This natural lake is regulated by gates on a dam at outlet, completed in 1915. Capacity between gage heights 0.00 and 7.56 ft, limits stipulated by court decree of 1920, about 319,000 acre-ft. Water is released down natural channel of Cache Creek (station 11451000), from which it is diverted for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 11.34 ft, Feb. 21, 1986, minimum observed, -3.50 ft, Sept. 24-27, 1920.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 4, 1983, reached a stage of 11.24 ft, present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 4.48 ft, Mar. 12; minimum daily, 0.80 ft, Sept. 29, 30.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.20	1.92	1.84	2.23	2.80	4.30	4.32	4.16	3.92	3.28	2.35	1.36
2	2.18	1.90	1.85	2.23	2.80	4.32	4.30	4.14	3.90	3.25	2.31	1.31
3	2.16	1.89	1.84	2.23	2.81	4.33	4.28	4.14	3.87	3.22	2.26	1.29
4	2.15	1.88	1.83	2.25	2.82	4.34	4.26	4.14	3.86	3.19	2.23	1.27
5	2.13	1.88	1.84	2.24	2.82	4.36	4.23	4.15	3.81	3.17	2.21	1.26
6	2.11	1.87	1.84	2.25	2.91	4.39	4.19	4.14	3.79	3.14	2.18	1.23
7	2.09	1.87	1.86	2.25	3.09	4.39	4.19	4.20	3.78	3.12	2.14	1.21
8	2.08	1.86	1.90	2.26	3.17	4.40	4.19	4.20	3.78	3.09	2.10	1.15
9	2.07	1.84	1.95	2.27	3.20	4.40	4.18	4.20	3.78	3.06	2.07	1.10
10	2.07	1.86	1.96	2.27	3.20	4.39	4.20	4.19	3.77	3.04	2.04	1.07
11	2.05	1.82	1.99	2.27	3.26	4.41	4.20	4.17	3.75	3.00	2.00	1.05
12	2.05	1.85	2.03	2.27	3.28	4.41	4.20	4.16	3.71	2.98	1.97	1.03
13	2.03	1.84	2.06	2.27	3.29	4.41	4.20	4.15	3.67	2.94	1.94	1.01
14	2.04	1.83	2.16	2.27	3.30	4.41	4.20	4.12	3.64	2.92	1.91	.99
15	2.04	1.81	2.20	2.28	3.31	4.40	4.20	4.10	3.60	2.88	1.88	.97
16	2.04	1.81	2.22	2.28	3.33	4.40	4.19	4.08	3.59	2.86	1.85	.97
17	2.03	1.80	2.23	2.28	3.45	4.41	4.18	4.10	3.57	2.83	1.82	.96
18	2.02	1.79	2.23	2.28	3.58	4.40	4.17	4.10	3.56	2.79	1.79	.95
19	2.01	1.78	2.23	2.28	3.68	4.40	4.15	4.08	3.55	2.75	1.75	.94
20	2.01	1.78	2.23	2.29	3.80	4.40	4.14	4.07	3.54	2.73	1.72	.93
21	2.01	1.77	2.23	2.29	3.89	4.37	4.12	4.05	3.52	2.70	1.67	.92
22	2.00	1.73	2.22	2.32	4.00	4.35	4.10	4.05	3.50	2.67	1.65	.90
23	1.99	1.75	2.24	2.39	4.07	4.38	4.11	4.05	3.47	2.63	1.63	.88
24	1.99	1.75	2.23	2.51	4.13	4.37	4.10	4.03	3.45	2.58	1.60	.87
25	1.98	1.74	2.22	2.62	4.17	4.36	4.15	4.02	3.41	2.56	1.57	.86
26	1.97	1.73	2.22	2.69	4.21	4.36	4.18	4.01	3.40	2.53	1.55	.86
27	1.96	1.73	2.23	2.74	4.24	4.37	4.18	4.00	3.38	2.50	1.51	.85
28	1.95	1.78	2.22	2.76	4.27	4.36	4.19	3.98	3.36	2.47	1.47	.82
29	1.95	1.82	2.23	2.77	---	4.35	4.17	3.97	3.34	2.44	1.45	.80
30	1.93	1.84	2.22	2.79	---	4.32	4.17	3.97	3.31	2.41	1.42	.80
31	1.92	---	2.22	2.80	---	4.33	---	3.93	---	2.38	1.39	---
MEAN	2.04	1.82	2.09	2.38	3.46	4.37	4.19	4.09	3.62	2.84	1.85	1.02
MAX	2.20	1.92	2.24	2.80	4.27	4.41	4.32	4.20	3.92	3.28	2.35	1.36
MIN	1.92	1.73	1.83	2.23	2.80	4.30	4.10	3.93	3.31	2.38	1.39	.80

CAL YR 1993 MEAN 4.90 MAX 8.46 MIN 1.73
WTR YR 1994 MEAN 2.81 MAX 4.41 MIN .80

C-042400

11451000 CACHE CREEK NEAR LOWER LAKE, CA

LOCATION.--Lat 38°55'27", long 122°33'53", in sec.6, T.12 N., R.6 W., Lake County, Hydrologic Unit 18020116, on left bank 500 ft downstream from Clear Lake Dam, 1.9 mi downstream from Copsey Creek, and 2.5 mi northeast of Lower Lake.

DRAINAGE AREA.--528 mi^2.

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder and rain gage (station 385525122335501). Datum of gage is 1,279.64 ft above sea level. Prior to Oct. 2, 1987, at datum 1.00 ft higher.

REMARKS.--Records fair. Flow completely regulated by Clear Lake (station 11450000) 500 ft upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s, Feb. 24, 1958, gage height, 10.40 ft, present datum; no flow Nov. 8-20, 1977, Apr. 5, 6, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,090 ft^3/s, Dec. 8, gage height, 8.60 ft; minimum daily, 0.22 ft^3/s, Dec. 3, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	.74	.23	.86	2.4	4.3	269	9.8	8.8	170	172	168
2	174	.70	.23	.90	2.4	4.4	292	10	8.8	173	175	171
3	165	.73	.22	.93	2.5	4.5	342	10	8.7	173	173	173
4	48	.65	.23	.97	2.5	4.5	405	10	8.4	170	174	173
5	1.5	.66	.22	1.0	2.5	4.5	383	10	8.3	172	173	172
6	.40	.65	.23	1.1	3.2	4.6	348	10	8.2	171	174	173
7	.45	.62	.23	1.1	3.4	4.6	196	10	8.0	170	174	176
8	.60	.61	257	1.1	3.0	4.7	7.9	10	7.2	171	173	175
9	.65	.61	18	1.2	3.1	4.8	7.7	10	6.7	171	175	175
10	.47	.61	10	1.2	3.1	4.9	7.5	9.7	6.4	174	176	175
11	.52	.63	15	1.2	3.3	4.9	7.4	9.4	6.5	174	181	176
12	.56	.60	10	1.3	3.4	4.9	8.4	9.4	6.7	175	174	176
13	e.55	.57	5.6	1.4	3.5	5.0	9.4	9.6	7.2	174	181	176
14	e.52	.50	13	1.5	3.5	5.0	9.6	9.5	7.6	174	180	176
15	e.49	.47	3.6	1.6	3.6	5.2	9.6	9.3	7.5	175	176	69
16	e.52	.45	1.9	1.6	3.6	5.2	9.7	9.1	7.3	176	178	2.2
17	e.44	.43	1.7	1.7	3.8	5.4	9.8	9.2	7.1	176	178	1.7
18	e.52	.43	e1.4	1.6	3.7	5.4	10	9.3	7.0	175	180	1.7
19	e.49	.41	e1.2	1.7	4.0	5.4	10	9.0	6.9	176	180	1.8
20	e.52	.37	e1.0	1.7	4.0	5.3	10	9.0	7.0	175	179	1.9
21	.52	.35	e.80	1.8	3.9	5.4	10	8.5	7.1	177	178	1.9
22	4.1	.33	.65	1.9	4.0	5.5	10	8.2	7.2	176	176	2.0
23	.75	.30	.64	2.1	4.0	5.4	10	8.4	9.7	178	174	2.1
24	.74	.28	.64	2.4	4.1	5.4	10	8.7	17	180	175	2.2
25	.73	.26	.66	2.4	4.2	5.4	10	9.0	113	177	173	2.5
26	.79	.24	.70	2.4	4.2	5.5	9.9	8.8	158	176	173	2.7
27	1.1	.24	.73	2.4	4.3	6.3	9.9	8.9	161	171	176	2.7
28	.84	.26	.76	2.4	4.3	123	9.9	8.9	165	170	173	2.7
29	.82	.28	.79	2.5	---	166	9.8	8.9	165	171	175	2.4
30	.75	.25	.85	2.4	---	166	9.8	9.2	171	172	172	2.2
31	.74	---	.84	2.3	---	205	---	9.1	---	172	172	---
TOTAL	613.08	14.23	349.05	50.66	97.5	796.4	2451.3	288.9	1124.3	5385	5443	2536.7
MEAN	19.8	.47	11.3	1.63	3.48	25.7	81.7	9.32	37.5	174	176	84.6
MAX	205	.74	257	2.5	4.3	205	405	10	171	180	181	176
MIN	.40	.24	.22	.86	2.4	4.3	7.4	8.2	6.4	170	172	1.7
AC-FT	1220	28	692	100	193	1580	4860	573	2230	10680	10800	5030
a	1.01	3.09	4.71	2.59	5.75	0.56	1.10	0.90	0.08	0	0	0

e Estimated.
a Precipitation, in inches.

C-042401

11451000 CACHE CREEK NEAR LOWER LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.9	17.4	115	556	700	710	513	302	363	385	311	160
MAX	73.3	683	2584	2915	3604	4919	3538	951	842	609	500	310
(WY)	1972	1984	1984	1965	1958	1983	1958	1983	1946	1946	1946	1993
MIN	.40	.17	.14	.18	.17	.32	.42	.40	.29	.41	.71	.55
(WY)	1978	1978	1991	1991	1991	1955	1990	1990	1991	1977	1977	1977

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1945 - 1994	
ANNUAL TOTAL	185443.76		19150.12			
ANNUAL MEAN	508		52.5		345	
HIGHEST ANNUAL MEAN					1342	1983
LOWEST ANNUAL MEAN					.67	1990
HIGHEST DAILY MEAN	3920	Feb 22	405	Apr 4	5280	Feb 24 1958
LOWEST DAILY MEAN	.22	Dec 3	.22	Dec 3	.00	Nov 8 1977
ANNUAL SEVEN-DAY MINIMUM	.23	Dec 1	.23	Dec 1	.00	Nov 8 1977
INSTANTANEOUS PEAK FLOW			3090	Dec 8	8000	Feb 24 1958
INSTANTANEOUS PEAK STAGE			8.60	Dec 8	10.40	Feb 24 1958
ANNUAL RUNOFF (AC-FT)	367800		37980		249700	
10 PERCENT EXCEEDS	1690		176		576	
50 PERCENT EXCEEDS	342		6.3		40	
90 PERCENT EXCEEDS	.54		.54		.98	

C-042402

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA

LOCATION.--Lat 39°09'56", long 122°37'08", in SE 1/4 NW 1/4 sec.10, T.15 N., R.7 W., Lake County, Hydrologic Unit 18020116, on right bank 0.5 mi upstream from Spanish Creek, 0.9 mi upstream from Hough Springs, and 10 mi northeast of Clearlake Oaks.

DRAINAGE AREA.--60.2 mi^2.

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,534.13 ft above sea level. Prior to Jan. 13, 1980, at datum 2.0 ft higher. Recording rain gage (station 391056122420801) 4.7 mi northwest of gage. Elevation of rain gage is 2,050 ft above sea level, from topographic map.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft^3/s, Feb. 17, 1986, gage height, 12.84 ft, from rating curve extended above 2,700 ft^3/s on basis of slope-area measurement at gage height 11.23 ft; no flow at times in 1972, 1976-77, 1987-88, 1990-92, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 7	0400	*907	*5.88				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	1.5	6.6	11	31	93	21	14	4.6	.97	.00	e.00
2	e.52	1.8	4.5	11	29	83	20	15	4.3	.87	.00	e.00
3	e.52	1.8	3.9	11	27	73	19	20	4.1	.84	.00	e.00
4	e.60	1.8	3.8	11	26	67	18	17	3.7	.73	.00	e.00
5	e.65	1.8	3.8	11	24	75	18	15	3.8	.61	.00	e.00
6	e.70	1.8	3.5	10	149	72	18	14	3.9	.50	.00	e.00
7	e.70	1.9	5.3	10	569	63	23	e14	3.8	.44	.00	e.00
8	e.70	2.0	182	10	162	57	20	e13	3.8	.37	.00	e.00
9	e.70	2.0	74	10	87	50	18	e13	3.4	.32	.00	e.00
10	e.75	2.5	29	10	74	48	17	e13	3.2	.20	.00	e.00
11	e.80	3.4	52	10	66	44	17	11	2.8	.16	.00	e.00
12	e.85	2.4	56	10	52	41	16	11	2.6	.07	.00	e.00
13	e.90	2.3	34	10	44	38	15	10	2.6	.02	.00	e.00
14	e.95	2.2	196	10	39	37	14	9.6	2.5	.00	.00	e.00
15	e.95	2.2	84	10	35	35	14	9.4	2.5	.00	.00	e.00
16	e1.0	2.2	50	10	32	35	14	9.5	2.5	.00	.00	e.00
17	e1.0	2.3	36	10	243	34	14	12	2.6	.00	.00	e.00
18	e1.2	2.4	29	10	182	32	13	12	2.4	.00	e.00	e.00
19	e1.3	2.4	25	10	115	31	13	12	2.4	.00	e.00	e.00
20	1.3	2.5	23	10	116	30	13	11	2.2	.00	e.00	e.00
21	1.3	2.6	20	10	202	29	18	9.5	2.1	.00	e.00	e.00
22	1.3	2.9	17	11	165	27	26	8.9	2.2	.00	e.00	e.00
23	1.3	3.2	16	186	118	27	24	8.3	2.0	.00	e.00	e.00
24	1.3	3.2	15	353	105	27	20	7.8	1.8	.00	e.00	e.00
25	1.2	3.1	14	139	97	26	18	7.9	1.7	.00	e.00	e.00
26	1.2	2.9	14	97	102	25	17	7.5	1.6	.00	e.00	e.00
27	1.1	2.7	14	70	113	24	16	7.2	1.5	.00	e.00	e.00
28	1.2	5.8	13	55	103	23	14	6.9	1.3	.00	e.00	e.00
29	1.2	13	12	44	---	22	14	6.1	1.1	.00	e.00	e.00
30	1.2	15	12	38	---	22	14	5.1	1.0	.00	e.00	e.00
31	1.2	---	12	34	---	21	---	4.9	---	.00	e.00	---
TOTAL	30.13	97.6	1060.4	1242	3107	1311	516	335.6	80.0	6.10	0.00	0.00
MEAN	.97	3.25	34.2	40.1	111	42.3	17.2	10.8	2.67	.20	.000	.000
MAX	1.3	15	196	353	569	93	26	20	4.6	.97	.00	.00
MIN	.52	1.5	3.5	10	24	21	13	4.9	1.0	.00	.00	.00
AC-FT	60	194	2100	2460	6160	2600	1020	666	159	12	.00	.00
a	1.01	2.92	6.20	3.94	7.46	1.23	1.57	0.73	0	0	0	0

e Estimated.
a Precipitation, in inches.

C-042403

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.93	58.9	121	220	285	245	112	35.0	11.5	3.21	1.01	.83
MAX	12.4	405	698	654	1287	1019	631	186	36.5	12.7	5.87	4.09
(WY)	1980	1982	1984	1993	1986	1983	1982	1983	1993	1983	1983	1983
MIN	.19	1.11	1.17	4.74	9.59	9.88	5.13	3.93	1.69	.19	.000	.000
(WY)	1992	1977	1977	1991	1991	1977	1977	1977	1977	1977	1977	1994

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1972 - 1994	
ANNUAL TOTAL	46450.83		7785.83			
ANNUAL MEAN	127		21.3		90.4	
HIGHEST ANNUAL MEAN					286	1983
LOWEST ANNUAL MEAN					3.67	1977
HIGHEST DAILY MEAN	3940	Jan 20	569	Feb 7	8340	Feb 17 1986
LOWEST DAILY MEAN	.48	Sep 13	.00	Jul 14	.00	Aug 27 1972
ANNUAL SEVEN-DAY MINIMUM	.53	Sep 27	.00	Jul 14	.00	Aug 27 1972
INSTANTANEOUS PEAK FLOW			907	Feb 7	10800	Feb 17 1986
INSTANTANEOUS PEAK STAGE			5.88	Feb 7	12.84	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	92140		15440		65510	
10 PERCENT EXCEEDS	325		55		226	
50 PERCENT EXCEEDS	24		4.3		9.4	
90 PERCENT EXCEEDS	.82		.00		.38	

C-042404

11451300 NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS, CA

LOCATION.--Lat 39°04'50", long 122°32'07", in SE 1/4 SW 1/4 sec.4, T.14 N., R.6 W., Lake County, Hydrologic Unit 18020116, on right bank 2,500 ft downstream from Indian Valley Dam and 8 mi northeast of Clearlake Oaks.

DRAINAGE AREA.--121 mi^2.

PERIOD OF RECORD.--October 1983 to September 1985 (operated as a low-flow station only), October 1985 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,320 ft above sea level, from topographic map. Recording rain gage (station 390500122321601) located on top of Indian Valley Dam.

REMARKS.--Records fair. Flow completely regulated by Indian Valley Reservoir, capacity 300,000 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,390 ft^3/s, Mar. 12, 1986, gage height, 9.80 ft; minimum daily, 0.96 ft^3/s, Aug. 4, 1991.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 26, 1983, reached a stage of 12.74 ft, present datum, discharge about 9,500 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 595 ft^3/s, June 22, gage height, 4.39 ft; minimum daily, 1.5 ft^3/s, Oct. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	7.1	6.9	e7.4	6.3	e2.0	2.2	286	415	366	225	174
2	5.4	7.1	6.9	e7.4	6.3	e1.9	2.2	305	392	327	244	201
3	12	7.1	6.9	e7.4	6.3	e1.9	3.3	296	417	286	234	184
4	13	7.1	6.9	e7.4	6.3	e1.9	3.3	287	480	223	253	124
5	5.8	7.1	6.9	e7.1	6.3	e1.9	5.3	275	500	186	271	86
6	3.4	7.1	6.9	e7.4	6.9	e1.9	7.4	264	482	224	252	132
7	1.5	7.1	6.9	e7.4	7.7	e1.9	206	109	439	257	200	219
8	1.5	7.1	7.2	e7.1	6.7	e1.9	422	15	433	274	131	240
9	4.6	7.1	6.9	e7.4	6.6	e1.8	367	131	466	285	91	219
10	8.3	7.1	6.9	e7.1	6.6	e1.8	314	216	495	292	98	196
11	8.5	7.1	7.2	e7.1	6.4	e1.8	254	267	497	291	133	153
12	7.7	7.1	6.9	e7.1	6.3	e1.8	285	320	491	283	156	113
13	4.6	7.1	7.1	e7.1	6.2	e1.8	359	308	498	246	167	103
14	7.1	7.1	7.6	e7.1	6.1	e1.8	376	277	523	251	144	100
15	7.1	7.1	7.4	e7.1	6.1	e1.8	397	288	533	216	143	171
16	7.1	7.0	7.4	e7.1	6.0	e1.8	416	325	521	195	163	226
17	7.0	6.9	7.4	e7.1	2.9	e1.8	396	317	484	222	164	216
18	7.0	6.9	7.4	e7.1	2.3	e1.8	366	265	431	253	168	206
19	7.1	6.9	7.4	e7.1	2.2	e1.8	381	243	392	285	177	205
20	7.1	6.9	7.4	e7.1	2.3	e1.8	431	238	409	322	197	227
21	7.1	6.9	7.4	e7.1	2.2	e1.8	437	272	415	314	213	264
22	7.1	6.9	7.4	e7.1	e2.2	e1.8	411	322	448	283	200	243
23	7.1	6.9	7.4	e7.1	e2.2	1.8	381	342	501	254	184	216
24	7.1	6.9	7.4	e7.1	e2.1	2.2	360	354	480	225	194	236
25	7.1	6.9	e7.4	6.9	e2.0	2.1	297	401	401	192	230	241
26	7.1	6.9	e7.4	6.6	e2.0	2.0	266	450	281	170	267	218
27	7.1	6.9	e7.4	6.5	e2.0	2.0	285	491	277	213	284	190
28	7.1	6.9	e7.4	6.3	e2.0	2.0	265	482	314	278	244	165
29	7.1	7.1	e7.1	6.3	---	2.0	245	450	377	285	196	188
30	7.1	6.9	e7.4	6.3	---	2.1	253	457	398	282	177	221
31	7.1	---	e7.4	6.3	---	2.1	---	448	---	262	167	---
TOTAL	206.1	210.3	223.6	217.7	129.5	58.8	8193.7	9501	13190	8042	5967	5677
MEAN	6.65	7.01	7.21	7.02	4.62	1.90	273	306	440	259	192	189
MAX	13	7.1	7.6	7.4	7.7	2.2	437	491	533	366	284	264
MIN	1.5	6.9	6.9	6.3	2.0	1.8	2.2	15	277	170	91	86
AC-FT	409	417	444	432	257	117	16250	18850	26160	15950	11840	11260
a	0.39	2.18	2.34	2.11	3.63	0.25	0.89	0.57	0	0	0	0

e Estimated.
a Precipitation, in inches.

C-042405

11451300 NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.45	9.80	12.0	9.72	84.5	136	193	222	223	191	98.9	43.4
MAX	12.1	12.0	28.3	11.7	659	849	557	717	576	370	302	189
(WY)	1987	1987	1987	1986	1986	1986	1987	1987	1987	1988	1987	1994
MIN	6.65	7.01	7.21	7.02	4.62	1.90	8.26	6.98	8.10	8.16	8.17	9.10
(WY)	1994	1994	1994	1994	1994	1994	1993	1993	1993	1993	1990	1990

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1986 - 1994	
ANNUAL TOTAL	3029.6		51616.7			
ANNUAL MEAN	8.30		141		103	
HIGHEST ANNUAL MEAN					222	1987
LOWEST ANNUAL MEAN					8.54	1990
HIGHEST DAILY MEAN	14	Jan 1	533	Jun 15	4970	Mar 11 1986
LOWEST DAILY MEAN	1.5	Oct 7	1.5	Oct 7	.96	Aug 4 1991
ANNUAL SEVEN-DAY MINIMUM	4.8	Oct 5	1.8	Mar 9	1.8	Mar 9 1994
INSTANTANEOUS PEAK FLOW			595	Jun 22	5390	Mar 12 1986
INSTANTANEOUS PEAK STAGE			4.39	Jun 22	9.80	Mar 12 1986
ANNUAL RUNOFF (AC-FT)	6010		102400		74500	
10 PERCENT EXCEEDS	10		397		366	
50 PERCENT EXCEEDS	8.0		7.7		11	
90 PERCENT EXCEEDS	6.9		2.1		7.1	

C-042406

11452500 CACHE CREEK AT YOLO, CA

LOCATION.--Lat 38°43'38", long 121°48'22", in Rio Jesus Maria Grant, Yolo County, Hydrologic Unit 18020128, on left bank 35 ft upstream from Interstate 5 highway bridge, 0.5 mi south of Yolo, and 7.3 mi downstream from Moore Dam.

DRAINAGE AREA.--1,139 mi^2.

PERIOD OF RECORD.--January 1903 to current year. Records for water year 1903 incomplete; yearly estimate published in WSP 1315-A.
WATER TEMPERATURE: Water years 1959-65, November 1966 to February 1967.
SEDIMENT DATA: Water years 1959-65, November 1966 to February 1967 (daily record), 1986 (periodic record).

REVISED RECORDS.--WSP 1315-A: 1914(M). WSP 1345: 1906. WSP 1445: 1955. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level. See WSP 2131 for history of changes prior to Apr. 25, 1969. Apr. 25, 1969 to July 1976, at site 765 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Some regulation by Clear Lake (station 11450000) beginning in 1915 and Indian Valley Reservoir beginning in 1974, capacity, 300,000 acre-ft. Diversions for irrigation of about 30,000 acres between Capay and Yolo, from data furnished by Clear Lake Water Co. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,400 ft^3/s, Feb. 25, 1958, gage height, 85.35 ft, present datum; maximum stage observed, 88.44 ft, present datum, Mar. 10, 1904; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,470 ft^3/s, Feb. 7, gage height, 56.04 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.3	9.6	21	30	107	.00	.00	.00	.00	.00	.00
2	18	.82	22	21	20	98	.00	.00	.00	.00	.00	.00
3	14	1.2	18	20	18	89	.93	.00	.00	.00	.00	.00
4	6.1	1.8	16	21	16	80	.43	.00	.00	.00	.00	.00
5	5.9	.47	13	22	14	75	.74	.00	.00	.00	.00	.00
6	71	.10	12	20	22	86	1.2	.00	.00	.00	.00	.00
7	46	.85	9.8	20	740	139	4.1	.04	.00	.00	.00	.00
8	32	1.2	11	22	1220	111	6.7	.03	.00	.00	.00	.00
9	26	.91	75	21	323	88	5.9	.00	.00	.00	.00	.00
10	20	2.2	151	19	186	78	6.8	.00	.00	.00	.00	.00
11	16	9.1	86	18	129	69	2.3	.00	.00	.00	.00	.00
12	13	3.4	65	18	106	61	2.1	.00	.00	.00	.00	.00
13	10	1.9	104	17	90	56	.88	.00	.00	.00	.00	.00
14	8.6	1.5	77	17	77	43	1.5	.00	.00	.00	.00	.00
15	9.7	1.5	324	17	59	43	.05	.00	.00	.00	.00	.00
16	9.9	1.6	167	17	64	40	.09	.00	.00	.00	.00	.00
17	10	1.6	100	15	84	37	.00	.00	.00	.00	.00	.00
18	7.9	1.3	72	14	388	34	.00	.00	.00	.00	.00	.00
19	5.8	.90	57	14	292	30	.00	.00	.00	.00	.00	.00
20	4.1	1.3	48	13	504	25	.00	.00	.00	.00	.00	.00
21	3.1	2.0	40	13	426	18	.00	.00	.00	.00	.00	.00
22	2.1	3.0	35	13	376	7.8	.09	.00	.00	.00	.00	.00
23	1.2	2.0	32	22	288	2.0	.03	.00	.00	.00	.00	.00
24	1.6	1.5	30	32	206	.45	1.6	.00	.00	.00	.00	.00
25	2.7	2.5	29	76	165	.00	11	.00	.00	.00	.00	.00
26	1.7	3.5	29	146	147	.00	14	.00	.00	.00	.00	.00
27	1.2	4.2	27	112	130	.00	8.0	.00	.00	.00	.00	.00
28	1.9	6.1	24	90	117	.00	3.9	.00	.00	.00	.00	.00
29	1.5	10	23	66	---	.00	.73	.00	.00	.00	.00	.00
30	.62	13	22	54	---	.00	.00	.00	.00	.00	.00	.00
31	1.6	---	22	44	---	.00	---	.00	---	.00	.00	---
TOTAL	354.92	82.75	1750.4	1035	6237	1417.25	73.07	0.07	0.00	0.00	0.00	0.00
MEAN	11.4	2.76	56.5	33.4	223	45.7	2.44	.002	.000	.000	.000	.000
MAX	71	13	324	146	1220	139	14	.04	.00	.00	.00	.00
MIN	.62	.10	9.6	13	14	.00	.00	.00	.00	.00	.00	.00
AC-FT	704	164	3470	2050	12370	2810	145	.1	.00	.00	.00	.00

11452500 CACHE CREEK AT YOLO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.9	62.8	438	1290	1864	1419	856	191	59.7	25.3	10.0	4.85
MAX	335	1593	5644	7446	9262	10930	6353	1655	784	421	189	69.4
(WY)	1983	1984	1984	1914	1958	1983	1958	1904	1906	1907	1907	1906
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1904	1906	1906	1920	1920	1920	1924	1919	1913	1912	1910	1903

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1903 - 1994	
ANNUAL TOTAL	242338.84		10950.46			
ANNUAL MEAN	664		30.0		511	
HIGHEST ANNUAL MEAN					2449	1983
LOWEST ANNUAL MEAN					.000	1977
HIGHEST DAILY MEAN	11800	Jan 21	1220	Feb 8	29300	Feb 25 1958
LOWEST DAILY MEAN	.00	Jul 14	.00	Mar 25	.00	Aug 7 1903
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 14	.00	Mar 25	.00	Aug 7 1903
INSTANTANEOUS PEAK FLOW			3470	Feb 7	41400	Feb 25 1958
INSTANTANEOUS PEAK STAGE			56.04	Feb 7	88.44	Mar 10 1904
ANNUAL RUNOFF (AC-FT)	480700		21720		370200	
10 PERCENT EXCEEDS	2800		79		1300	
50 PERCENT EXCEEDS	24		.90		.00	
90 PERCENT EXCEEDS	.19		.00		.00	

C-042408

11453000 YOLO BYPASS NEAR WOODLAND, CA

LOCATION.--Lat 38°40'40", long 121°38'35", unsurveyed, Yolo County, Hydrologic Unit 18020109, on left bank 300 ft upstream from Sacramento and Woodland Railroad Bridge, 6 mi upstream from Sacramento Bypass, 6 mi downstream from Fremont Weir, and 7 mi east of Woodland.
PERIOD OF RECORD.--October 1939 to current year (since October 1977, high-flow records only). Monthly discharge only for some periods, published in WSP 1315-A.
SEDIMENT DATA: Water years 1957-61, 1980.
GAGE.--Water-stage recorder. Datum of gage is 3.41 ft below sea level. Prior to Dec. 17, 1941, nonrecording gage, and Dec. 18-31, 1941, water-stage recorder, at datum 0.73 ft higher. Prior to Sept. 30, 1977, a supplementary water-stage recorder 6 mi downstream at different datum recorded low flow.
REMARKS.--Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont Weir. Beginning October 1977, only flows above 1,000 ft^3/s are computed. See schematic diagram of lower Sacramento River basin.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 374,000 ft^3/s, Feb. 20, 1986, gage height, 34.87 ft; no flow at times in several years.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,840 ft^3/s, Feb. 10, gage height, 17.96 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	1150	---	---	---	---	---	---	---
10	---	---	---	---	1670	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	1310	---	---	---	---	---	---	---
23	---	---	---	---	1340	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1977, BY WATER YEAR (WY)

MEAN	441	738	5638	13230	11240	3398	3849	430	144	20.7	26.1	51.0
MAX	13420	10890	48790	86470	92890	27910	37310	4546	1420	107	84.9	155
(WY)	1963	1951	1956	1970	1958	1958	1958	1952	1967	1958	1958	1954
MIN	1.01	2.19	.92	2.43	.88	3.55	.083	.55	.53	.000	.000	.63
(WY)	1977	1960	1977	1977	1977	1977	1976	1977	1977	1966	1966	1977

SUMMARY STATISTICS WATER YEARS 1946 - 1977

ANNUAL MEAN	3230	
HIGHEST ANNUAL MEAN	13020	1958
LOWEST ANNUAL MEAN	1.53	1977
HIGHEST DAILY MEAN	259000	Dec 25 1964
LOWEST DAILY MEAN	.00	Jul 11 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 18 1963
INSTANTANEOUS PEAK FLOW	265000	Dec 25 1964
INSTANTANEOUS PEAK STAGE	32.48	Dec 25 1964
ANNUAL RUNOFF (AC-FT)	2340000	
10 PERCENT EXCEEDS	3080	
50 PERCENT EXCEEDS	35	
90 PERCENT EXCEEDS	1.9	

C-042409

11453900 LAKE BERRYESSA NEAR WINTERS, CA

LOCATION.--Lat 38°30'48", long 122°06'13", in SE 1/4 NW 1/4 sec.29, T.8 N., R.2 W., Napa County, Hydrologic Unit 18020117, near center of Monticello Dam on Putah Creek, 7.4 mi west of Winters.
DRAINAGE AREA.--566 mi^2.

PERIOD OF RECORD.--January 1957 to current year.
REVISED RECORDS.--WSP 1735: 1958-60. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).
REMARKS.--Reservoir is formed by concrete arch-gravity dam completed November 1956. Usable capacity, 1,592,000 acre-ft between elevations 253.25 ft, invert of outlet valves, and 440 ft crest of glory-hole spillway. Dead storage, 10,340 acre-ft. Water is released down Putah Creek and is diverted into Putah South Diversion Canal for irrigation of about 46,000 acres in the lower Sacramento Valley. Total diverted during current year was 205,858 acre-ft, provided by U.S. Bureau of Reclamation. Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours. See schematic diagram of lower Sacramento River basin.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,733,500 acre-ft, Mar. 2, 1983, elevation, 446.67 ft; minimum since irrigation pool first filled, 422,130 acre-ft, Dec. 1, 1992, elevation, 361.73 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 801,710 acre-ft, Mar. 12, 13, 14, elevation, 392.55 ft; minimum, 568,390 acre-ft, Sept. 29, 30, elevation, 374.83 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1956)

360	404,550	390	765,730	420	1,236,000
370	511,760	400	911,200	430	1,414,200
380	632,360	410	1,068,100	450	1,799,900

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	764340	750870	745220	759750	764340	799430	794870	766010	736700	689120	641050	599520
2	763500	750460	745220	759750	764340	799720	793880	764890	735190	687800	639390	598040
3	762810	750040	744950	759750	764200	800000	793170	763920	733690	686200	638110	596550
4	761980	749630	744810	759890	764200	800290	792180	762950	731920	685010	636830	595060
5	761280	749080	744670	759890	764340	800430	791190	761970	730550	684210	635560	593840
6	760580	748800	744390	759890	766890	800720	790200	761700	728920	683290	634280	592610
7	759890	748390	744260	759890	775540	801000	789350	761560	727420	681710	632880	591380
8	759200	747980	747700	759750	777360	801140	788640	761280	725780	680270	631480	590040
9	758500	747560	748530	759610	778340	801290	787800	761000	724280	678690	629960	588810
10	757940	748660	749080	759470	779320	801290	786950	760720	722920	676980	628570	587460
11	757530	748250	751830	759340	780160	801570	786100	759890	721440	675400	627050	586240
12	757110	747840	752940	759340	780160	801710	785110	759200	720080	673820	625540	585130
13	756560	747420	754470	759200	780020	801710	784260	758360	718330	672240	623890	584030
14	756420	746870	758500	759200	779880	801710	783420	757390	716430	670670	622250	582930
15	756280	746320	759330	759200	779880	801570	782570	756140	714540	668980	620860	582320
16	756000	746050	759750	759060	781150	801570	781440	755310	712920	667150	619600	581100
17	755720	745770	760170	758920	784830	801570	780590	754330	711290	665460	618220	579890
18	755440	745500	760450	758780	785960	801570	779320	753360	709950	663900	617090	578800
19	755030	745220	760450	758640	789070	801430	778060	752390	708480	662200	615720	577710
20	754610	744950	760450	758500	791760	801290	776660	751560	706870	660640	614210	576620
21	754190	745220	760170	758360	795020	801000	775120	750730	705530	658690	612840	576370
22	754060	744950	760030	758780	795020	800570	773430	749900	704050	657130	611460	575040
23	753920	744530	760030	759470	795440	800570	772590	749080	702710	655460	609960	574070
24	753780	744120	759890	760310	796300	799860	772310	747980	700840	653780	608580	573100
25	753640	743840	759890	762810	796870	799430	771610	746740	699100	652230	607080	572370
26	753220	743710	759890	764200	797720	799150	770630	745220	697490	650680	605720	571520
27	752800	743430	759890	764480	798440	798720	769650	743840	695890	649140	604480	570430
28	752530	743570	759750	764480	799150	798150	768810	742190	694170	647460	603490	569710
29	752110	745220	759750	764480	---	797440	767970	740810	692440	645780	602870	568390
30	751830	745500	759610	764480	---	796730	766850	739440	690980	644120	602250	568390
31	751420	---	759610	764340	---	795870	---	738060	---	642580	601010	---
MAX	764340	750870	760450	764480	799150	801710	794870	766010	736700	689120	641050	599520
MIN	751420	743430	744260	758360	764200	795870	766850	738060	690980	642580	601010	568390
a	388.97	388.54	389.56	389.90	392.37	392.14	390.08	388.00	384.51	380.80	377.50	374.83
b	-13750	-5920	+14110	+4730	+34810	-3280	-29020	-28790	-47080	-48400	-41570	-32620
c	3411	1914	689	1154	1134	3497	4149	6399	8654	8800	8449	5795

CAL YR 1993 b +290950
WTR YR 1994 b -196780
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by U.S. Bureau of Reclamation; not reviewed by U.S. Geological Survey.

C-042410

11454000 PUTAH CREEK NEAR WINTERS, CA

LOCATION.--Lat 38°30'55", long 122°04'51", in NE 1/4 NE 1/4 sec.28, T.8 N., R.2 W., Yolo County, Hydrologic Unit 18020109, on left bank 1 mi downstream from Cold Canyon, 1.3 mi downstream from Monticello Dam, and 6 mi west of Winters.
DRAINAGE AREA.--574 mi^2.

PERIOD OF RECORD.--July 1930 to current year.
CHEMICAL DATA: Water years 1951-66, 1973-81.
WATER TEMPERATURE: Water years 1966-81.
REVISED RECORDS.--WSP 901: 1937-38(M). WSP 1285: 1932(M), 1935-36(M), 1940(M), 1942-43(M), 1951, 1952(M). WSP 1565: 1957. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 160.75 ft above sea level (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Lake Berryessa (station 11453900) beginning January 1957. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,000 ft^3/s, Feb. 27, 1940, gage height, 30.5 ft, present datum, from rating curve extended above 30,000 ft^3/s; no flow Sept. 6-15, 1950, July 26 to Sept. 1, Sept. 6-9, 1955. Since completion of Monticello Dam in 1957, maximum discharge, 18,700 ft^3/s, Mar. 2, 1983, gage height, 19.55 ft; minimum daily, 6.1 ft^3/s, Dec. 19, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1905, that of Feb. 27, 1940, on basis of records for station at Winters.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 735 ft^3/s, June 24, gage height, 8.31 ft; minimum daily, 47 ft^3/s, Feb. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	250	107	88	63	63	71	453	377	595	569	597	475
2	285	107	88	62	75	82	481	405	593	591	589	461
3	276	131	89	62	83	97	464	416	616	587	543	436
4	268	172	98	63	86	98	424	428	642	570	536	449
5	265	138	109	62	89	89	407	440	626	561	513	474
6	245	112	109	61	93	71	435	392	628	578	498	463
7	230	101	96	61	79	71	468	268	630	596	473	445
8	263	119	79	61	74	71	471	202	586	625	455	445
9	263	155	76	60	80	69	427	194	565	629	492	447
10	247	145	76	60	64	68	378	239	600	599	570	461
11	218	117	72	60	61	68	376	238	571	596	601	451
12	252	117	59	64	61	68	385	251	579	612	602	427
13	264	117	68	74	62	68	407	304	589	590	558	406
14	245	95	77	69	62	68	451	365	627	593	547	425
15	216	71	89	63	62	67	454	387	639	613	568	462
16	172	71	85	61	51	66	483	388	642	621	557	447
17	133	68	58	59	47	82	508	388	663	595	529	427
18	121	64	77	59	57	100	535	371	608	605	524	396
19	107	65	91	71	67	100	559	367	592	636	559	367
20	106	66	88	77	71	100	581	366	601	652	561	366
21	93	91	62	83	53	134	565	399	626	669	533	366
22	75	74	70	72	62	161	554	416	595	677	572	374
23	75	82	69	64	72	196	577	415	596	645	564	393
24	76	98	69	61	71	226	523	454	682	616	529	374
25	76	80	69	60	72	235	472	497	654	603	505	362
26	76	60	68	60	72	269	414	517	630	597	502	344
27	76	60	66	61	72	297	360	556	603	603	463	317
28	76	60	64	61	71	314	360	574	614	637	445	300
29	85	62	63	61	---	348	360	588	605	652	428	283
30	100	72	63	61	---	375	360	569	631	641	434	283
31	105	---	63	61	---	400	---	579	---	596	472	---
TOTAL	5339	2877	2398	1977	1932	4529	13692	12350	18428	18954	16317	12126
MEAN	172	95.9	77.4	63.8	69.0	146	456	398	614	611	526	404
MAX	285	172	109	83	93	400	581	588	682	677	602	475
MIN	75	60	58	59	47	66	360	194	565	561	428	283
AC-FT	10590	5710	4760	3920	3830	8980	27160	24500	36550	37600	32360	24050

C-042411

11454000 PUTAH CREEK NEAR WINTERS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1956, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.62	96.0	993	1284	1716	976	514	137	42.1	12.5	6.94	5.84
MAX	45.4	807	5110	3957	6468	3506	2729	452	156	63.7	31.7	20.8
(WY)	1951	1951	1956	1952	1938	1938	1941	1941	1942	1941	1941	1941
MIN	.89	3.17	7.16	44.6	66.7	118	40.8	12.3	6.72	2.39	.000	1.47
(WY)	1956	1956	1931	1947	1948	1932	1931	1931	1931	1955	1955	1931

SUMMARY STATISTICS	WATER YEARS 1931 - 1956		
ANNUAL MEAN	477		
HIGHEST ANNUAL MEAN	1387		1941
LOWEST ANNUAL MEAN	48.1		1931
HIGHEST DAILY MEAN	54500	Feb 27	1940
LOWEST DAILY MEAN	.00	Sep 6	1950
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 6	1950
INSTANTANEOUS PEAK FLOW	81000	Feb 27	1940
INSTANTANEOUS PEAK STAGE	30.5	Feb 27	1940
ANNUAL RUNOFF (AC-FT)	345500		
10 PERCENT EXCEEDS	924		
50 PERCENT EXCEEDS	38		
90 PERCENT EXCEEDS	3.0		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1994, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	223	89.2	114	443	562	728	641	554	588	619	538	396
MAX	476	263	1625	4406	4550	7791	5023	1018	773	802	681	610
(WY)	1972	1987	1984	1970	1983	1983	1982	1983	1981	1984	1975	1968
MIN	13.3	14.9	11.6	11.6	21.6	40.9	110	155	328	338	298	175
(WY)	1960	1963	1961	1960	1960	1962	1960	1960	1960	1960	1960	1960

SUMMARY STATISTICS	FOR 1993 CALENDAR YEAR		FOR 1994 WATER YEAR		WATER YEARS 1960 - 1994	
ANNUAL TOTAL	96083		110919			
ANNUAL MEAN	263		304		458	
HIGHEST ANNUAL MEAN					1580	1983
LOWEST ANNUAL MEAN					132	1960
HIGHEST DAILY MEAN	711	Jul 2	682	Jun 24	17700	Mar 2 1983
LOWEST DAILY MEAN	43	Jan 11	47	Feb 17	6.1	Dec 19 1967
ANNUAL SEVEN-DAY MINIMUM	49	Feb 1	57	Feb 12	8.3	Nov 7 1963
INSTANTANEOUS PEAK FLOW			735	Jun 24	18700	Mar 2 1983
INSTANTANEOUS PEAK STAGE			8.31	Jun 24	19.55	Mar 2 1983
ANNUAL RUNOFF (AC-FT)	190600		220000		331500	
10 PERCENT EXCEEDS	565		601		704	
50 PERCENT EXCEEDS	196		283		344	
90 PERCENT EXCEEDS	55		62		50	

C-042412

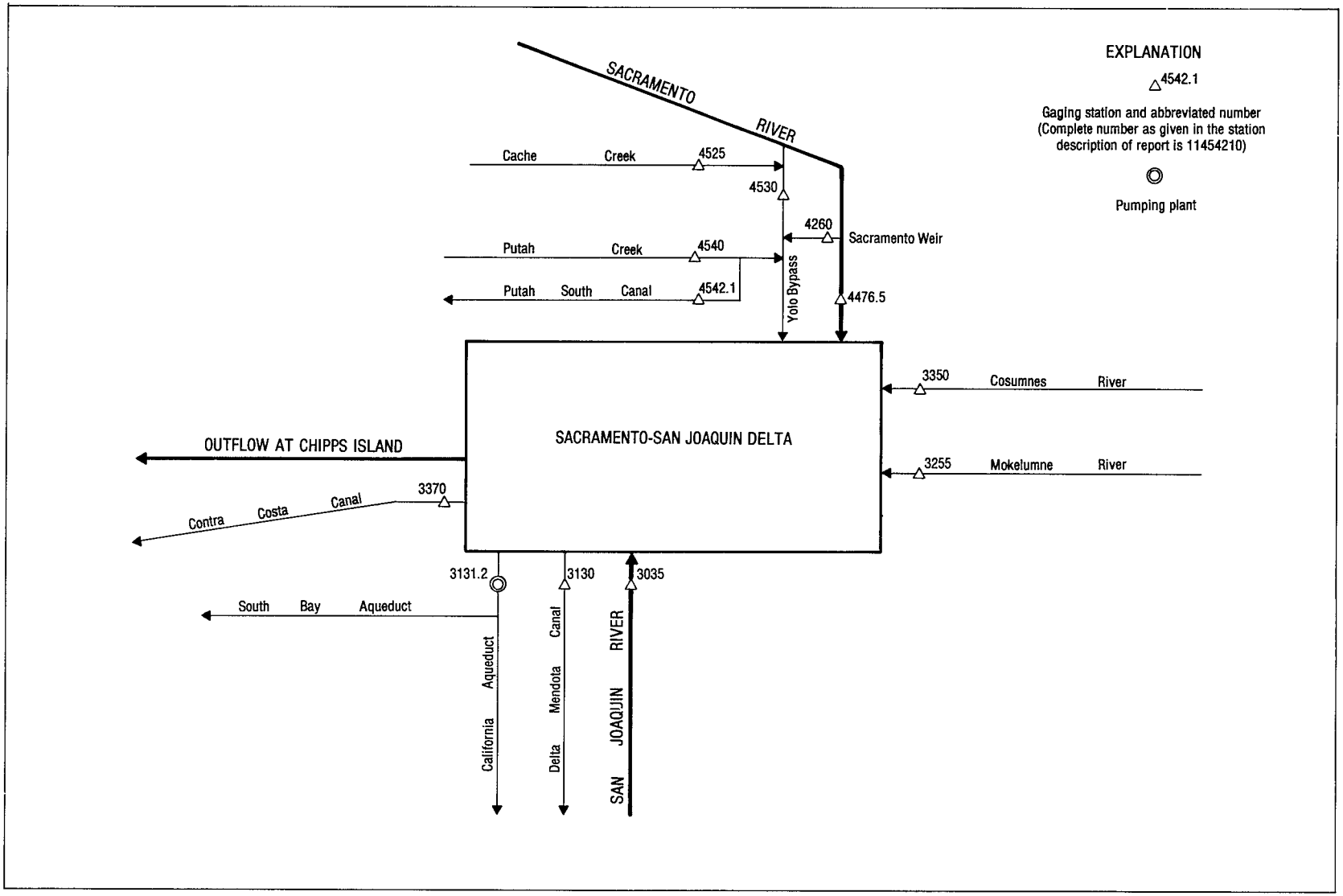

Figure 38. Principal inflows and diversions, Sacramento-San Joaquin Delta.

C-042413

Discharge measurements made at miscellaneous sites during water year 1994

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Sacramento River basin				
11341900	Dog Creek at Delta, CA	Lat 40°56'17", long 122°25'13", in SE 1/4 NE 1/4 sec.34, T.36 N., R.5 W., Shasta County, Hydrologic Unit 18020005, 0.1 mi upstream from mouth, 0.5 mi southwest of Delta, and 25 mi north of Redding.	17.3	a1975, 1976-84, 1986-94	12-10-93	74.4
					03-03-94	57.5
					08-31-94	b2.14
11388000	Stony Creek below Black Butte Dam, near Orland, CA	Lat 39°49'07", long 122°19'26", in NW 1/4 SW 1/4 sec.28, T.23 N., R.4 W., Tehama County, Hydrologic Unit 18020103, on left bank 200 ft downstream from road bridge, 0.6 mi downstream from Black Butte Dam, and 8.1 mi northwest of Orland.	738	b1955-90, 1991-93 d1994	10-04-93	82.2
					11-05-93	122
					12-01-93	43.9
					01-06-94	29.1
					02-10-94	31.8
					03-03-94	33.5
					04-05-94	430
					05-04-94	138
					06-08-94	99.7
					07-06-94	145
					08-03-94	109
					08-30-94	97.4

a Published as a miscellaneous measurement.
b Base flow.
c Operated as a continuous-record station.
d Discontinued.

C—0 4 2 4 1 4

C-042414

INDEX

	Page
ACCESS TO WATSTORE DATA	15
Accuracy of the Records	12
Acre-foot, definition of	15
Adenosine triphosphate, definition of	15
Algae, definition of	15
Algal growth potential, definition of	15
ALMANOR, LAKE, AT PRATTVILLE	184
Almanor-Butt Creek Tunnel	187
Alpine County, location of discharge stations in	26
Alta Powerplant	262
Amador County, location of discharge stations in	27
AMERICAN RIVER AT FAIR OAKS	397
AMERICAN RIVER, SOUTH FORK, NEAR CAMINO	386
AMERICAN RIVER, SOUTH FORK, NEAR KYBURZ	370
AMERICAN RIVER, SOUTH FORK, NEAR LOTUS	392
AMERICAN RIVER, SOUTH FORK, NEAR PLACERVILLE	390
American River basin, Middle Fork schematic diagram of	322
American River basin, South Fork schematic diagram of	359
ANDERSON-COTTONWOOD IRRIGATION DISTRICT CANAL AT SHARON STREET, AT REDDING	109
Annual 7-day minumum, definition of	17
Annual departure from 1961-90 mean discharge for period of record at selected gaging stations	5
Annual mean, explanation of	11
Annual runoff, explanation of	11
Annual total, explanation of	11
Aquifer, definition of	15
Arrangement of Records	13
Artesian, definition of	15
Artificial substrate, definition of	20
Ash mass, definition of	16
Bacteria, definition of	16
BAILEY CREEK BELOW DIVERSION TO PONDEROSA-BAILEY CREEK POWERPLANT, NEAR MANTON	128
BANGOR CANAL BELOW MINERS RANCH RESERVOIR, NEAR OROVILLE	180
BATTLE CREEK BASIN, POWERPLANTS IN	126
BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD	135
Battle Creek basin, schematic diagram of	123
BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON	300
BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT	303
BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX	308
BEAR RIVER CANAL INTAKE NEAR COLFAX	306
BEAR RIVER FISH RELEASE BELOW NEW CAMP FAR WEST RESERVOIR, NEAR WHEATLAND	310
BEAR RIVER NEAR EMIGRANT GAP	297
BEAR RIVER NEAR WHEATLAND	311
Bear River basin, schematic diagram of	296
Bed material, definition of	16
Bedload discharge, definition of	20
Bedload, definition of	20
Belden Powerplant	190
Benthic organisms, definition of	16
BERRYESSA, LAKE, NEAR WINTERS	422
Biochemical oxygen demand, definition of	16
Biomass, definition of	16
Blue-green algae, definition of	19
Bottom material, definition of	16
BOWMAN LAKE NEAR GRANITEVILLE	278
BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP	280
BOWMAN-SPAULDING CANAL INTAKE NEAR GRANITEVILLE	279
BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES	383
BRUSH CREEK RESERVOIR NEAR POLLOCK PINES	382
BUCK-LOON TUNNEL NEAR MEEKS BAY	337
BUCKS CREEK BELOW DIVERSION DAM, NEAR BUCKS LODGE	202
BUCKS CREEK TUNNEL OUTLET NEAR STORRIE	203
BUCKS LAKE NEAR BUCKS LODGE	200
Bucks Creek Powerplant	206
BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE	187
BUTT VALLEY RESERVOIR NEAR CARIBOU	189
Butt Valley Powerplant	185
BUTTE CREEK BELOW CENTERVILLE DIVERSION DAM, NEAR PARADISE	158
BUTTE CREEK BELOW DIVERSION DAM, NEAR STIRLING CITY	156
BUTTE CREEK BELOW FORKS OF BUTTE DIVERSION DAM NEAR DE SABLA	157
BUTTE CREEK NEAR CHICO	160
Butte County, location of discharge and water-quality stations	28
Butte Powerplant, Diversion to Forks of	157
CACHE CREEK AT YOLO	419
CACHE CREEK NEAR LOWER LAKE	413
CACHE CREEK, NORTH FORK, NEAR CLEARLAKE OAKS	417
CAMINO RESERVOIR NEAR POLLOCK PINES	379
Camino Powerplant	380
CAMP CREEK NEAR PULGA	210
CAMPTONVILLE TUNNEL AT INTAKE, NEAR CAMPTONVILLE	242
CANYON CREEK BELOW BOWMAN LAKE	282
CANYON CREEK BELOW FAUCHERIE LAKE, NEAR CISCO	272
CANYON CREEK BELOW FRENCH LAKE, NEAR CISCO	270
CANYON CREEK BELOW SAWMILL LAKE, NEAR GRANITEVILLE	274
CAPLES CREEK RELEASE BELOW CAPLES DAM NEAR KIRKWOOD	368
CAPLES LAKE NEAR KIRKWOOD	367
Caribou powerplants	189
Cell volume determination	16
Cells per volume	16
Centerville Powerplant	158
Chemical oxygen demand, definition of	16
CHICAGO PARK FLUME NEAR DUTCH FLAT	302
Chlorophyll, definition of	16
Classification of Records	12
CLEAR CREEK NEAR IGO	115
CLEAR LAKE AT LAKEPORT	412
COLEMAN POWERPLANT NEAR COTTONWOOD	126
COLLETT RESERVOIR NEAR LITTLE VALLEY	62
Color unit, definition of	16
Colusa County, location of discharge and water-quality stations	29
Comparison of 7-day and 1-day low flow for 1994 water year with 7-day, 1-day, and minimum daily flow for 30-year base period 1961-90 for selected stations	2
Comparison of peak discharge for 1994 water year with those for period of record for selected stations	2
Contents, definition of	16
Continuing-record station	12
Control structure, definition of	17
Control, definition of	17
COOPERATION	2
COTTONWOOD CREEK NEAR COTTONWOOD	121
COW CREEK NEAR MILLVILLE	119
Cresta Powerplant	208
Cross-Sectional Data	14
Cubic foot per second, definition of	17
Cubic foot per second-day, definition of	17
Daily mean values, data table of	10
Data Collection and Computation	8
Data Presentation	9, 14
De Sabla Powerplant	159
DEER CREEK NEAR SMARTVILLE	290
DEER CREEK NEAR VINA	145
Deer Creek Powerplant	264
DEFINITION OF TERMS	15
Diatoms, definition of	19
Discharge and precipitation during water year 1994 and long-term statistics at four representative gaging stations	4
Discharge, definition of	17
Dissolved solids concentration, comparison of monthly mean, at two selected stations	6

C—042415

C-042415

	Page
Dissolved Trace-Element Concentrations	47
Dissolved, definition of	17
Dissolved-solids concentration, definition of	17
Diversity index, definition of	17
Dog Creek at Delta	426
Downstream Order System	7
Drainage area, definition of	17
Drainage basin, definition of	17
DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP	262
Drum No. 1 and 2 Powerplant	262
Dry mass, definition of	16
DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS	328
DUNCAN CREEK NEAR FRENCH MEADOWS	326
DUTCH FLAT NO 2 FLUME NEAR BLUE CANYON	299
DUTCH FLAT NO. 1 POWERPLANT NEAR DUTCH FLAT	298
EAST FORK NELSON CREEK BELOW DIVERSION TO NELSON CREEK NEAR BIG BEND	80
EAST PARK RESERVOIR NEAR STONYFORD	148
East Fork Nelson Creek overflow weir below powerplant diversion near Big Bend	80
East Fork Nelson Creek release weir below powerplant diversion near Big Bend	80
ECHO LAKE CONDUIT NEAR PHILLIPS	360
El Dorado Canal, diversion to	372
El Dorado County, location of discharge and water-quality stations	30
ELDER CREEK NEAR PASKENTA	139
EXPLANATION OF THE RECORDS	7
FAUCHERIE LAKE NEAR CISCO	271
FEATHER RIVER AT OROVILLE	225
FEATHER RIVER NEAR GRIDLEY	227
FEATHER RIVER, SOUTH FORK, BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY	171
Feather River at Lake Oroville, schematic diagram of	216
Feather River basin, North Fork, schematic diagram of	183
Feather River basin, South Fork, schematic diagram of	166
Fecal-coliform bacteria, definition of	16
Fecal-streptococcal bacteria, definition of	16
FOLSOM LAKE NEAR FOLSOM	396
Forbestown Powerplant	177
FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO	259
FORDYCE LAKE NEAR CISCO	258
FRENCH LAKE NEAR CISCO	269
FRENCH MEADOWS RESERVOIR NEAR FORESTHILL	323
French Meadows Powerplant	324
Gage datum, definition of	17
Gage height, definition of	17
Gaging station, definition of	17
GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY	344
GERLE RESERVOIR NEAR MEEKS BAY	346
Glenn County, location of discharge stations in	31
Green algae, definition of	19
GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE	206
GRIZZLY FOREBAY NEAR STORRIE	205
Grizzly Powerplant	202
Halsey Powerplant	306
Hardness, definition of	17
HAT CREEK BELOW HAT NO. 1 DIVERSION DAM, NEAR BURNEY	70
HAT CREEK NEAR HAT CREEK	67
HAT CREEK NO. 1 POWERPLANT NEAR BURNEY	71
HAT NO. 2 POWER CANAL DIVERSION TO HAT CREEK NEAR BURNEY	73
Hat Creek No. 2 Powerplant	71
HATCHET CREEK BELOW DIVERSION TO HATCHET CREEK POWERPLANT, NEAR MONTGOMERY CREEK	90
Hatchet Creek Powerplant	90
HELL HOLE RESERVOIR NEAR MEEKS BAY	339
Highest annual mean, explanation of	11
Highest daily mean, explanation of	11
HONEY LAKE BASIN	49
Hydrologic Bench-Mark Network	7
Hydrologic Bench-Mark Network, definition of	17
Hydrologic unit, definition of	17
ICE HOUSE RESERVOIR NEAR KYBURZ	374
Identifying Estimated Daily Discharge	12
INSKIP POWERPLANT NEAR MANTON	126
Instantaneous discharge, definition of	17
Instantaneous low flow, explanation of	11
Instantaneous peak flow, explanation of	11
Instantaneous peak stage, explanation of	11
INTRODUCTION	1
IRON CANYON CREEK BELOW IRON CANYON DAM, NEAR BIG BEND	86
IRON CANYON RESERVOIR NEAR BIG BEND	74
JACKSON CREEK BELOW JACKSON LAKE, NEAR SIERRA CITY	277
JACKSON LAKE NEAR SIERRA CITY	276
JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY	230
JAMES B. BLACK POWERPLANT NEAR BIG BEND	84
Jaybird Powerplant	378
Jones Fork Powerplant	375
JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH	110
JUNCTION RESERVOIR NEAR POLLOCK PINES	377
KANAKA HYDROELECTRIC PROJECT POWERPLANT	182
KELLY LAKE NEAR CISCO	318
Kelly Ridge Powerplant	179
KELSEY CREEK NEAR KELSEYVILLE	410
KIDD LAKE NEAR SODA SPRINGS	254
KILARC CANAL DIVERSION TO OLD COW CREEK NEAR WHITMORE	118
Laboratory Measurements	14
Lakes and reservoirs:	
ALMANOR, LAKE, AT PRATTVILLE	184
BERRYESSA, LAKE, NEAR WINTERS	422
BOWMAN LAKE NEAR GRANITEVILLE	278
BRUSH CREEK RESERVOIR NEAR POLLOCK PINES	382
BUCKS LAKE NEAR BUCKS LODGE	200
BUTT VALLEY RESERVOIR NEAR CARIBOU	189
CAMINO RESERVOIR NEAR POLLOCK PINES	379
CAPLES LAKE NEAR KIRDWOOD	367
CLEAR LAKE AT LAKEPORT	412
COLLETTE RESERVOIR NEAR LITTLE VALLEY	62
EAST PARK RESERVOIR NEAR STONYFORD	148
FAUCHERIE LAKE NEAR CISCO	271
FOLSOM LAKE NEAR FOLSOM	396
FORDYCE LAKE NEAR CISCO	258
FRENCH LAKE NEAR CISCO	269
FRENCH MEADOWS RESERVOIR NEAR FORESTHILL	323
GERLE RESERVOIR NEAR MEEKS BAY	346
HELL HOLE RESERVOIR NEAR MEEKS BAY	339
ICE HOUSE RESERVOIR NEAR KYBURZ	374
IRON CANYON RESERVOIR NEAR BIG BEND	74
JACKSON LAKE NEAR SIERRA CITY	276
JACKSON MEADOWNS RESERVOIR NEAR SIERRA CITY	230
JUNCTION RESERVOIR NEAR POLLOCK PINES	377
KELLEY LAKE NEAR CISCO	318
KIDD LAKE NEAR SODA SPRINGS	254
LAKE VALLEY RESERVOIR	317
LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE	167
LOON LAKE NEAR MEEKS BAY	343
LOWER BUCKS LAKE NEAR BUCKS LODGE	201
LOWER CASCADE LAKE NEAR SODA SPRINGS	255
McCumber Reservoir	125
NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN	251
ROLLINS RESERVOIR NEAR COLFAX	305
SAWMILL LAKE NEAR GRANITEVILLE	273
SHASTA LAKE NEAR REDDING	103
Silver Lake	365
SILVER LAKE NEAR KIRKWOOD	364

C-042416

Page

Lakes and reservoirs--continued:
SLAB CREEK RESERVOIR NEAR CAMINO..... 385
SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY..... 173
STONY GORGE RESERVOIR NEAR ELK CREEK..... 148
UNION VALLEY RESERVOIR NEAR RIVERTON..... 373
WHISKEYTOWN LAKE NEAR IGO..... 114
LAKE ALMANOR AT PRATTVILLE..... 184
LAKE BERRYESSA NEAR WINTERS..... 422
LAKE BRITTON NEAR BURNEY..... 74
LAKE McCLOUD NEAR McCLOUD..... 74
LAKE OROVILLE NEAR OROVILLE..... 217
LAKE SPAULDING NEAR EMIGRANT GAP..... 261
LAKE VALLEY CANAL NEAR EMIGRANT GAP..... 319
LAKE VALLEY RESERVOIR NEAR CISCO..... 317
Lake County, location of discharge stations. 32
Lassen County, location of discharge and water-quality stations..... 33
Latitude-Longitude System..... 8
Light-attenuation coefficient, definition of..... 18
LINDSEY CREEK BELOW LOWER LINDSEY LAKE, NEAR GRANITEVILLE..... 285
LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE. 167
LITTLE RUBICON RIVER BELOW BUCK ISLAND DAM, NEAR MEEKS BAY..... 338
LOHMAN RIDGE TUNNEL AT INTAKE, NEAR CAMPTONVILLE..... 237
LONG VALLEY CREEK NEAR SCOTTS..... 49
LOON LAKE NEAR MEEKS BAY..... 343
Loon Lake Powerplant..... 344
LOST CREEK BELOW DIVERSION TO LOST CREEK POWERPLANT NO. 1, NEAR OLD STATION..... 69
LOST CREEK NEAR CLIPPER MILLS..... 175
Lost Creek No. 1 Powerplant..... 69
LOWER BUCKS LAKE NEAR BUCKS LODGE..... 201
LOWER CASCADE LAKE NEAR SODA SPRINGS..... 255
Lower Sacramento River basin, schematic diagram of..... 149
Lowest annual mean, explanation of..... 11
Lowest daily mean, explanation of..... 11

Macrophytes, definition of..... 18
McCLOUD RIVER ABOVE SHASTA LAKE..... 101
McCLOUD RIVER AT AH-DI-NA, NEAR McCLOUD..... 99
McCLOUD RIVER BASIN, RESERVOIRS IN..... 74
McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD..... 98
McCLOUD RIVER NEAR McCLOUD..... 94
McCloud River basin, schematic diagram of... 55
McCLOUD-IRON CANYON DIVERSION TUNNEL, NEAR McCLOUD..... 96
McCumber Reservoir..... 125
Mean concentration, definition of..... 20
Mean discharge, definition of..... 17
Metamorphic stage, definition of..... 18
Methylene blue active substance, definition of..... 18
Micrograms per gram, definition of..... 18
Micrograms per liter, definition of..... 18
MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL..... 330
MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS..... 324
MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL..... 332
MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL.. 357
MIDDLE YUBA RIVER AT JACKSON MEADOWS DAM, NEAR SIERRA CITY..... 231
MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY..... 235
MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE..... 238
MIDDLE YUBA RIVER, CONTROLLED RELEASE AT JACKSON MEADOWS DAM, NEAR SIERRA CITY..... 232
Middle Fork Powerplant..... 340
MILK RANCH CONDUIT AT OUTLET, NEAR BUCKS LODGE..... 198
MILL CREEK NEAR LOS MOLINOS..... 141
Milligrams per liter, definition of..... 18
MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE..... 233

Page

MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN..... 179
Modoc County, location of discharge stations..... 34
Monthly mean data, statistics of..... 10
MORMON RAVINE NEAR NEWCASTLE..... 313
Muck Valley Powerplant..... 62

Nanograms per liter, definition of..... 18
Napa County, location of discharge and water-quality stations..... 35
National Geodetic Vertical Datum of 1929, definition of..... 18
National Stream Quality Accounting Network.. 7
National Stream Quality Accounting Network, definition of..... 18
National Trends Network..... 7
National Water-Quality Assessment (NAWQA) Program..... 7
Natural substrate, definition of..... 20
Nekton, definition of..... 18
NELSON CREEK BELOW DIVERSION TO NELSON CREEK POWERPLANT NEAR BIG BEND..... 78
Nelson Creek Powerplant..... 78
Nevada County, location of discharge and water-quality stations..... 36
NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN..... 251
NEW COLGATE POWERPLANT NEAR FRENCH CORRAL... 250
Newcastle Powerplant..... 313
NORTH FORK AMERICAN RIVER AT NORTH FORK DAM. 320
NORTH FORK BATTLE CREEK BELOW DIVERSION TO CROSS COUNTRY CANAL, NEAR MANTON..... 129
NORTH FORK BATTLE CREEK BELOW DIVERSION TO EAGLE CANYON CANAL, NEAR MANTON..... 130
NORTH FORK BATTLE CREEK BELOW DIVERSION TO KESWICK DITCH, NEAR MANTON..... 127
NORTH FORK BATTLE CREEK BELOW DIVERSION TO WILDCAT CANAL, NEAR MANTON..... 131
NORTH FORK BATTLE CREEK BELOW MCCUMBER DAM, NEAR MANZANITA LAKE..... 125
NORTH FORK BATTLE CREEK BELOW NORTH BATTLE CREEK DAM, NEAR MANZANITA LAKE..... 124
NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS..... 415
NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS.. 417
NORTH FORK FEATHER RIVER AT PULGA..... 212
NORTH FORK FEATHER RIVER BELOW BELDEN DAM... 190
NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK..... 208
NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM..... 196
NORTH FORK FEATHER RIVER NEAR PRATTVILLE.... 185
NORTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE..... 356
NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE..... 355
NORTH YUBA RIVER BELOW GOODYEARS BAR..... 245
NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN..... 252
North Fork Cache Creek raingage near Hough Springs..... 415

Onsite Measurements and Sample Collection... 13
OREGON CREEK AT CAMPTONVILLE..... 240
OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE..... 243
Organic mass, definition of..... 16
Organism count/area, definition of..... 18
Organism count/volume, definition of..... 18
Organism, definition of..... 18
OROVILLE-WYANDOTTE CANAL NEAR CLIPPER MILLS. 174
Other Records Available..... 12

PACIFIC GAS ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE..... 222
PALERMO CANAL NEAR OROVILLE..... 218
Parameter, definition of..... 18
Partial-record station..... 12
Partial-record station, definition of..... 18
Particle size, definition of..... 18
Particle-size classification, definition of. 19

C—0 4 2 4 1 7

C-042417

	Page
Percent composition or percent of total, definition of	19
Periphyton, definition of	19
Pesticides, definition of	19
pH, definition of	19
PHILBROOK CREEK BELOW PHILBROOK DAM, NEAR BUTTE MEADOWS	214
Phytoplankton, definition of	19
Picocurie, definition of	19
PILOT CREEK ABOVE STUMPY MEADOWS LAKE	349
PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN	351
PIT AND McCLOUD RIVER BASINS, RESERVOIRS IN	74
PIT NO. 1 POWERPLANT NEAR FALL RIVER MILLS	63
PIT RIVER AT BIG BEND	82
PIT RIVER BASIN, RESERVOIRS IN	74
PIT RIVER BELOW PIT NO 1 POWERPLANT, NEAR FALL RIVER MILLS	65
PIT RIVER BELOW PIT NO 4 DAM	76
PIT RIVER NEAR CANBY	60
PIT RIVER NEAR MONTGOMERY CREEK	92
Pit and McCloud River basins, schematic diagram of	55
Pit No. 3 Powerplant	76
Pit No. 4 Powerplant	76
Pit No. 5 Powerplant	84
Pit No. 6 Powerplant	92
Pit No. 7 Powerplant	92
Pit River basin, schematic diagram of	55
Placer County, location of discharge and water-quality stations	37
Plankton, definition of	19
Plumas County, location of discharge stations	38
Poe Powerplant	212
Polychlorinated biphenyls, definition of	19
Ponderosa-Bailey Creek Powerplant	128
Precipitation at Indian Valley Dam	417
Precipitation near Clearlake Oaks	415
Primary productivity, definition of	19
PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS	23
PUTAH CREEK NEAR WINTERS	423
PYRAMID CREEK AT TWIN BRIDGES	362
Radiochemical Program, definition of	19
Radiochemical Programs	7
Ralston Powerplant,	332
Records of Stage and Water Discharge	8
Records of Surface-Water Quality	12
Recoverable, definition of	20
Remark Codes	47
RICHVALE CANAL AT INTAKE, NEAR OROVILLE	221
ROARING CREEK BELOW DIVERSION TO ROARING CREEK POWERPLANT, NEAR MONTGOMERY CREEK	88
Roaring Creek Powerplant	88
ROBBS PEAK POWERPLANT NEAR KYBURZ	342
ROCK CREEK NEAR PLACERVILLE	388
Rock Creek Powerplant	196, 388
ROLLINS RESERVOIR NEAR COLFAX	305
RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY	340
RUBICON RIVER BELOW RUBICON DAM, NEAR MEEKS BAY	336
RUBICON RIVER, SOUTH FORK, BELOW GERLE CREEK, NEAR GEORGETOWN	347
Rubicon River basin, schematic diagram of	322
RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY	334
Runoff in percent of median	3
SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF	137
SACRAMENTO RIVER AT BUTTE CITY	152
SACRAMENTO RIVER AT COLUSA	154
SACRAMENTO RIVER AT DELTA	56
SACRAMENTO RIVER AT FREEPORT	401
SACRAMENTO RIVER AT KESWICK	105
SACRAMENTO RIVER AT SACRAMENTO	399
SACRAMENTO RIVER AT VERONA	314
SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES	162
SACRAMENTO WEIR SPILL TO YOLO BYPASS NEAR SACRAMENTO	316
Sacramento County, location of discharge and water-quality stations	39
SAWMILL LAKE NEAR GRANITEVILLE	273
Sea level, definition of	20
Sediment	6, 13
Sediment, definition of	20
SHASTA LAKE NEAR REDDING	103
Shasta County, location of discharge and water-quality stations	40
Sierra County, location of discharge stations	41
SILVER CREEK BELOW CAMINO DIVERSION DAM	380
SILVER CREEK BELOW JUNCTION DAM, NEAR POLLOCK PINES	378
SILVER CREEK, SOUTH FORK, NEAR ICE HOUSE	375
SILVER LAKE NEAR KIRKWOOD	364
SILVER LAKE OUTLET NEAR KIRKWOOD	365
Silver Lake	365
Siskiyou County, loction of discharge and water-quality stations	42
SLAB CREEK RESERVOIR NEAR CAMINO	385
SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY	248
SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY	247
SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY	173
Sodium-adsorption-ratio, definition of	20
Solute, definition of	20
SOUTH BRANCH WARD CREEK BELOW DIVERSION DAM, NEAR GENESEE	192
SOUTH COW CREEK CANAL DIVERSION TO SOUTH COW CREEK NEAR WHITMORE	117
SOUTH FORK AMERICAN RIVER NEAR CAMINO	386
SOUTH FORK AMERICAN RIVER NEAR KYBURZ	370
SOUTH FORK AMERICAN RIVER NEAR LOTUS	392
SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE	390
SOUTH FORK BATTLE CREEK BELOW DIVERSION TO COLEMAN DITCH, NEAR MANTON	134
SOUTH FORK BATTLE CREEK BELOW DIVERSION TO INSKIP CANAL, NEAR MANTON	133
SOUTH FORK BATTLE CREEK BELOW DIVERSION TO SOUTH BATTLE CREEK CANAL, NEAR MANTON	132
SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY	171
SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM	177
SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM	168
SOUTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE	354
SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE	353
SOUTH FORK PIT RIVER NEAR LIKELY	58
SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN	347
SOUTH FORK SILVER CREEK NEAR ICE HOUSE	375
SOUTH FORK TUNNEL NEAR STRAWBERRY VALLEY	170
SOUTH POWERPLANT NEAR MANTON	126
SOUTH YUBA CANAL NEAR EMIGRANT GAP	264
SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY	286
SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP	267
SOUTH YUBA RIVER BELOW SPAULDING NO 2 POWERPLANT, NEAR EMIGRANT GAP	265
SOUTH YUBA RIVER NEAR CISCO	256
SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE	194
Spaulding No. 1 Powerplant	261
Spaulding No. 2 Powerplant	261
Spaulding No. 3 Powerplant	280
SPECIAL NETWORKS AND PROGRAMS	7
Specific conductance, definition of	20
SPRING CREEK POWERPLANT AT KESWICK	112
Spring Creek Reservoir	112
Stage-discharge relation, definition of	20
Station Identification Numbers	7
Station manuscript, explanation of	9
STONY CREEK BASIN, RESERVOIRS IN	148
STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND	150

C—0 4 2 4 1 8

C-042418

	Page
STONY GORGE RESERVOIR NEAR ELK CREEK	148
Stony Creek below Black Butte Dam, near Orland	426
Streamflow, definition of	20
Substrate, definition of	20
SUCKER RUN AT KANAKA DIVERSION, NEAR FEATHER FALLS	181
SUMMARY OF HYDROLOGIC CONDITIONS	2
Summary statistics, explanation of	11
Surface area, definition of	21
Surface Water	2
Surficial bed material, definition of	21
SUSAN RIVER AT SUSANVILLE	51
Suspended sediment, definition of	20
Suspended, definition of	21
Suspended, recoverable, definition of	21
Suspended, total, definition of	21
Suspended-sediment concentration, definition of	20
Suspended-sediment discharge, definition of	20
Suspended-sediment load, definition of	20
Sutter County, location of discharge stations	43
SUTTER-BUTTE CANAL AT INTAKE, NEAR OROVILLE	223
System for numbering miscellaneous sites (latitude and longitude)	8
Taxonomy, definition of	21
Tehama County, location of discharge and water-quality stations	44
TEXAS CREEK TRIBUTARY BELOW CULBERTSON LAKE, NEAR GRANITEVILLE	284
THERMALITO AFTERBAY NEAR OROVILLE	219
THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE	224
Thermograph, definition of	21
THOMES CREEK AT PASKENTA	143
Time-weighted average, definition of	21
TOADTOWN CANAL ABOVE BUTTE CANAL, NEAR STIRLING CITY	159
Tons per acre-foot, definition of	21
Tons per day, definition of	21
Total coliform bacteria, definition of	16
Total load, definition of	21
Total organism count, definition of	18
Total, definition of	21
Total, recoverable, definition of	21
Total-sediment discharge, definition of	20
Total-sediment load, definition of	20
Tritium Network	7
Turbidity, definition of	22
UNION VALLEY RESERVOIR NEAR RIVERTON	373
Union Valley Powerplant near Pacifica	373
Upper Sacramento River basin, schematic diagram of	104
VOLTA NO. 1 POWERPLANT NEAR MANTON	126
VOLTA NO. 2 POWERPLANT NEAR MANTON	126
Water Quality	6
Water Temperature	13
Water year, definition of	22
WDR, definition of	22
Weighted average, definition of	22
WEST BRANCH FEATHER RIVER BELOW HENDRICKS DIVERSION DAM, NEAR STIRLING CITY	215
WESTERN CANAL AT INTAKE, NEAR OROVILLE	220
Wet mass, definition of	16
WHISKEYTOWN LAKE NEAR IGO	114
White Rock Powerplant	386
WILLOW CREEK NEAR SUSANVILLE	53
Wise Powerplant	306
Woodleaf Powerplant	175
WSP, definition of	22
YOLO BYPASS NEAR WOODLAND	421
Yolo County, location of discharge and water-quality stations	45
YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE	288
YUBA RIVER NEAR MARYSVILLE	292
Yuba County, location of discharge stations	46
Yuba River basin, schematic diagram of	229
Zooplankton, definition of	19

C-042419

December 4, 1990

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

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

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