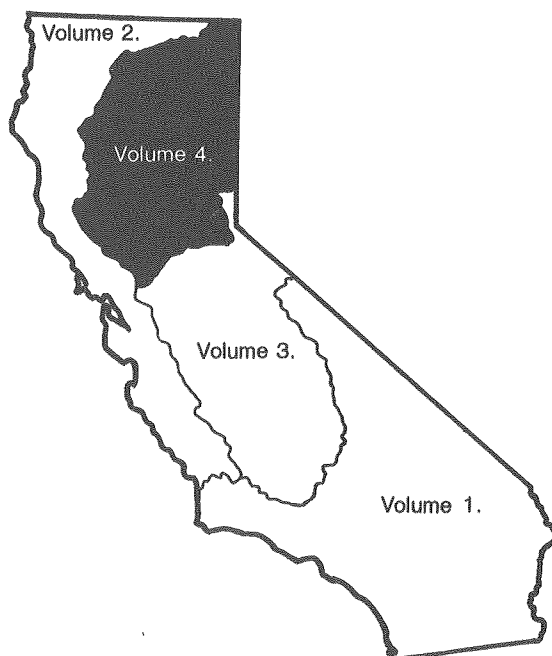


Water Resources Data California Water Year 1992

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-92-4
Prepared in cooperation with the California Department of
Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1992

1991

OCTOBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1992

JANUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

MARCH

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY

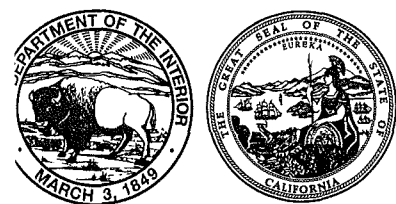
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER

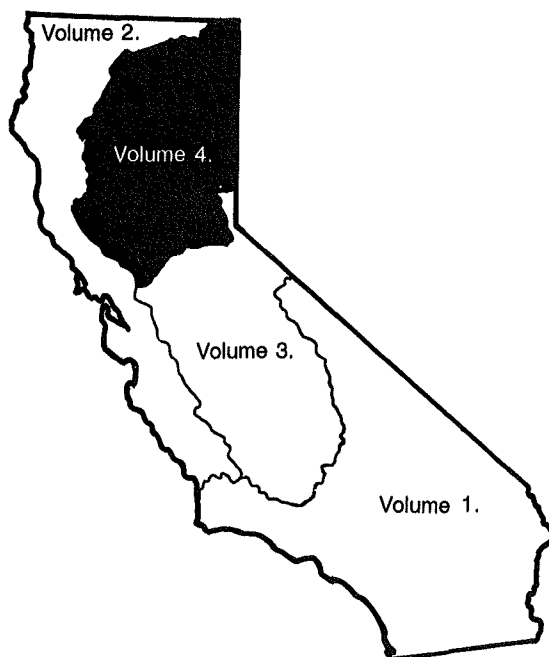
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			



Water Resources Data California Water Year 1992

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

by S.W. Anderson, J.R. Mullen, M.F. Friebel, and K.L. Markham



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-92-4
Prepared in cooperation with the California Department of
Water Resources and with other agencies

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, *Secretary*

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, *Director*

For information on the water program in California write to
District Chief, Water Resources Division
U.S. Geological Survey
Federal Building, Room W-2233
2800 Cottage Way
Sacramento, CA 95825

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 quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for California are contained in five 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
- Volume 5. Ground-water data for California

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 John M. Klein, District Chief, California.

REPORT DOCUMENTATION PAGE		1. REPORT NO. UGSG/WRD/HD-93/287	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data--California, Water Year 1992, Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line				5. Report Date May 1993
7. Author(s) S.W. Anderson, J.R. Mullen, M.F. Friebel, and K.L. Markham				6.
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division California District 2800 Cottage Way, Room W-2233 Sacramento, CA 95825				8. Performing Organization Rept. No. USGS-WDR-CA-92-4
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division California District 2800 Cottage Way, Room W-2233 Sacramento, CA 95825				10. Project/Task/Work Unit No.
				11. Contract(C) or Grant(G) No. (C) (G)
13. Type of Report & Period Covered Annual--Oct. 1, 1991 to Sept. 30, 1992				14.
15. Supplementary Notes Prepared in cooperation with the California Department of Water Resources and with other agencies.				
16. Abstract (Limit: 200 words) Water resources data for the 1992 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 190 gaging stations; stage and contents for 44 lakes and reservoirs; precipitation data for 3 stations; and water quality for 10 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.				
17. Document Analysis a. Descriptors *California, *Hydrologic data, *Surface water, *Water quality, Flow rate, Sampling sites, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Water analyses b. Identifiers/Open-Ended Terms c. COSATI Field/Group				
18. Availability Statement: No restriction on distribution. This report may be purchased from National Technical Information Service Springfield, VA 22161		19. Security Class (This Report) Unclassified		21. No. of Pages 460
		20. Security Class (This Page) Unclassified		22. Price

WATER RESOURCES DIVISION

Steven J. Deverel, Assistant District Chief, North
Kenneth W. Lee, Chief, Northern California Operations

Allan J. Asquith, Hydrologic Technician
James B. Baker, Lead Editorial Assistant
Robin E. Bishop, Hydrologic Technician
William R. Brazelton, Hydrologic Technician
Carol L. Donovan, Editor
Jeffery P. Ennis, Hydrologic Technician
Laureen J. Fong-Frydendal, Hydrologic Technician
Lawrence A. Freeman, Hydrologic Technician
Terry B. Gordon, Hydrologic Technician
Larry S. Grey, Hydrologic Technician
Thomas A. Hankins, Hydrologic Technician
William J. Hardy, Hydrologic Technician
Stuart A. Hill, Hydrologic Technician
Paul D. Honeywell, Hydrologic Technician
Joel D. Johnson, Hydrologist
Mark V. Johnson, Hydrologic Technician
Willie B. Kinsey, Hydrologic Technician
Lisa M. Lindberg, Hydrologic Clerk
Jon C. McNulty, Hydrologic Technician
Lynn K. Miller, Hydrologic Technician
Denis J. O'Halloran, Hydrologic Technician
Christine O'Neil, Hydrologic Technician
Lee A. Price, Hydrologic Technician
Gerald L. Rockwell, Hydrologic Technician
Glenn R. Schwegmann, Technical Publications Editor
M. Kathy Shay, Computer Technician
Carol J. Simons, Office Automation Clerk
Jerry R. Smithson, Lead Hydrologic Technician
David M. Sparks, Hydrologic Technician
Kathleen L. St.Clair, Hydrologic Technician
Donald E. Underwood, Hydrologic Technician
Michael D. Webster, Lead Hydrologic Technician
Virginia L. Wenslaff, Technical Publications Editor
Mark H. Woloszyk, Hydrologic Technician
Kevin S. Wright, Hydrologic Technician
George S. Yamamoto, Scientific Illustrator
David K. Yancey, Computer Programmer/Analyst
Brian T. Yost, Hydrologic Technician
George E. Zink, Hydrologic Technician

Ronald P. Fogelman, Supervisory Hydrologist
Richard A. Hunrichs, Hydrologist
Rick T. Iwatsubo, Biologist
James M. Knott, Hydrologist
Robert W. Meyer, Hydrologist
Robert G. Simpson, Hydrologist

CONTENTS

Preface.....	Page III
List of surface-water and water-quality stations, in downstream order, for which records are published.....	IX
List of discontinued gaging stations.....	XIII
List of discontinued lakes and reservoirs.....	XVI
List of discontinued water-quality stations.....	XVII
Introduction.....	1
Cooperation.....	2
Summary of hydrologic conditions.....	2
Surface water.....	2
Water quality.....	6
Sediment.....	7
Special networks and programs.....	7
Explanation of the records.....	8
Station identification numbers.....	8
Downstream order system.....	8
Latitude-longitude system.....	8
Records of stage and water discharge.....	9
Data collection and computation.....	9
Data presentation.....	10
Identifying estimated daily discharge.....	12
Accuracy of the records.....	12
Other records available.....	13
Records of surface-water quality.....	13
Classification of records.....	13
Arrangement of records.....	13
Onsite measurements and sample collection.....	13
Water temperature.....	14
Sediment.....	14
Cross-sectional data.....	14
Laboratory measurements.....	14
Data presentation.....	14
Access to WATSTORE data.....	15
Definition of terms.....	16
Publications on Techniques of Water-Resources Investigations.....	23
Gaging station and water-quality records.....	47
Remark codes.....	47
Sacramento-San Joaquin Delta, inflows and diversions.....	432
Discharge at partial-record stations and miscellaneous sites.....	433
Index.....	435

ILLUSTRATIONS

Figure 1. Map of California showing runoff, in percent of median, for the 1992 water year.....	Page 3
2-5. Graphs showing:	
2. Discharge and precipitation during water year 1992 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. Storage in selected reservoirs, water years 1990-92.....	6
5. Comparison of monthly mean dissolved-solids concentrations during water year 1992 with long-term dissolved-solids concentrations at two selected stations.....	7
6. Diagram showing system for numbering miscellaneous sites (latitude and longitude).....	8
7-17. Maps showing location of discharge and water-quality stations:	
7. Alpine County.....	26
8. Amador County.....	27
9. Butte County.....	28
10. Colusa County.....	29
11. El Dorado County.....	30
12. Glenn County.....	31
13. Lake County.....	32
14. Lassen County.....	33
15. Modoc County.....	34
16. Napa County.....	35
17. Nevada County.....	36

	Page
18-27. Maps showing location of discharge and water-quality stations--Continued:	
18. Placer County.....	37
19. Plumas County.....	38
20. Sacramento County.....	39
21. Shasta County.....	40
22. Sierra County.....	41
23. Siskiyou County.....	42
24. Sutter County.....	43
25. Tehama County.....	44
26. Yolo County.....	45
27. Yuba County.....	46
28-38. Schematic diagrams showing diversions and storage:	
28. Pit and McCloud River basins.....	58
29. Upper Sacramento River basin.....	100
30. Battle Creek basin.....	120
31. Lower Sacramento River basin.....	145
32. South Fork Feather River basin.....	163
33. North Fork Feather River basin.....	180
34. Feather River at Lake Oroville.....	213
35. Yuba River basin.....	233
36. Bear River basin.....	300
37. Middle Fork American and Rubicon River basins.....	326
38. South Fork American River basin.....	363
39. Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta.....	431

TABLES

	Page
Table 1. Comparison of peak discharge for 1992 water year with those for period of record for selected stations.....	2
2. Comparison of 7-day and 1-day low flow for 1992 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 (dcs).....	10358500	51
Willow Creek near Susanville (d).....	10358500	56
PACIFIC SLOPE BASINS IN CALIFORNIA		
SACRAMENTO RIVER BASIN		
Sacramento River at Delta (d).....	11342000	59
North Fork Pit River:		
South Fork Pit River near Likely (d).....	11345500	61
Pit River near Canby (d).....	11348500	63
Collett Reservoir near Little Valley (l).....	11351600	65
Muck Valley powerplant near Little Valley (d).....	11351700	66
Pit No. 1 powerplant near Fall River Mills (d).....	11354200	67
Pit River below Pit No. 1 powerplant, near Fall River Mills (d).....	11355010	68
Hat Creek near Hat Creek (d).....	11355500	70
Lost Creek below diversion to Lost Creek powerplant No. 1, near Old Station (d).....	11358020	72
Hat Creek below Hat No. 1 diversion dam, near Burney (d).....	11358700	73
Hat Creek No. 1 powerplant near Burney (d).....	11358800	74
Hat No. 2 power canal diversion to Hat Creek near Burney (d).....	11359100	75
Reservoirs in Pit and McCloud River basins:		
Lake Britton near Burney (l).....	11361400	76
Iron Canyon Reservoir near Big Bend (l).....	11363920	76
Lake McCloud near McCloud (l).....	11367740	76
Pit River below Pit No. 4 Dam (d).....	11362500	78
Pit River at Big Bend (d).....	11363000	80
James B. Black powerplant near Big Bend (d).....	11363910	82
Iron Canyon Creek below Iron Canyon Dam, near Big Bend (d).....	11363930	83
Roaring Creek below diversion to Roaring Creek powerplant, near Montgomery Creek (d).....	11364200	85
Hatchet Creek below diversion to Hatchet Creek powerplant, near Montgomery Creek (d).....	11364300	87
Pit River near Montgomery Creek (d).....	11365000	89
McCloud River near McCloud (d).....	11367500	91
McCloud-Iron Canyon diversion tunnel near McCloud (d).....	11367720	93
McCloud River below McCloud Dam, near McCloud (d).....	11367760	94
McCloud River at Ah-Di-Na, near McCloud (d).....	11367800	95
McCloud River above Shasta Lake (d).....	11368000	97
Shasta Lake near Redding (l).....	11370000	99
Sacramento River at Keswick (dcs).....	11370500	101
Anderson-Cottonwood Irrigation District canal at Sharon Street, at Redding (d).....	11370700	106
Clear Creek at French Gulch (d).....	11371000	107
Judge Francis Carr powerplant near French Gulch (d).....	11525430	109
Spring Creek powerplant at Keswick (d).....	11371600	110
Whiskeytown Lake near Igo (l).....	11371700	111
Clear Creek near Igo (d).....	11372000	112
South Cow Creek Canal diversion to South Cow Creek near Whitmore (d).....	11372080	114
Kilarc Canal diversion to Old Cow Creek near Whitmore (d).....	11372325	115
Cow Creek near Millville (d).....	11374000	116
Cottonwood Creek near Cottonwood (d).....	11376000	118
Battle Creek:		
North Fork Battle Creek below North Battle Creek Dam, near Manzanita Lake (d).....	11376015	121
North Fork Battle Creek below McCumber Dam, near Manzanita Lake (d).....	11376025	122
Powerplants in Battle Creek basin:		
Volta No. 1 Powerplant near Manton (d).....	11376043	123
Volta No. 2 Powerplant near Manton (d).....	11376046	123
South Powerplant near Manton (d).....	11376410	123
Inskip Powerplant near Manton (d).....	11376430	123
Coleman Powerplant near Cottonwood (d).....	11376458	123
North Fork Battle Creek below diversion to Keswick Ditch, near Manton (d).....	11376050	124
Bailey Creek below diversion to Ponderosa-Bailey Creek powerplant, near Manton (d).....	11376120	125
North Fork Battle Creek below diversion to Cross Country Canal, near Manton (d).....	11376140	126
North Fork Battle Creek below diversion to Eagle Canyon Canal, near Manton (d).....	11376150	127
North Fork Battle Creek below diversion to Wildcat Canal, near Manton (d).....	11376160	128
South Fork Battle Creek below diversion to South Battle Creek Canal, near Manton (d).....	11376420	129
South Fork Battle Creek below diversion to Inskip Canal, near Manton (d).....	11376440	130
South Fork Battle Creek below diversion to Coleman Ditch, near Manton (d).....	11376460	131
Battle Creek below Coleman Fish Hatchery, near Cottonwood (d).....	11376550	132
Sacramento River above Bend Bridge, near Red Bluff (d).....	11377100	134
Elder Creek near Paskenta (d).....	11379500	136
Mill Creek near Los Molinos (d).....	11381500	138
Thomes Creek at Paskenta (d).....	11382000	140
Deer Creek near Vina (d).....	11383500	142
Stony Creek:		
Reservoirs in Stony Creek basin:		
East Park Reservoir near Stonyford (l).....	11385100	144
Stony Gorge Reservoir near Elk Creek (l).....	11386100	144

PACIFIC SLOPE BASINS IN CALIFORNIA--Continued

SACRAMENTO RIVER BASIN--Continued

Sacramento River--Continued

Stony Creek below Black Butte Dam, near Orland (t).....	11388000	146
Sacramento River at Butte City (d).....	11389000	148
Sacramento River at Colusa (d).....	11389500	150
Butte Creek below diversion dam, near Stirling City (d).....	11389720	152
Butte Creek below forks of Butte diversion dam, near De Sabla (d).....	11389740	153
Butte Creek below Centerville diversion dam, near Paradise (d).....	11389780	154
Toadtown Canal above Butte Canal, near Stirling City (d).....	11389800	155
Butte Creek near Chico (d).....	11390000	157
Sacramento River below Wilkins Slough, near Grimes (dt).....	11390500	159
Middle Fork Feather River (head of Feather River):		
Little Grass Valley Reservoir near La Porte (l).....	11395020	164
South Fork Feather River below Little Grass Valley Dam (d).....	11395030	165
South Fork tunnel near Strawberry Valley (d).....	11395150	167
South Fork Feather River below diversion dam, near Strawberry Valley (d).....	11395200	168
Lost Creek:		
Sly Creek Reservoir near Strawberry Valley (l).....	11395400	170
Oroville-Wyandotte Canal near Clipper Mills (d).....	11395500	171
Lost Creek near Clipper Mills (d).....	11396000	172
South Fork Feather River below Forbestown Dam (d).....	11396200	174
Miners Ranch Canal below Ponderosa Dam, near Forbestown (d).....	11396310	176
Bangor Canal below Miners Ranch Reservoir, near Oroville (d).....	11396330	177
Sucker Run at Kanaka diversion, near Feather Falls (d).....	11396395	178
Lake Almanor at Prattville (l).....	11399000	181
North Fork Feather River near Prattville (d).....	11399500	182
Butt Creek below Almanor-Butt Creek Tunnel, near Prattville (d).....	11400500	184
Butt Valley Reservoir near Caribou (l).....	11401050	186
North Fork Feather River below Belden Dam (d).....	11401112	187
South branch Ward Creek below diversion dam, near Genesee (d).....	11401165	189
Indian Creek near Crescent Mills (d).....	11401500	191
Spanish Creek above Blackhawk Creek, at Keddie (d).....	11402000	193
North Fork Feather River below Rock Creek diversion dam (d).....	11403200	195
Bucks Creek:		
Milk Ranch Conduit at outlet, near Bucks Lodge (d).....	11403450	197
Bucks Lake near Bucks Lodge (l).....	11403500	199
Lower Bucks Lake near Bucks Lodge (l).....	11403520	200
Bucks Creek below diversion dam, near Bucks Lodge (d).....	11403530	201
Bucks Creek tunnel outlet near Storrie (d).....	11404100	202
Grizzly Forebay near Storrie (d).....	11404250	204
Grizzly Creek below diversion dam, near Storrie (d).....	11404300	205
North Fork Feather River below Grizzly Creek (d).....	11404330	207
North Fork Feather River at Pulga (d).....	11404500	209
Philbrook Creek below Philbrook Dam, near Butte Meadows (d).....	11405120	211
West Branch Feather River below Hendricks diversion dam, near Stirling City (d).....	11405200	212
Feather River:		
Lake Oroville near Oroville (l).....	11406800	214
Palermo Canal near Oroville (d).....	11406810	215
Thermalito Afterbay near Oroville (l).....	11406870	216
Western Canal at intake, near Oroville (d).....	11406880	217
Richvale Canal at intake, near Oroville (d).....	11406890	218
Pacific Gas & Electric Co. Lateral at intake, near Oroville (d).....	11406900	219
Sutter-Butte Canal at intake, near Oroville (d).....	11406910	220
Thermalito Afterbay release to Feather River near Oroville (dt).....	11406920	221
Feather River at Oroville (dt).....	11407000	224
Feather River near Gridley (dts).....	11407150	228
Middle Yuba River (head of Yuba River):		
Jackson Meadows Reservoir near Sierra City (l).....	11407800	234
Middle Yuba River at Jackson Meadows Dam, near Sierra City (d).....	11407810	235
Milton-Bowman tunnel outlet near Graniteville (d).....	11408000	237
Middle Yuba River below Milton Dam, near Sierra City (d).....	11408550	239
Lohman Ridge tunnel at intake, near Camptonville (d).....	11408870	241
Middle Yuba River below Our House Dam, near Camptonville (d).....	11408880	242
Oregon Creek at Camptonville (d).....	11409300	244
Camptonville tunnel at intake, near Camptonville (d).....	11409350	246
Oregon Creek below Log Cabin Dam, near Camptonville (d).....	11409400	247
North Yuba River below Goodyears Bar (d).....	11413000	249
Slate Creek:		
Slate Creek tunnel near Strawberry Valley (d).....	11413250	251
Slate Creek below diversion dam, near Strawberry Valley (d).....	11413300	252
New Colgate powerplant near French Corral (d).....	11413510	254
New Bullards Bar Reservoir near North San Juan (l).....	11413515	255
North Yuba River below New Bullards Bar Dam, near North San Juan (d).....	11413520	256
Kidd Lake near Soda Springs (l).....	11413940	258
Lower Cascade Lake near Soda Springs (l).....	11413945	259
South Yuba River near Cisco (d).....	11414000	260
Fordyce Lake near Cisco (l).....	11414090	262
Fordyce Creek below Fordyce Dam, near Cisco (d).....	11414100	263
Lake Spaulding near Emigrant Gap (l).....	11414140	265
Drum Canal at tunnel outlet, near Emigrant Gap (d).....	11414170	266

	Station No.	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA--Continued</u>		
<u>SACRAMENTO RIVER BASIN--Continued</u>		
<u>Feather River--Continued</u>		
South Yuba Canal near Emigrant Gap (d).....	11414200	268
South Yuba River below Spaulding No. 2 powerplant, near Emigrant Gap (d).....	11414210	269
South Yuba River at Langs Crossing, near Emigrant Gap (d).....	11414250	271
Canyon Creek:		
French Lake near Cisco (l).....	11414400	273
Canyon Creek below French Lake, near Cisco (d).....	11414410	274
Faucherie Lake near Cisco (l).....	11414440	275
Canyon Creek below Faucherie Lake, near Cisco (d).....	11414450	276
Sawmill Lake near Graniteville (l).....	11414465	277
Canyon Creek below Sawmill Lake, near Graniteville (d).....	11414470	278
Jackson Lake near Sierra City (l).....	11414690	280
Jackson Creek below Jackson Lake, near Sierra City (d).....	11414700	281
Bowman Lake near Graniteville (l).....	11415500	282
Bowman-Spaulding Canal intake near Graniteville (d).....	11416000	283
Bowman-Spaulding Canal at Jordan Creek Siphon Venturi, near Emigrant Gap (d).....	11416100	284
Canyon Creek below Bowman Lake (d).....	11416500	286
Texas Creek tributary below Culbertson Lake, near Graniteville (d).....	11416620	288
Lindsey Creek below Lower Lindsey Lake, near Graniteville (d).....	11416700	289
South Yuba River at Jones Bar, near Grass Valley (d).....	11417500	290
Yuba River below Englebright Dam, near Smartville (d).....	11418000	292
Deer Creek near Smartville (d).....	11418500	294
Yuba River near Marysville (dt).....	11421000	296
Bear River near Emigrant Gap (d).....	11421710	301
Dutch Flat No. 1 powerplant near Dutch Flat (d).....	11421750	302
Dutch Flat No. 2 flume near Blue Canyon (d).....	11421760	303
Bear River below Drum Afterbay, near Blue Canyon (d).....	11421770	304
Chicago Park flume near Dutch Flat (d).....	11421780	306
Bear River below Dutch Flat Afterbay, near Dutch Flat (d).....	11421790	307
Rollins Reservoir near Colfax (l).....	11421800	309
Bear River Canal intake near Colfax (d).....	11422000	310
Bear River below Rollins Dam, near Colfax (d).....	11422500	312
Bear River fish release below New Camp Far West Reservoir, near Wheatland (d).....	11423800	314
Bear River near Wheatland (d).....	11424000	315
Morman Ravine near Newcastle (d).....	11425418	317
Sacramento River at Verona (d).....	11425500	318
Sacramento Weir spill to Yolo Bypass near Sacramento (d).....	11426000	320
North Fork American River (head of American River):		
Lake Valley Reservoir near Cisco (l).....	11426170	321
Kelly Lake near Cisco (l).....	11426180	322
Lake Valley Canal near Emigrant Gap (d).....	11426190	323
North Fork American River at North Fork Dam (d).....	11427000	324
Middle Fork American River:		
French Meadows Reservoir near Foresthill (l).....	11427400	327
Middle Fork American River at French Meadows (d).....	11427500	328
Duncan Creek near French Meadows (d).....	11427700	330
Duncan Creek below diversion dam, near French Meadows (d).....	11427750	332
Middle Fork American River above Middle Fork powerplant, near Foresthill (d).....	11427760	334
Middle Fork American River below Interbay Dam, near Foresthill (d).....	11427770	336
Rubicon River:		
Rubicon-Rockbound tunnel near Meeks Bay (d).....	11427940	338
Rubicon River below Rubicon dam near Meeks Bay (d).....	11427960	339
Little Rubicon River:		
Buck Island Lake:		
Buck-Loon tunnel near Meeks Bay (d).....	11428300	340
Little Rubicon River below Buck Island dam, near Meeks Bay (d).....	11428400	341
Hell Hole Reservoir near Meeks Bay (l).....	11428700	342
Rubicon River below Hell Hole Dam, near Meeks Bay (d).....	11428800	343
South Fork Rubicon River:		
Robbs Peak Reservoir:		
Robbs Peak powerplant near Kyburz (d).....	11429300	345
Gerle Creek:		
Loon Lake near Meeks Bay (l).....	11429350	346
Gerle Creek below Loon Lake Dam, near Meeks Bay (d).....	11429500	347
South Fork Rubicon River below Gerle Creek, near Georgetown (d).....	11430000	349
Pilot Creek above Stumpy Meadows Lake (d).....	11431800	351
Pilot Creek below Mutton Canyon, near Georgetown (d).....	11433040	353
Long Canyon Creek:		
South Fork Long Canyon Creek diversion tunnel near Volcanoville (d).....	11433060	355
South Fork Long Canyon Creek below diversion dam, near Volcanoville (d).....	11433065	356
North Fork Long Canyon Creek diversion tunnel near Volcanoville (d).....	11433080	357
North Fork Long Canyon Creek below diversion dam, near Volcanoville (d).....	11433085	358
Long Canyon Creek near French Meadows (d).....	11433100	359
Middle Fork American River near Foresthill (d).....	11433300	361
South Fork American River:		
Echo Lake conduit near Phillips (d).....	11434500	364
Pyramid Creek at Twin Bridges (d).....	11435100	366
Silver Lake (head of Silver Fork of South Fork American River) near Kirkwood (l).....	11435900	368
Silver Lake outlet near Kirkwood (d).....	11436000	369

PACIFIC SLOPE BASINS IN CALIFORNIA--Continued

SACRAMENTO RIVER BASIN--Continued

South Fork American River--Continued

Caples Lake near Kirkwood (l).....11436950 371

Caples Lake outlet near Kirkwood (d).....11437000 372

South Fork American River near Kyburz (d).....11439500 374

Silver Creek:

Union Valley Reservoir near Riverton (l).....11441001 377

South Fork Silver Creek:

Ice House Reservoir near Kyburz (l).....11441100 378

South Fork Silver Creek near Ice House (d).....11441500 379

Junction Reservoir near Pollock Pines (l).....11441760 381

Silver Creek below Junction Dam, near Pollock Pines (d).....11441800 382

Camino Reservoir near Pollock Pines (l).....11441890 383

Silver Creek below Camino diversion dam (d).....11441900 384

South Fork American River below Silver Creek, near Pollock Pines (d).....11442500 386

Brush Creek Reservoir near Pollock Pines (d).....11442690 388

Brush Creek below Brush Creek Dam, near Pollock Pines (d).....11442700 389

Slab Creek Reservoir near Camino (l).....11443450 391

South Fork American River near Camino (d).....11443500 392

Rock Creek near Placerville (d).....11444201 394

South Fork American River near Placerville (d).....11444500 396

South Fork American River near Lotus (dct).....11445500 398

American River:

Folsom Lake near Folsom (l).....11446200 403

American River at Fair Oaks (d).....11446500 404

Sacramento River at Sacramento (d).....11447500 406

Sacramento River at Freeport (dcts).....11447650 408

Yolo Bypass:

Clear Lake (head of Cache Creek):

Kelsey Creek near Kelseyville (d).....11449500 416

Clear Lake at Lakeport (g).....11450000 418

Cache Creek near Lower Lake (dp).....11451000 419

North Fork Cache Creek at Hough Springs, near Clearlake Oaks (dp).....11451100 421

North Fork Cache Creek near Clearlake Oaks (dp).....11451300 423

Cache Creek at Yolo (d).....11452500 425

Yolo Bypass near Woodland (d).....11453000 427

Lake Berryessa near Winters (l).....11453900 428

Putah Creek near Winters (d).....11454000 429

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
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
10357000	Gold Run Creek near Susanville	15.1	1915-16
10358470	Willow Creek tributary near Susanville	3.08	1966-71
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
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 Ydaltom	99.5	1912-13
11366500	Pit River near Ydaltom	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
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

DISCONTINUED GAGING STATIONS--Continued

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

DISCONTINUED GAGING STATIONS--Continued

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

DISCONTINUED GAGING STATIONS--Continued

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

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	0.86	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
11341400	Sacramento River near Mt Shasta	135	T	1966-71, 1973-87
11342000	Sacramento River at Delta	425	T	1962-79
11348500	Pit River near Canby	1,431	T	1965-71, 1973-79
11365000	Pit River near Montgomery Creek	4,952	T	1958-59
11368000	McCloud River above Shasta Lake	604	T	1958-59
11370500	Sacramento River at Keswick	6,648	C	1981-84
11371000	Clear Creek at French Gulch	115	S	1963-64
11372000	Clear Creek near Igo	228	T	1965-79
11372200	South Cow Creek near Millville	77.3	T	1966-71
11374000	Cow Creek near Millville	425	S	1978
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 Cottonwood Creek near Olinda	371	T,S	1878, 1977-80
11376000	Cottonwood Creek near Cottonwood	927	S	1963-67, 1977-80
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	T	1965-71, 1973-79
11377100	Sacramento River above Bend Bridge, near Red Bluff	8,900	S	1977-80, 1988
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	S	1963
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	S	1963-73, 1981-83
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
11389000	Sacramento River at Butte City	12,075	S	1977-80
11388470	Colusa Weir spill, Butte basin, near Colusa	--	T,S	1975
11389500	Sacramento River at Colusa	12,090	S	1973, 1975, 1977-80
11390000	Butte Creek near Chico	147	T	1961-79
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
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 Yuba 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	T	1963-79
11404500	North Fork Feather River at Pulga	1,953	T	1962-83
11405300	West Branch Feather River near Paradise	--	T	1963-80
11406870	Thermolito Afterbay at river outlet	--	T	1968
11407000	Feather River at Oroville	3,624	C,S	1972-78
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	1971-79
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	1965-79
11418000	Yuba River below Englebright Dam, near Smartville	1,108	T	1972-78
11418500	Deer Creek near Smartville	--	S	1974-79
11420800	Yuba River at Daquerra Point Dam, near Browns Valley	1,330	T	1975-77

DISCONTINUED WATER-QUALITY STATIONS--Continued

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record
11421500	Yuba River at Marysville	1,344	T	1964, 1966, 1969-70
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	S	1980
11427000	North Fork American River at North Fork Dam	342	T	1959-83
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	T	1966-79
11446500	American River at Fair Oaks	1,888	T	1961-79
11447030	Strong Ranch Slough at Sacramento	5.02	C	1973-75
11447500	Sacramento River at Sacramento	23,504	S	1957-79
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	S	1960-67
11453000	Yolo Bypass near Woodland	--	S	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	T	1965-81

Type of record: C (Conductivity); T (Temperature); S (Sediment).

WATER RESOURCES DATA--CALIFORNIA, WATER YEAR 1992
VOLUME 4--NORTHERN CENTRAL VALLEY BASINS AND THE GREAT BASIN
FROM HONEY LAKE BASIN TO OREGON STATE LINE

By S.W. Anderson, J.R. Mullen, M.F. Friebe1, and K.L. Markham

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 data base 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 190 streamflow-gaging stations; (2) stage and content records for 44 lakes and reservoirs; (3) precipitation records for 3 stations; (4) water-quality records for 10 streamflow-gaging stations; and (5) 2 low-flow 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, Books and Open-File Reports Section, Federal Center, Box 25425, 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-92-4." 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 in 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) 978-4668. A limited number of CD-ROM discs will be available for purchase from U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, CO 80225.

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; Highland Hydro Construction; Independent Hydro; 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.; and Placer and Yuba County Water Agencies.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Runoff during the 1992 water year in the area covered by this volume was about 46 percent of the 1961-90 median (based on five representative streamflow records). Total runoff in percent of median, at selected stations in California is shown in figure 1. Runoff ranged from 26 percent of median at Willow Creek near Susanville (station 10358500) to 72 percent of median at Sacramento River at Delta (station 11342000). In figure 2, monthly mean discharge in the 1992 water year is compared with the 1961-90 median, maximum, and minimum monthly mean discharge at four representative gaging stations. In addition, a comparison of monthly precipitation in the 1992 water year and the long-term average is shown in figure 2. Water years 1988-92 rank as about the second driest 5-year period on record. Water year 1992 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 1992 peaks to 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.

A persistent high-pressure ridge off the California coast displaced the usual winter storm path, leaving most of the State deficient in precipitation. Precipitation ranged from 44 percent of average at Alturas to 94 percent of average at Red Bluff. Precipitation in the area covered by this volume (based on six representative rain gages) was 75 percent of the long-term average.

Table 1. Comparison of peak discharge for 1992 water year with those for period of record for selected stations

Station No.	Station name	1992 water year		Period of record	
		Date	Peak discharge (ft ³ /s)	Water year	Peak discharge (ft ³ /s)
10358500	Willow Creek near Susanville	Feb. 20	28	1986	1,210
11342000	Sacramento River at Delta	Feb. 12	8,620	1974	69,800
11382000	Thomes Creek at Paskenta	Mar. 15	3,260	1964	37,800
11413000	North Yuba River below Goodyears Bar	Feb. 20	3,390	1963	40,000

Table 2. Comparison of 7-day and 1-day low flow for 1992 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	
		1992 water year	Base period 1961-90	1992 water year	Base period 1961-90	Water year	Minimum daily (ft ³ /s)
10358500	Willow Creek near Susanville	1.50	3.04	1.4	2.8	1992	1.4
11342000	Sacramento River at Delta	149	117	149	117	1977	117
11382000	Thomes Creek at Paskenta	0	0	0	0	several	0
11413000	North Yuba River below Goodyears Bar	73	60	72	60	1977	60

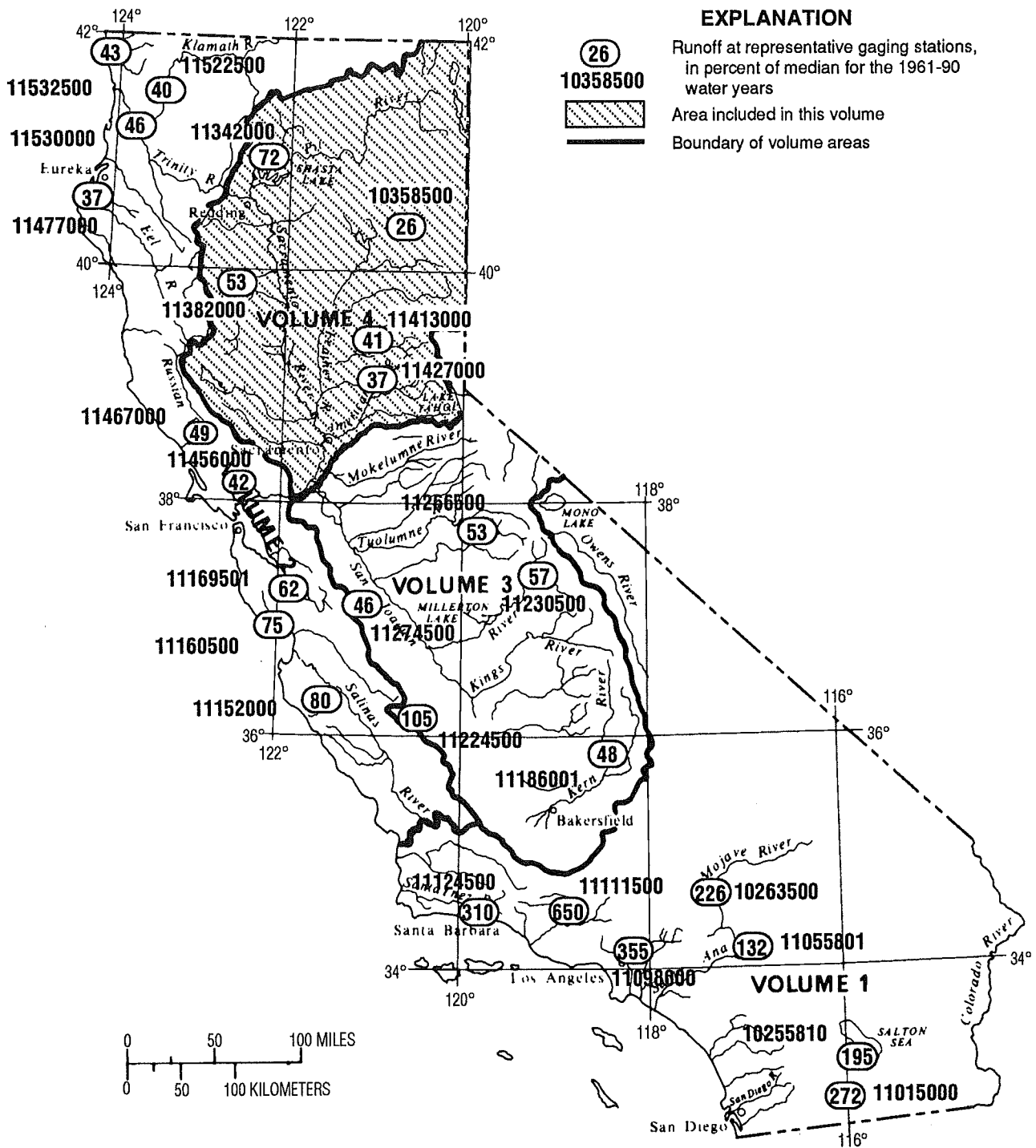


Figure 1. Runoff, in percent of median, for the 1992 water year.

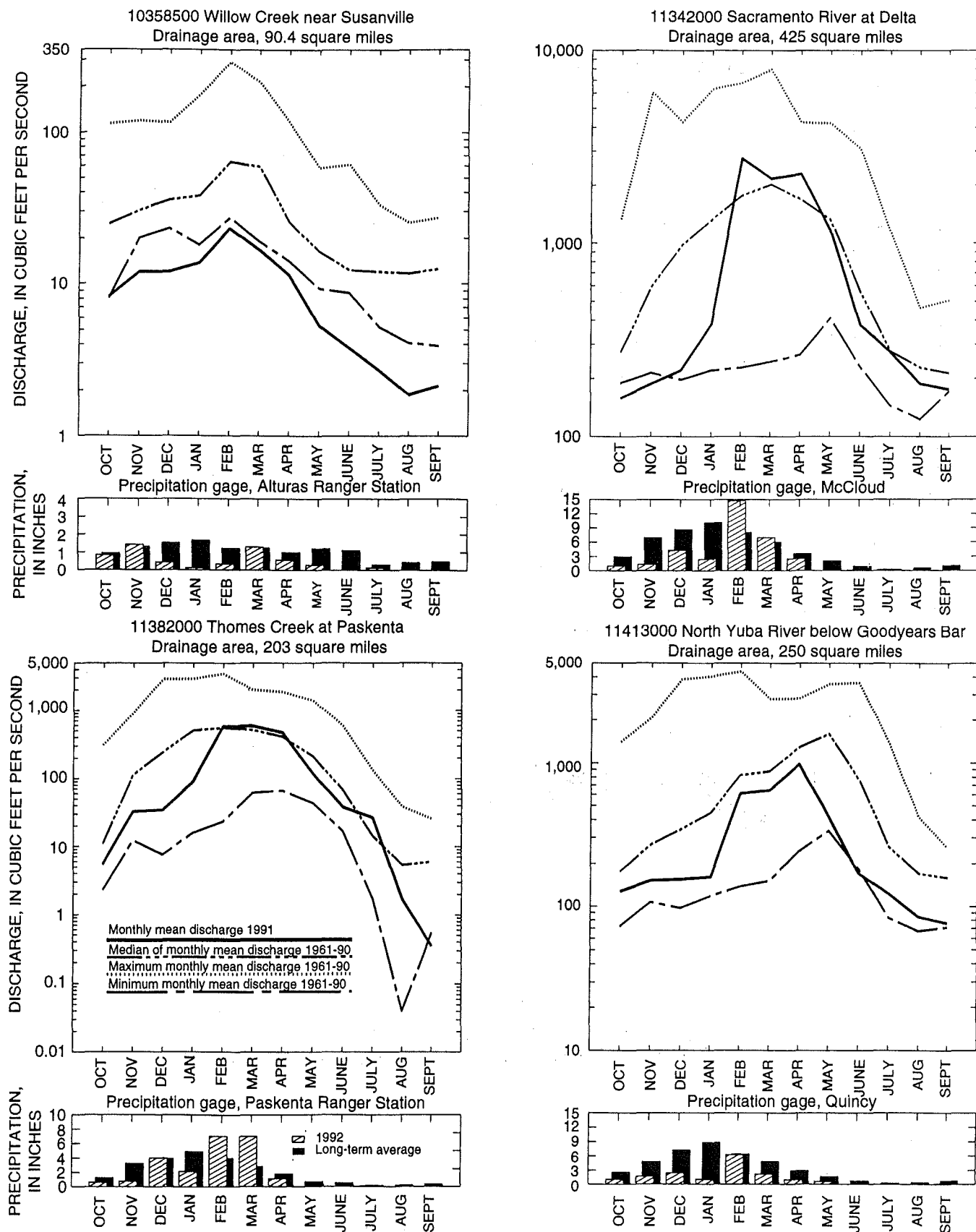


Figure 2. Discharge and precipitation during water year 1992 and long-term average at four representative gaging stations. Precipitation data from National Oceanic and Atmospheric Administration 1992, Climatological Data, annual summary: v. 96.

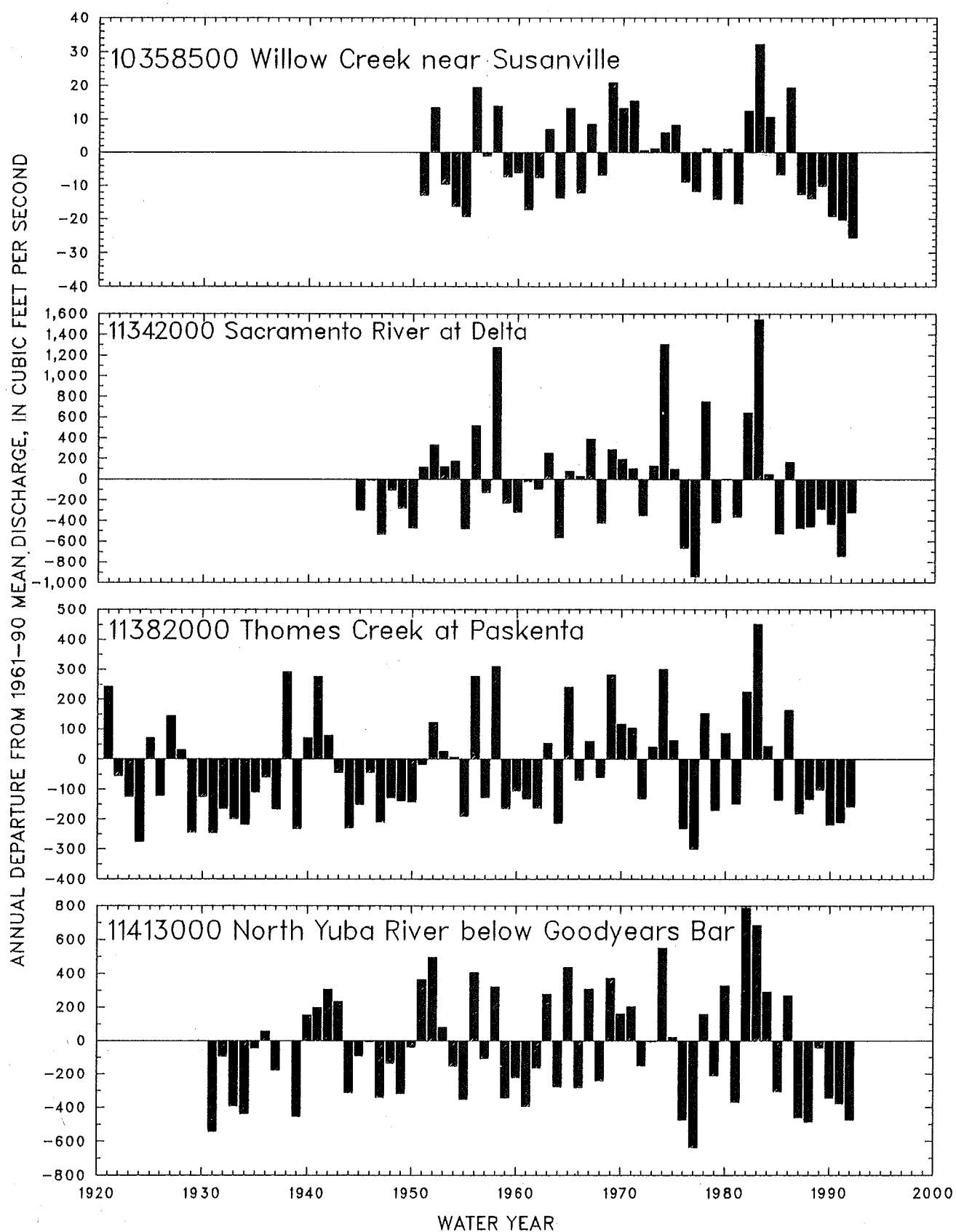


Figure 3. Annual departure from 1961-90 mean discharge for period of record at selected gaging stations.

The water year began with many reservoir levels below average. In anticipation of a sixth consecutive less-than-normal water year, many water agencies limited reservoir releases to maximize storage. Most demands for water were met in 1992, although supply was limited. In the Sierra Nevada foothills, population has increased about 69 percent since 1977 and water use has increased 30 percent. In the Central Valley areas, population has increased 38 percent, but there were no concomitant increases in reservoir storage capacity. Many reservoirs had 50 percent of average or less in storage. By the end of the water year, storage in major reservoirs was about 60 percent of the average. Many small- to moderate-sized reservoirs were less than 50 percent of the historical average. Storage in selected reservoirs for water years 1990-92 is shown in figure 4. Both mandatory and voluntary water-conservation programs were kept in force by those agencies serving metropolitan water districts that rely on water imported from Sierra Nevada reservoirs. The State Water Project cut deliveries to agricultural customers by 50 percent, and the Central Valley Project cut deliveries to most customers by 25 to 50 percent.

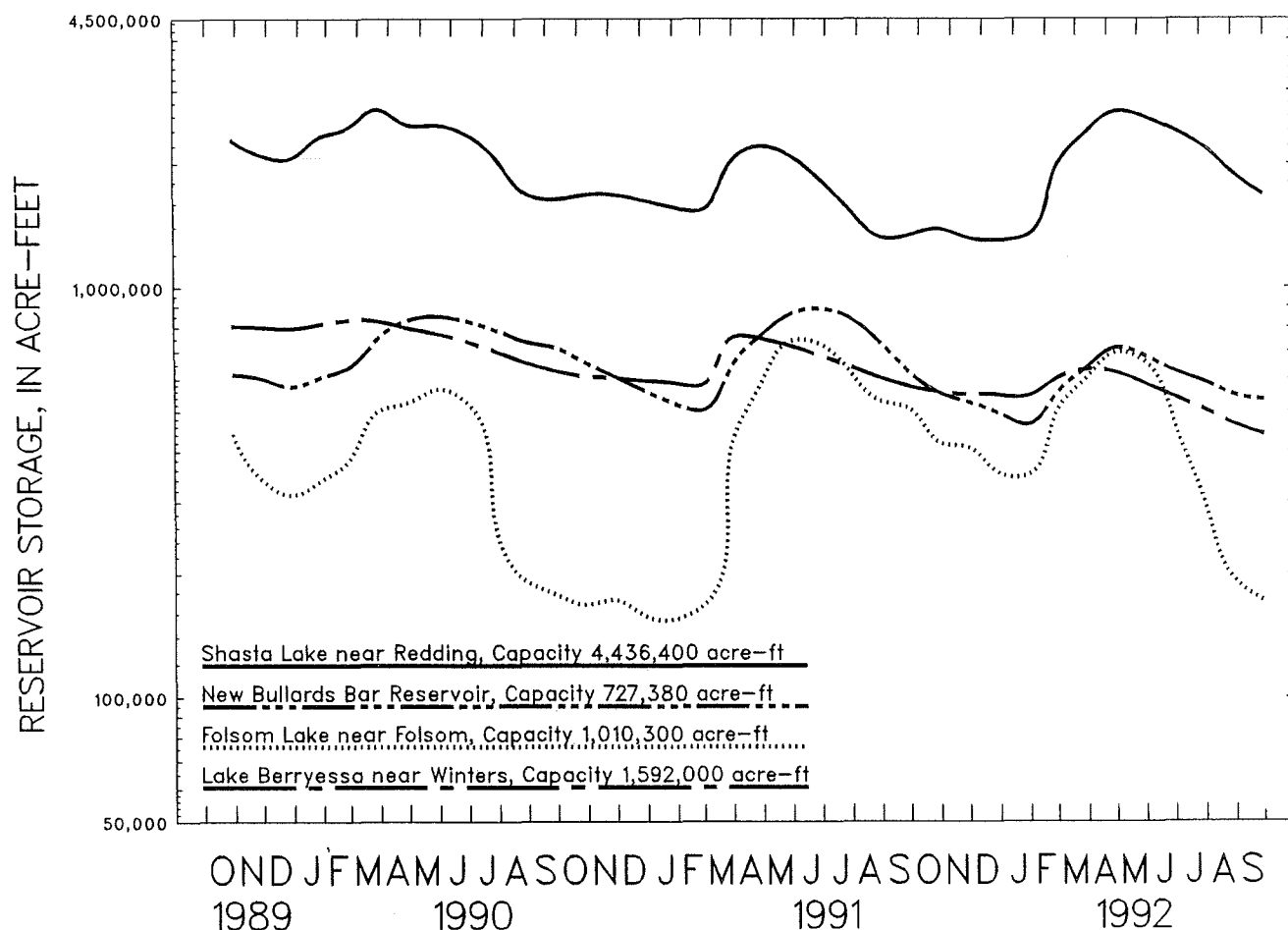


Figure 4. Storage in selected reservoirs, water years 1990-92.

Water Quality

Water samples collected at the three NASQAN stations reported in this volume were analyzed for water-quality constituents. Mean dissolved-solids concentrations increased from the previous year. Figure 5 shows monthly mean dissolved-solids concentrations during water year 1992 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 (410 colonies per 100 milliliters) and fecal-streptococcus bacteria (170 colonies per 100 milliliters) were detected in water samples from Sacramento River at Freeport (station 11447650) and Susan River at Susanville (station 10356500), respectively.

10356500 Susan River at Susanville, CA

11447650 Sacramento River at Freeport, CA

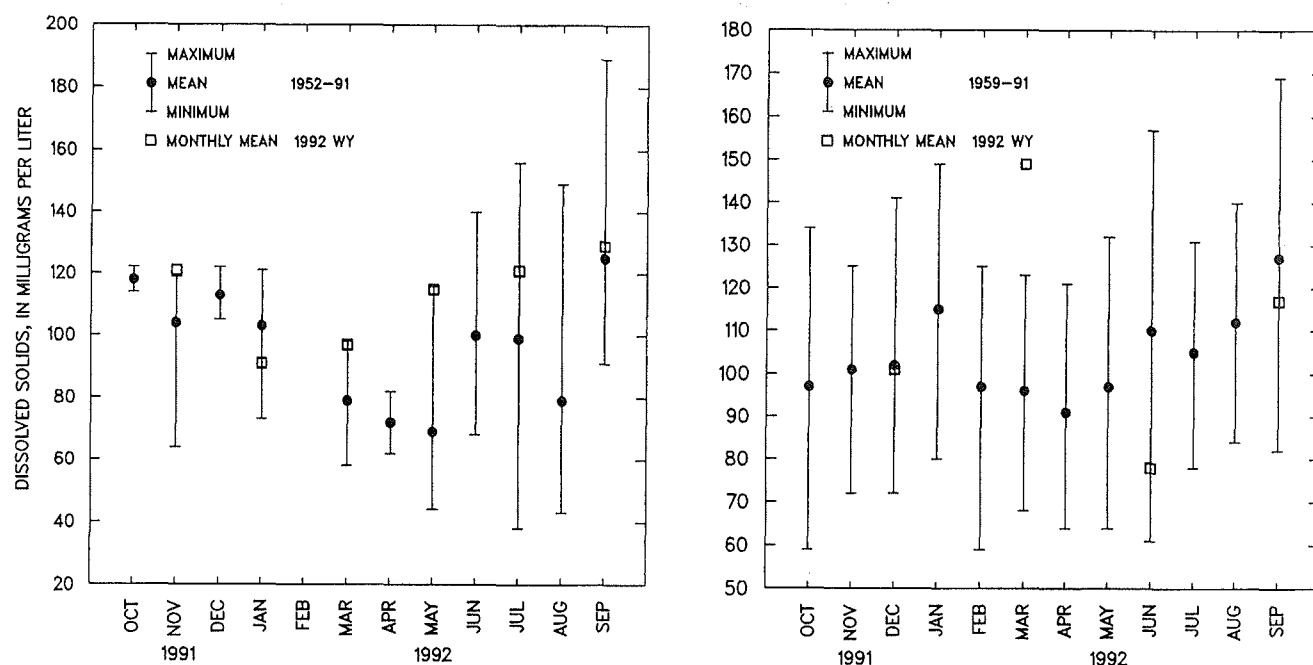


Figure 5. Comparison of monthly mean dissolved-solids concentrations during water year 1992 with long-term dissolved-solids concentrations at two selected stations.

Sediment

Suspended-sediment discharge and concentrations were monitored daily at two stations and periodically at two stations 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.

Sediment discharge was significantly below average during the 1992 water year, as indicated by comparison with the 1968-91 mean sediment discharge at the two long-term daily stations. Annual sediment discharge was 9 percent of the mean for the Feather River near Gridley (station 11407150) and 38 percent for the Sacramento River at Freeport (station 11447650).

Annual sediment discharge at the two daily stations ranged from 8,030 tons for the Feather River near Gridley to 747,000 tons for the Sacramento River at Freeport.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 56 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 drainage basins 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 408 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 data base useful for water-quality assessment and hydrologic research.

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1992 water year that began October 1, 1991, and ended September 30, 1992. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and contents data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

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

Downstream Order System

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

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station such as 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, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description (fig. 6).

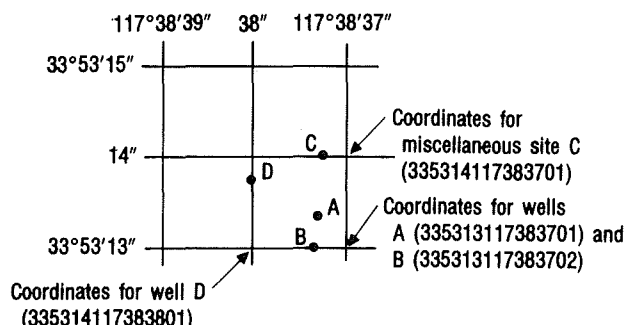


Figure 6. System for numbering miscellaneous sites (latitude and longitude).

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 7 through 27.

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 relationships 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 relationship 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.

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.

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 National Geodetic Vertical Datum of 1929 (see Definition of Terms), 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 by 10 percent of the flow for the designated period.

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

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

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

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

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

Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 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 7 through 27.

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 (1992) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter (ng/L). If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter ($\mu\text{g/L}$) and could reflect contamination introduced during some phase of the procedure.

Water Temperature

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

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

Sediment

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

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

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.

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 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. 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 will be available for purchase from U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, 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.

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 \pm 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 \pm 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 \pm 0.5°C on KF streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

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

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

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³) and periphyton and benthic organisms in grams per square meter (g/m²).

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

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

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

Bottom material: See Bed material.

Cell volume determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell numbers of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (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:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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

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

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

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

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

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

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

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

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

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

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).

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:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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 emerged or submersed solid surface, such as a rock or tree, upon which an organism lives.

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

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

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

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

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

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

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

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

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

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, 1992, is called the "1992 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, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, CO 80225. 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. Scott 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. Scott 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 Warren 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, N. 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. 27 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 Richard L. Cooley and Richard L. Naff: USGS--TWRI: Book 3, Chapter B4. 1990. 232 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 Eliezer 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, edited by L.J. Britton and P.E. Greenson: 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. [variously paged]
- 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.
- 7-C1. Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

- 7-C2. Computer model of two-dimensional solute transport and dispersion in ground water, by L.F. Konikow and J.D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. A model for simulation of flow in singular and interconnected channels by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. Methods of measuring water levels in deep wells, by M.S. Garber and F.C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. Installation and service manual for U.S. Geological Survey manometers, by J.D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. Calibration and maintenance of vertical-axis type current meters, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

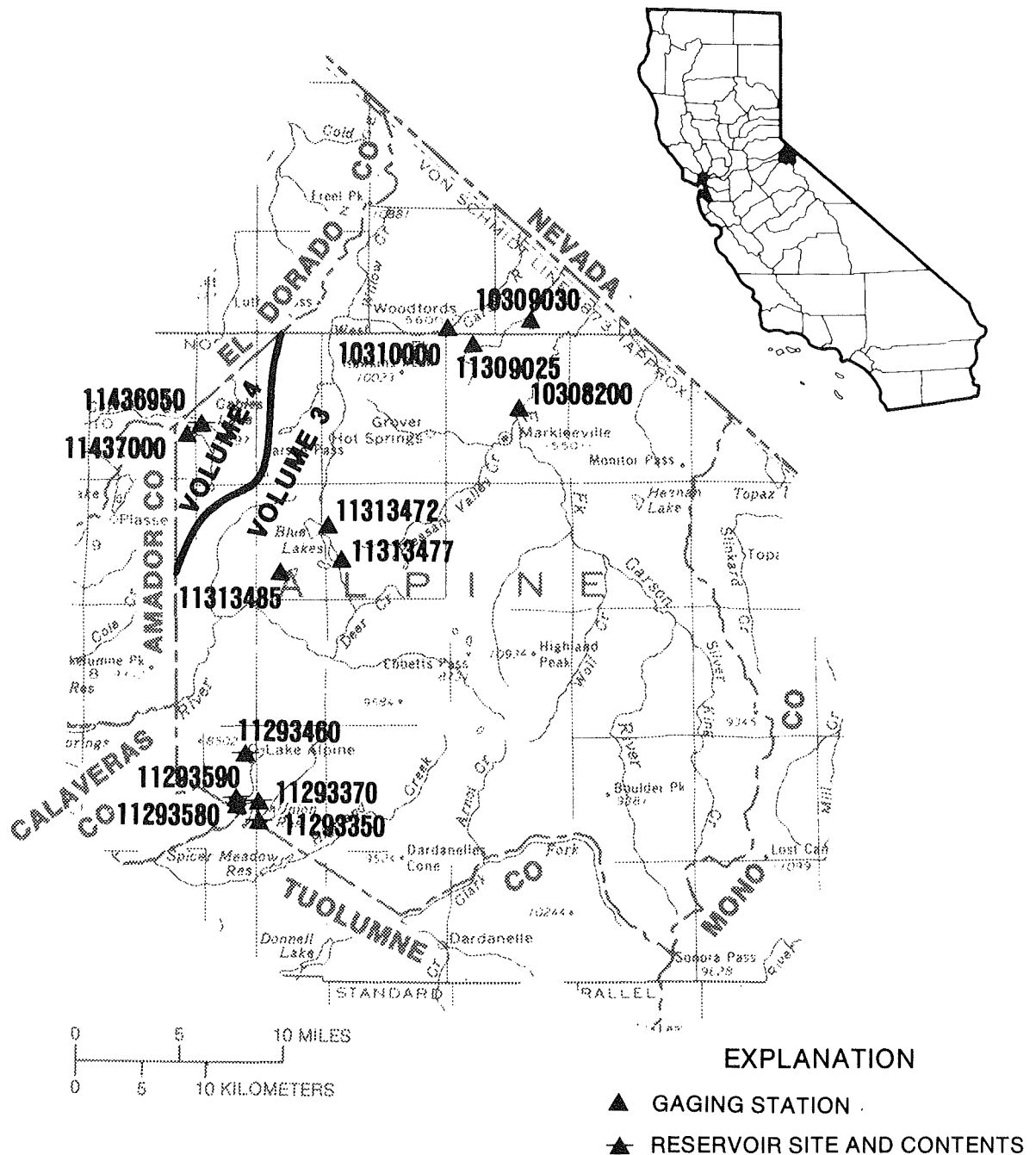


Figure 7. Location of discharge stations in Alpine County.
 (NOTE: Records for stations 10308200 through 10310000 and
 11293350 through 11313485 published in volume 3.)

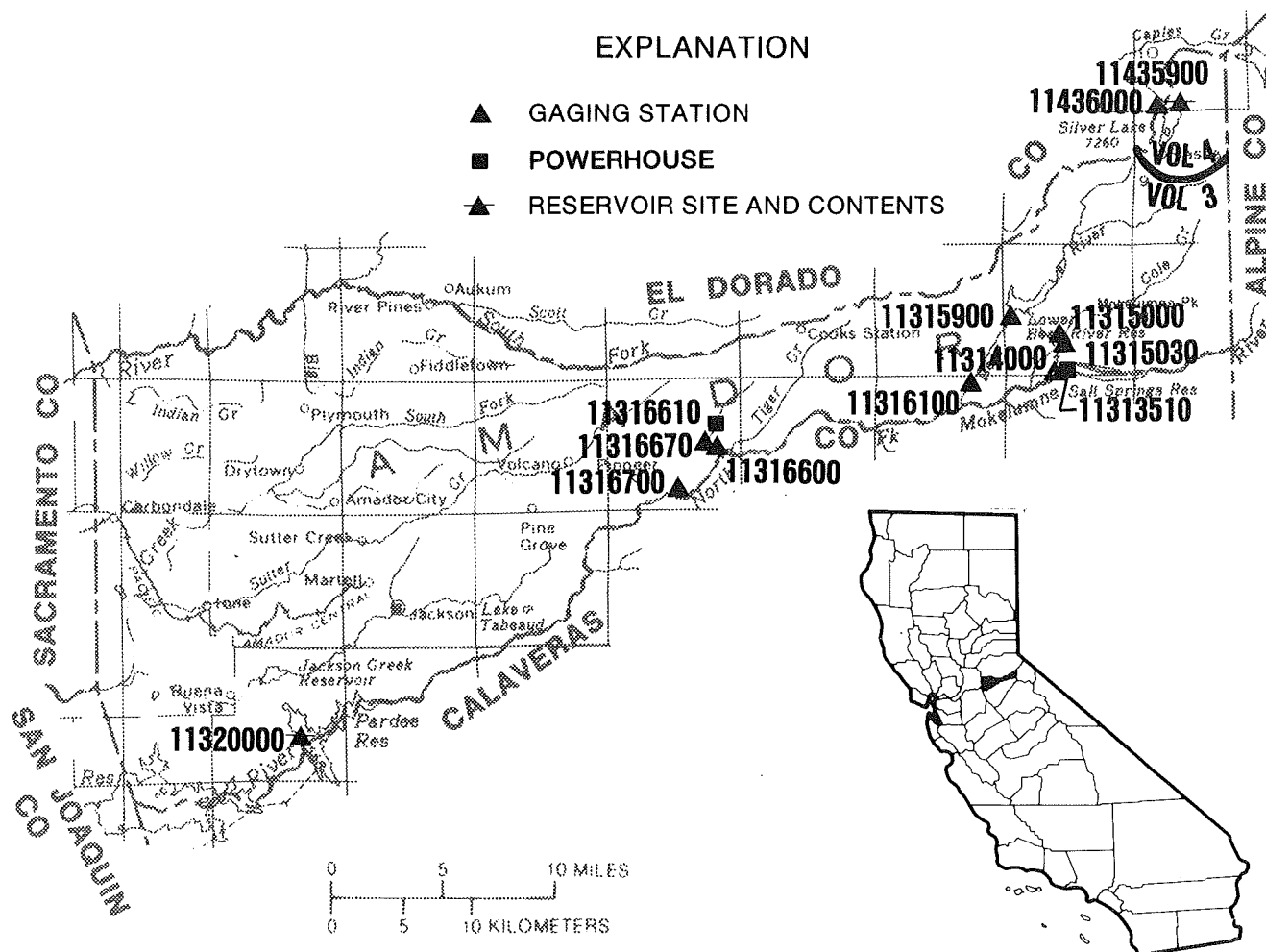


Figure 8. Location of discharge stations in Amador County.
 (NOTE: Records for stations 11313510 through 11320000
 published in volume 3.)

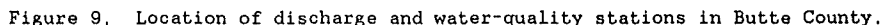


Figure 9. Location of discharge and water-quality stations in Butte County.

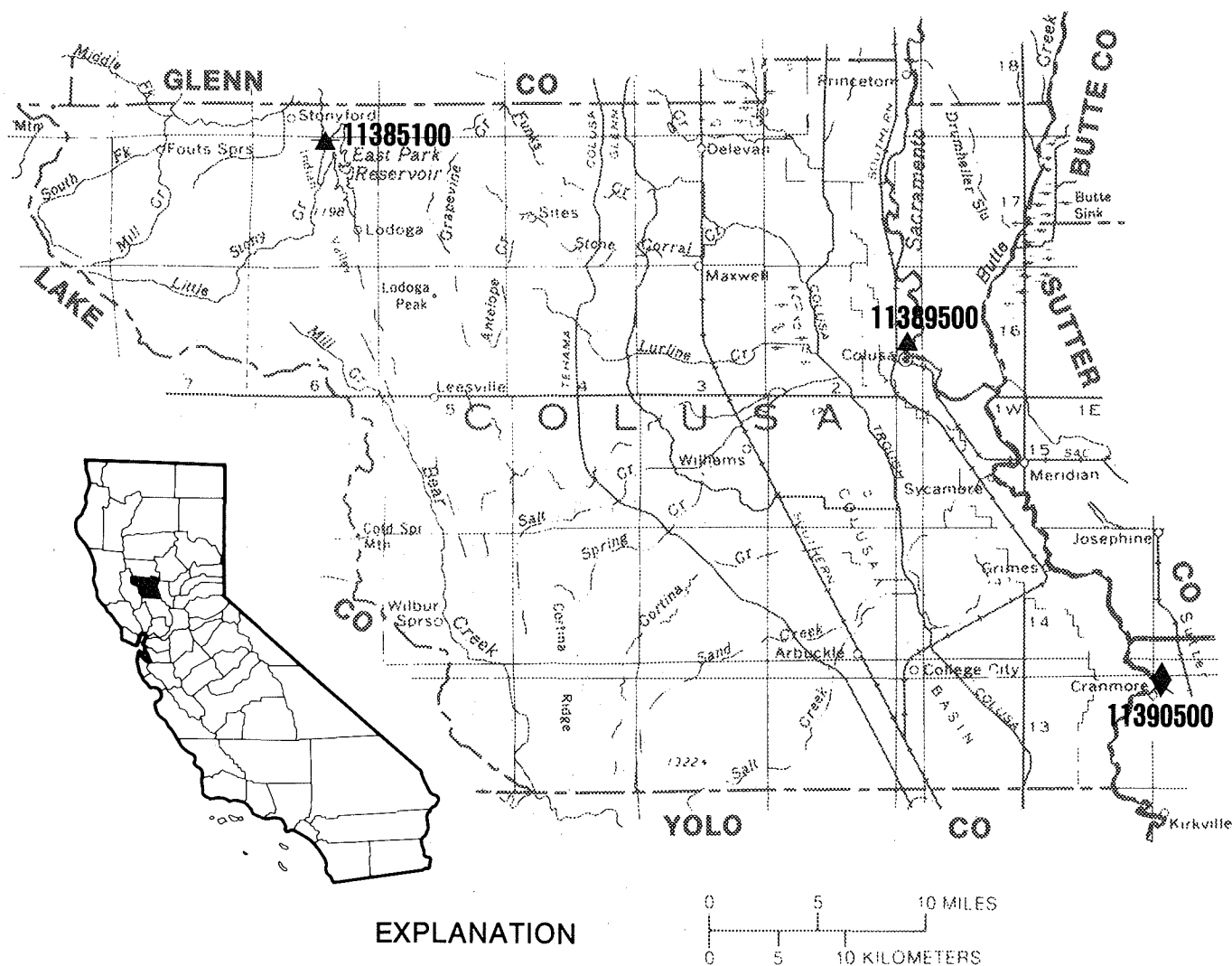


Figure 10. Location of discharge and water-quality stations in Colusa County.

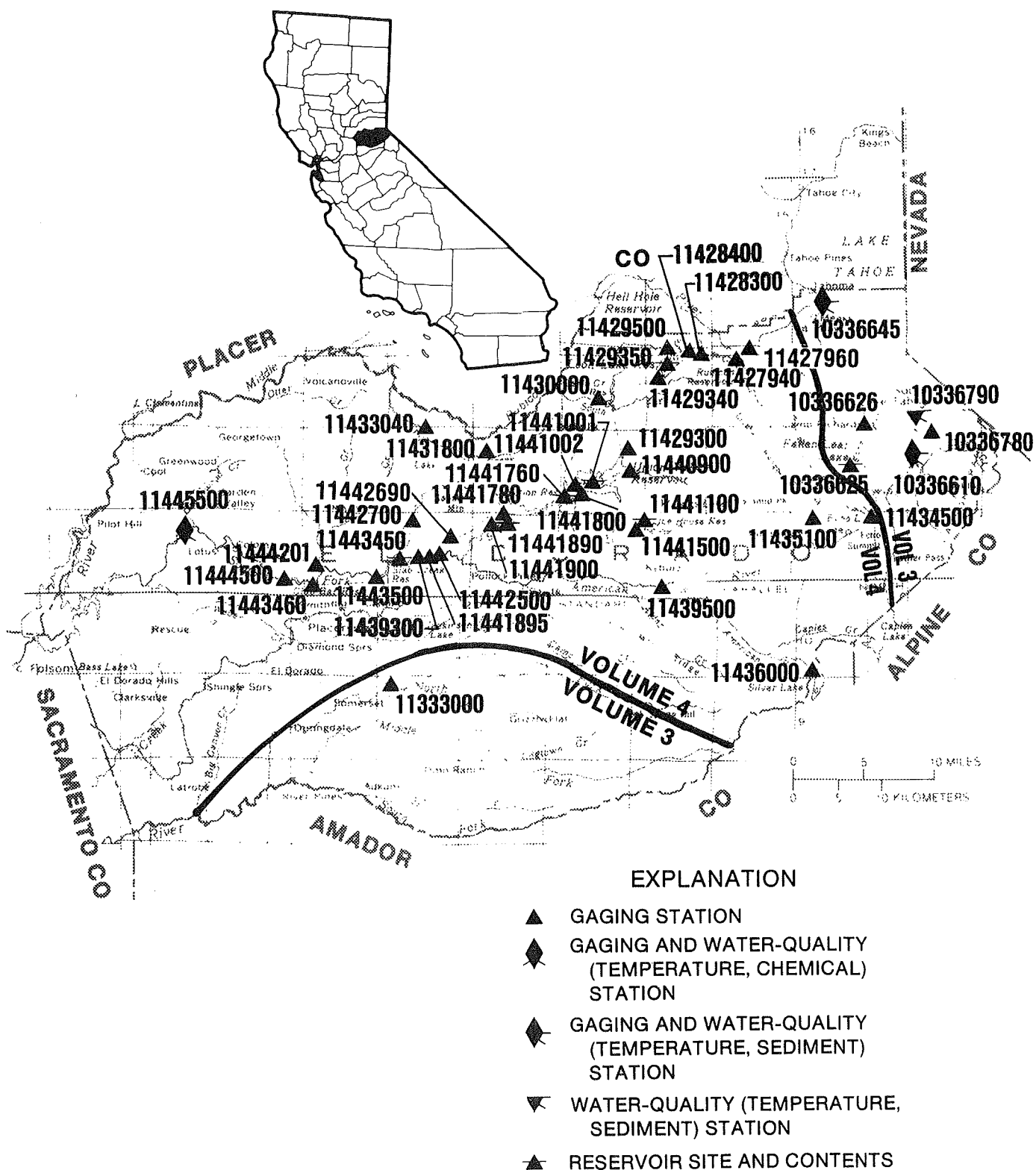
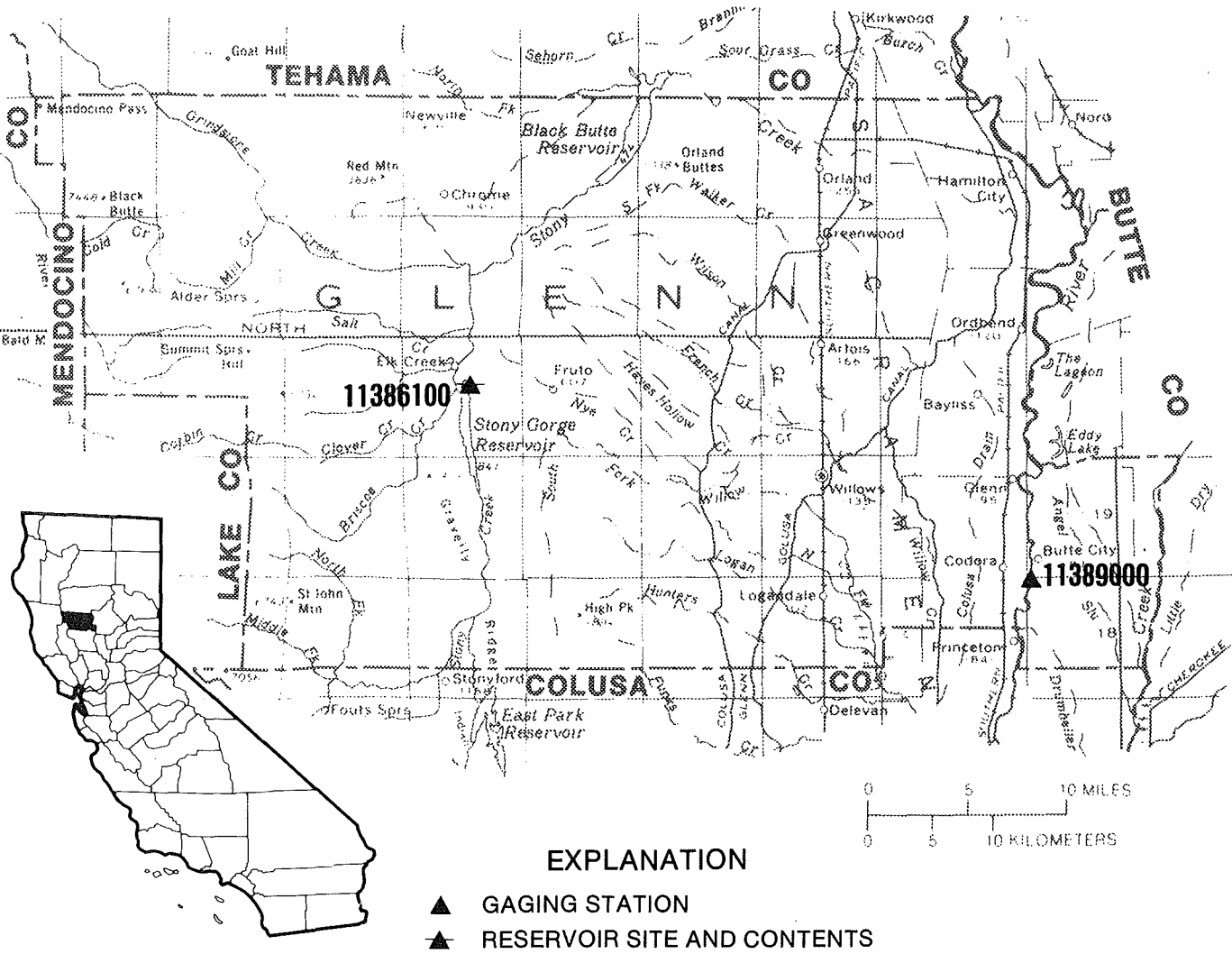


Figure 11. Location of discharge and water-quality stations in El Dorado County.
 (NOTE: Records for stations 10336610 through 10336790 and 11333000 published in volume 3.)



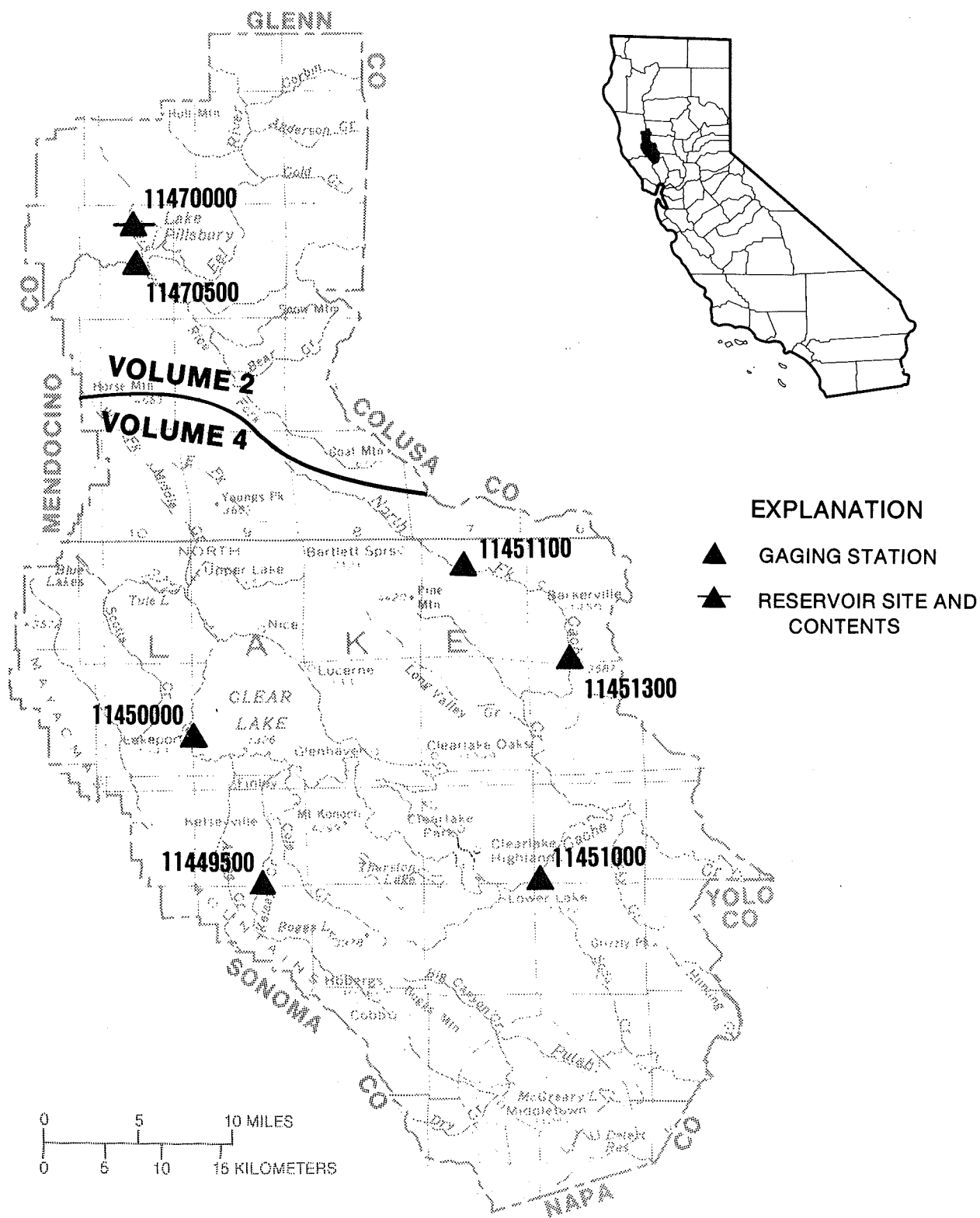


Figure 13. Location of discharge stations in Lake County.
(NOTE: Records for stations 11470000 and 11470500 published in volume 2.)

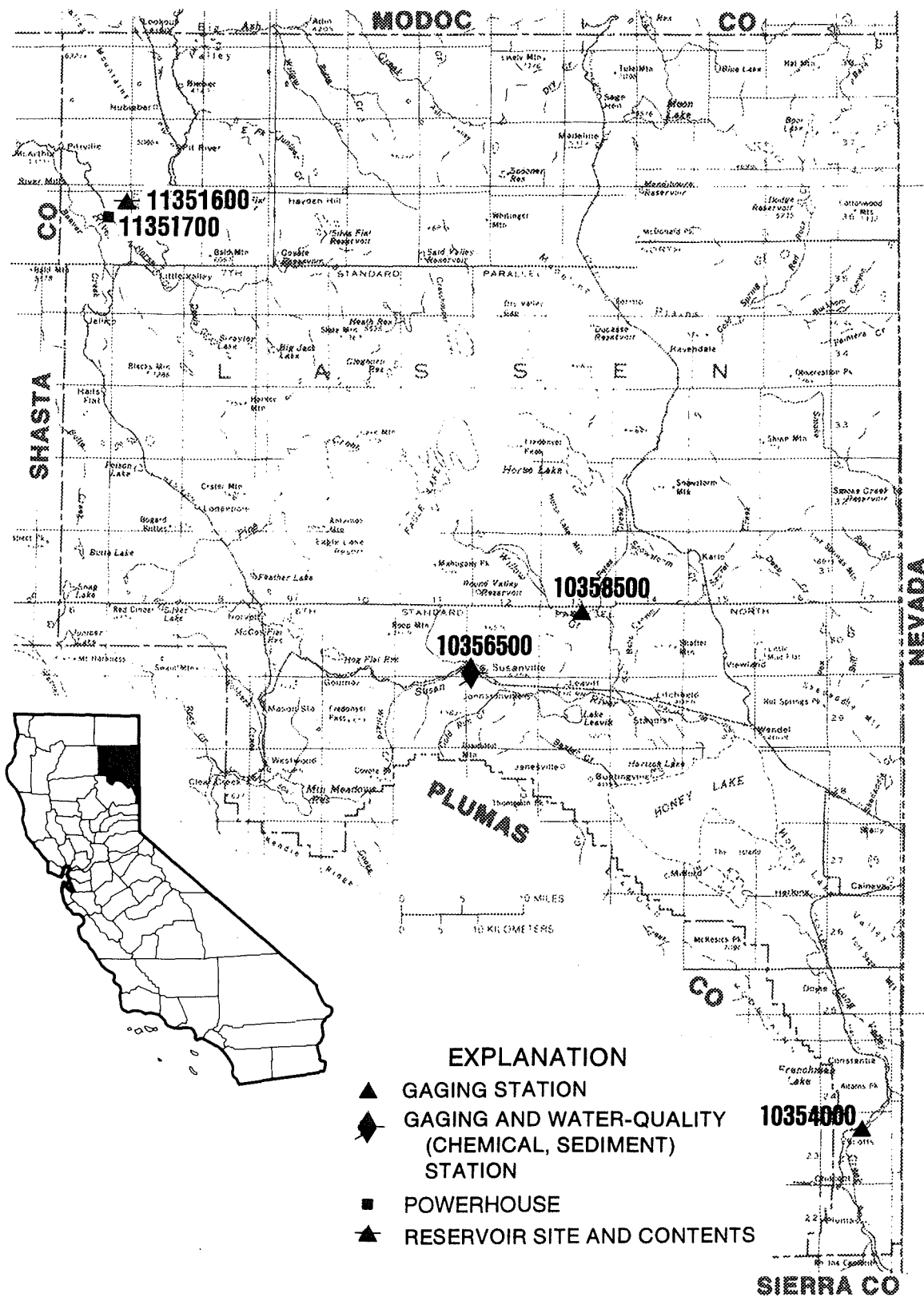


Figure 14. Location of discharge and water-quality stations in Lassen County.

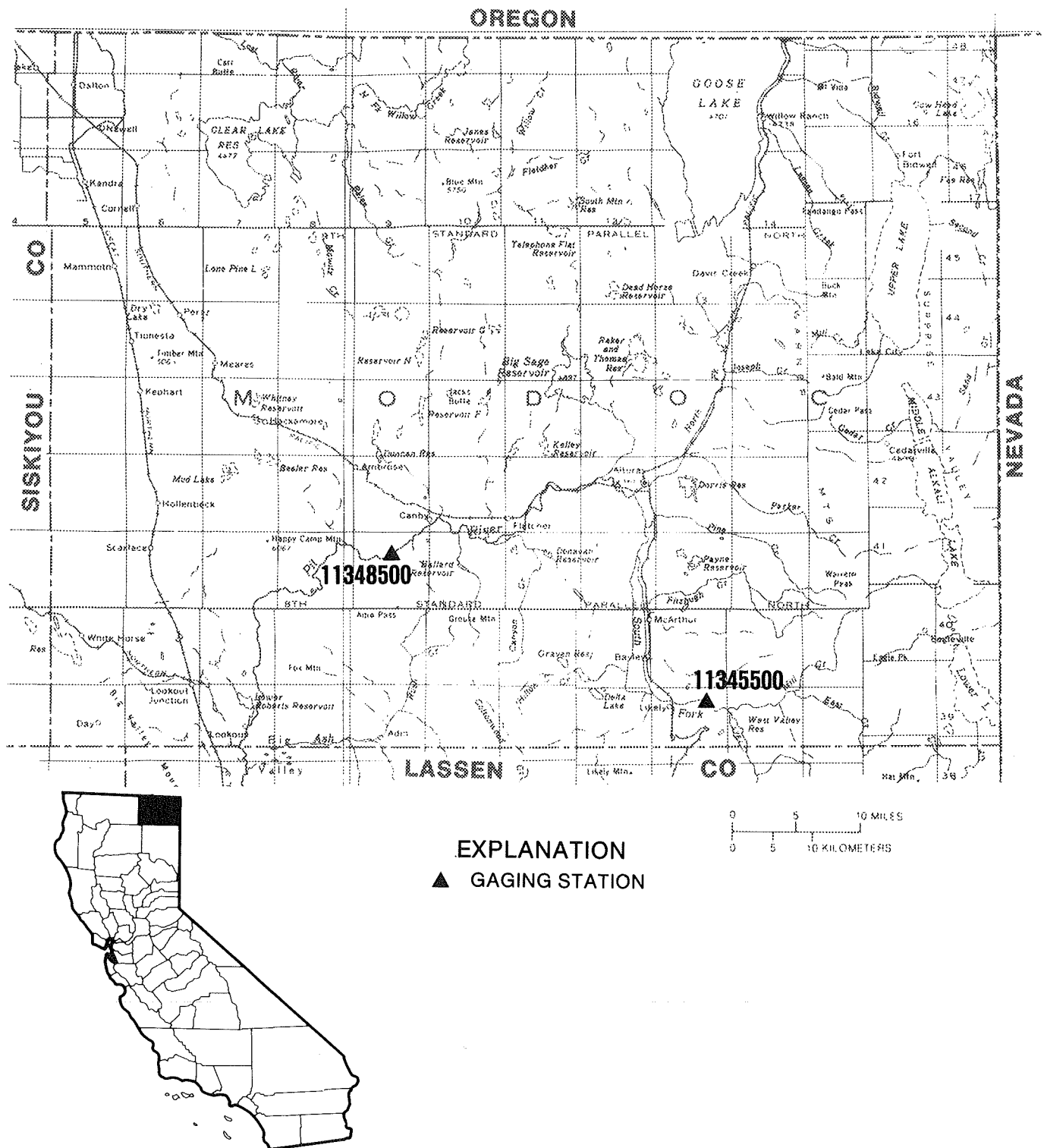


Figure 15. Location of discharge stations in Modoc County.

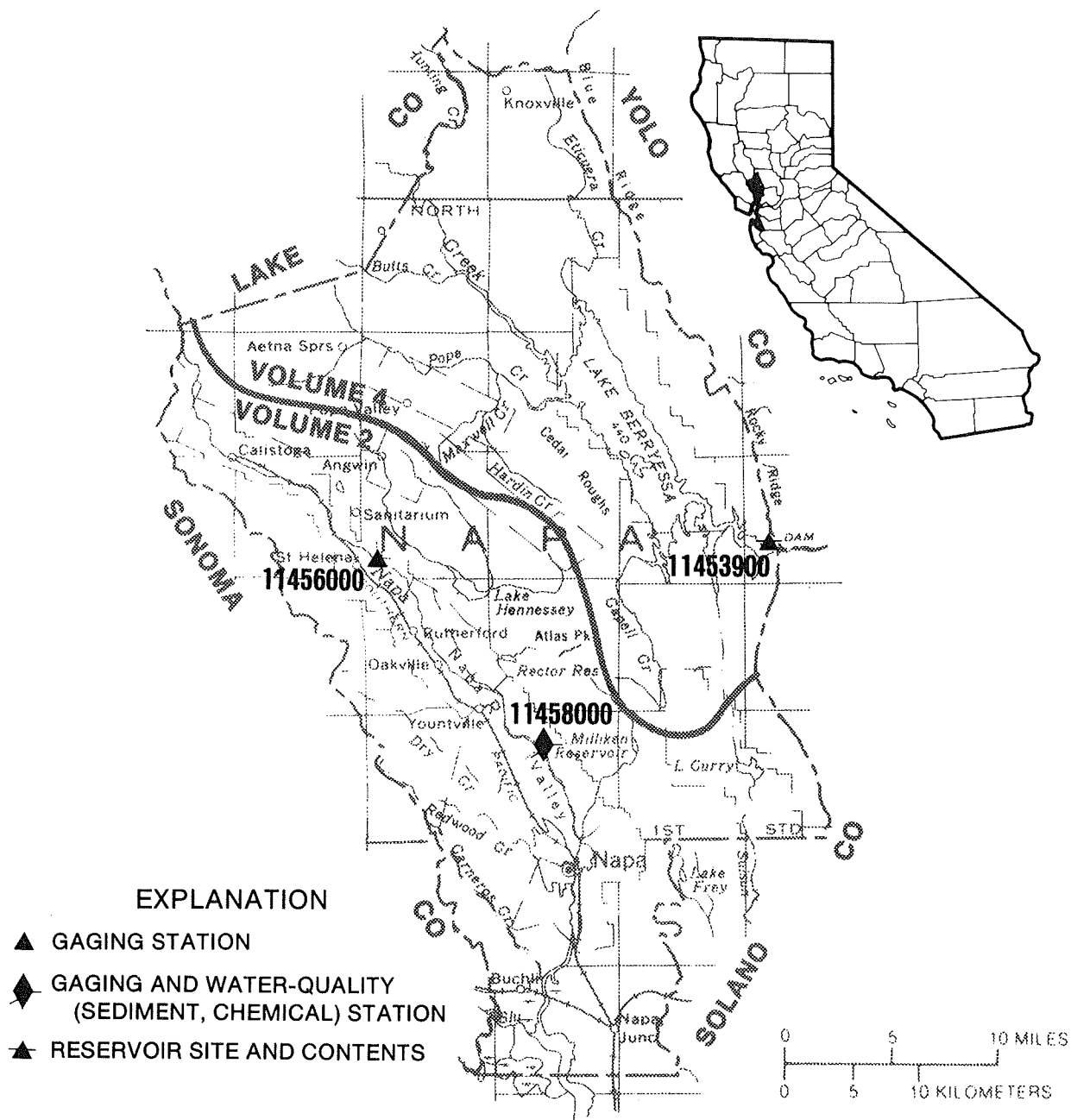


Figure 16. Location of discharge and water-quality stations in Napa County.
(NOTE: Records for stations 11456000 and 11458000 published in volume 2.)

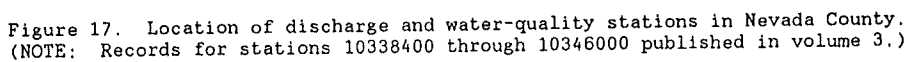


Figure 17. Location of discharge and water-quality stations in Nevada County.
(NOTE: Records for stations 10338400 through 10346000 published in volume 3.)

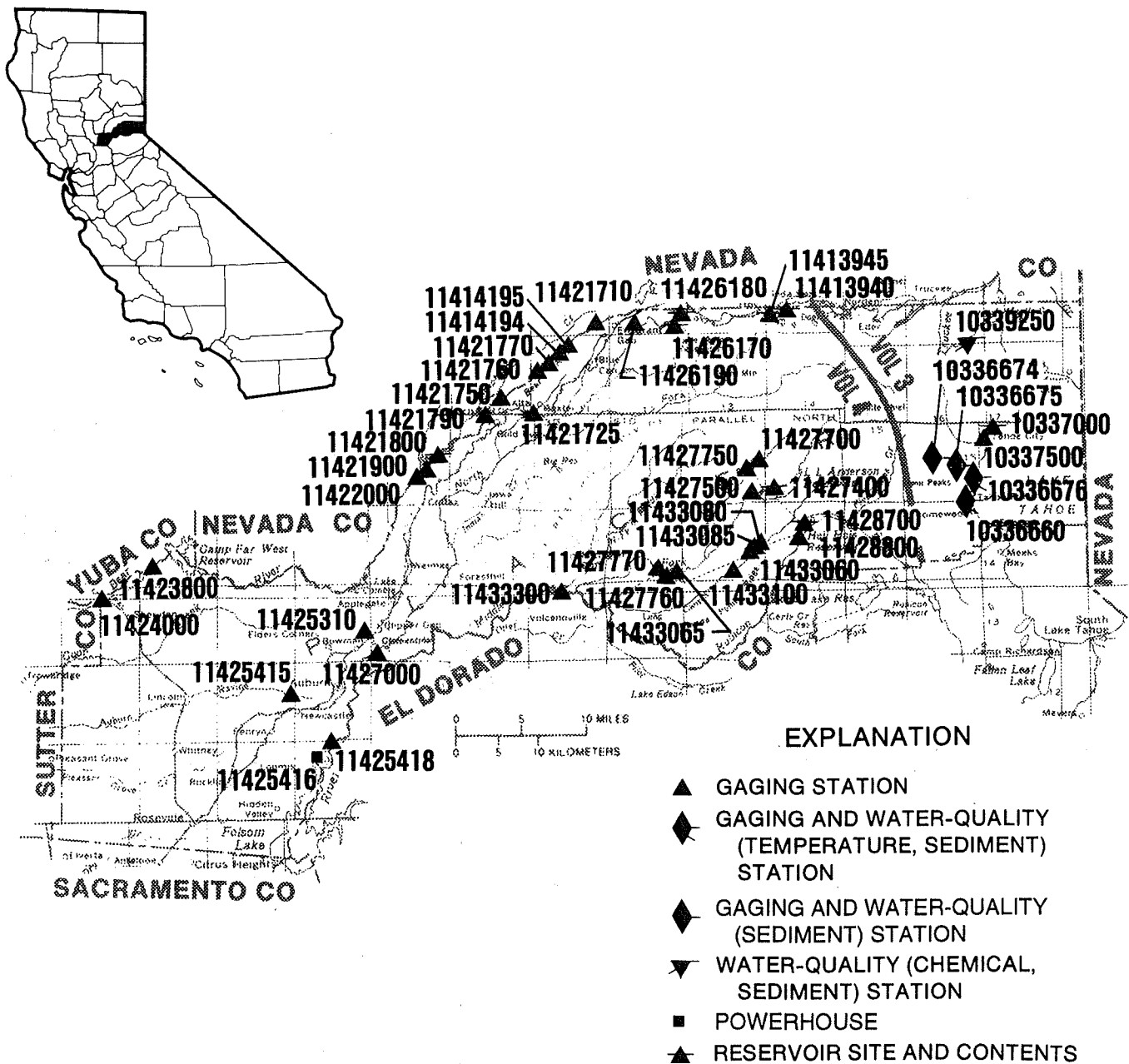
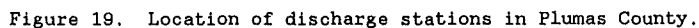


Figure 18. Location of discharge and water-quality stations in Placer County.
 (NOTE: Records for stations 10336660 through 10339250 published in volume 3.)



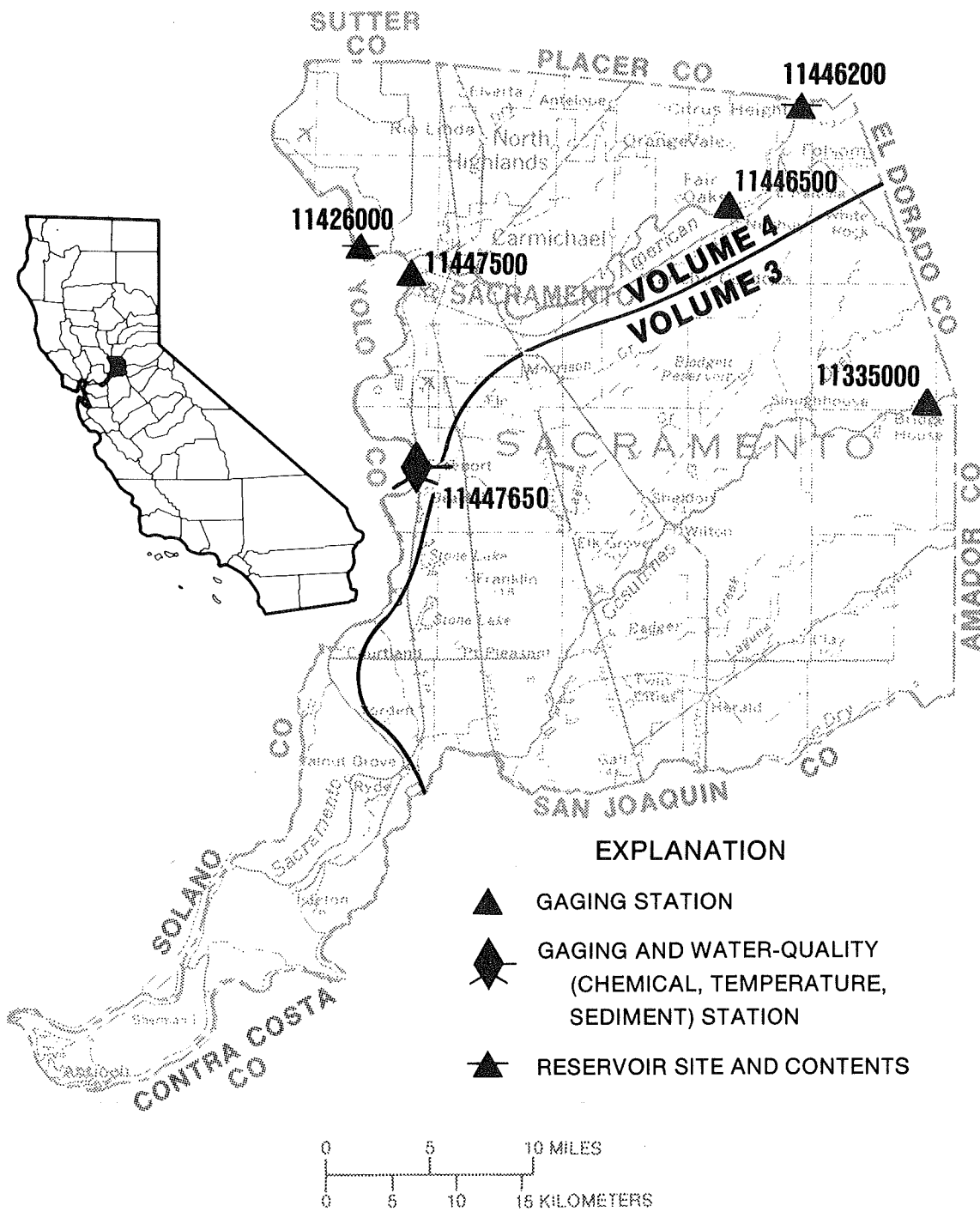


Figure 20. Location of discharge and water-quality stations in Sacramento County.
(NOTE: Record for station 11335000 published in volume 3.)

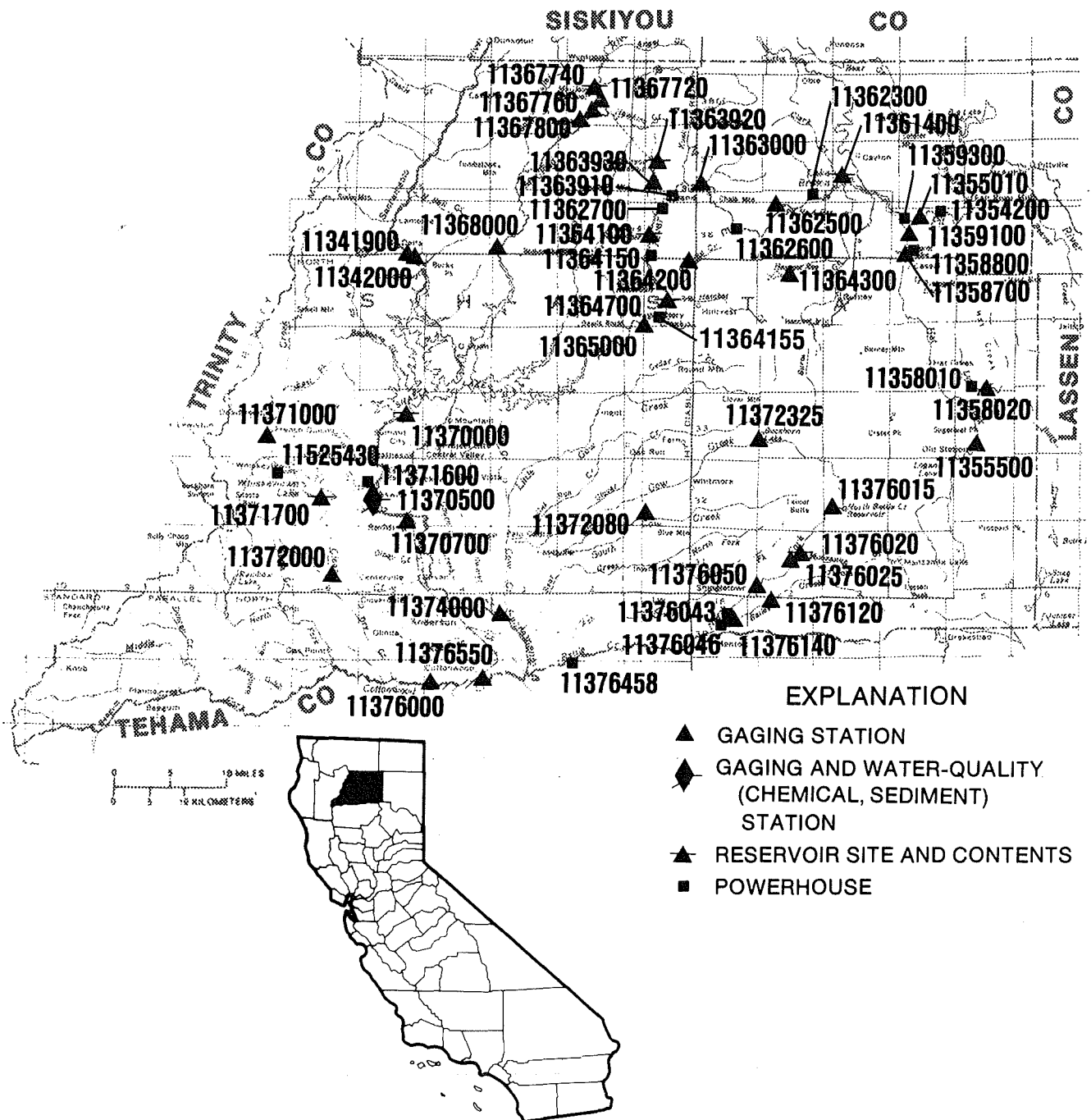


Figure 21. Location of discharge and water-quality stations in Shasta County.

EXPLANATION

▲ GAGING STATION

▲ RESERVOIR SITE AND CONTENTS

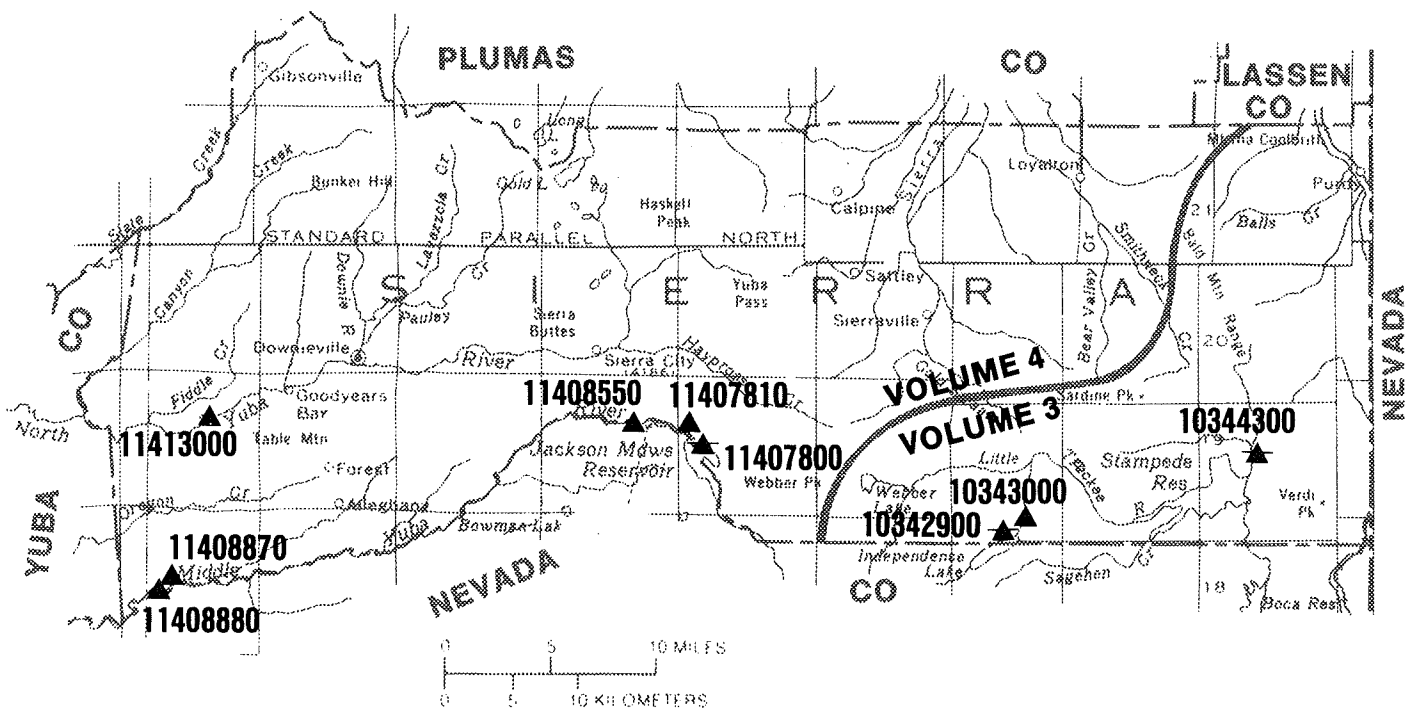


Figure 22. Location of discharge stations in Sierra County.
 (NOTE: Records for stations 10342900, 10343000, and
 10344300 published in volume 3.)

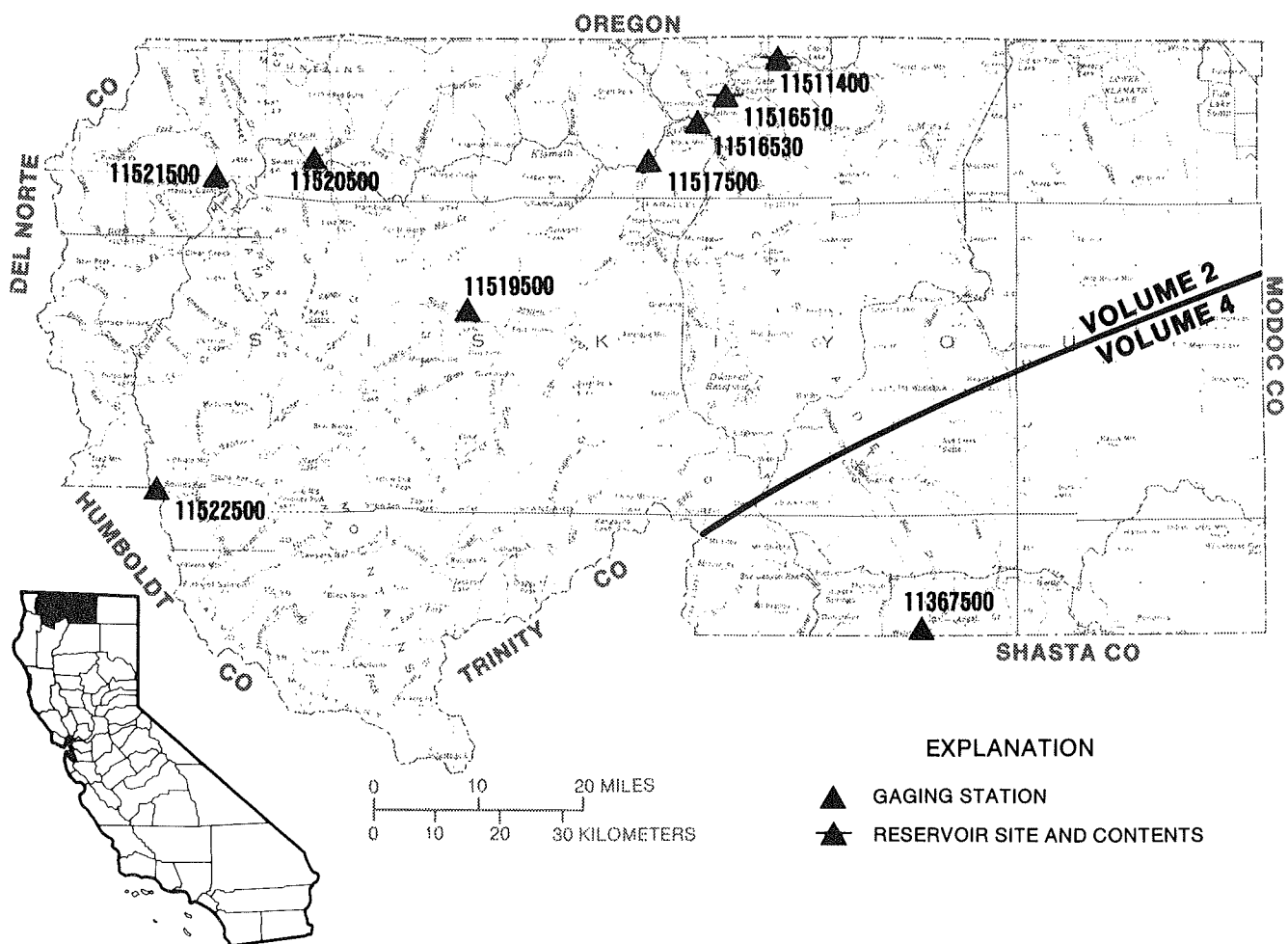


Figure 23. Location of discharge stations in Siskiyou County.
(NOTE: Records for stations 11511400 through 11522500
published in volume 2.)

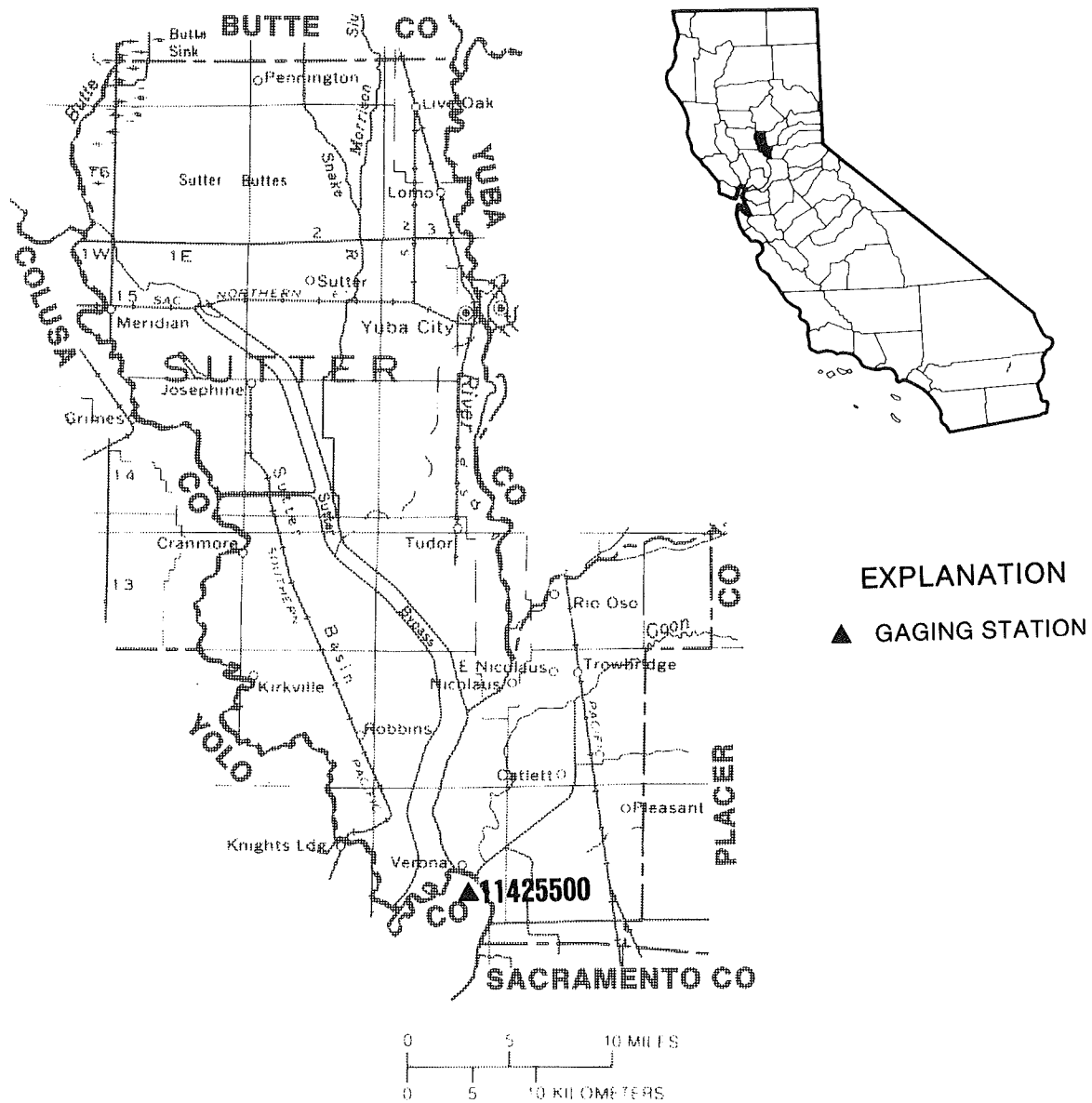


Figure 24. Location of discharge station in Sutter County.

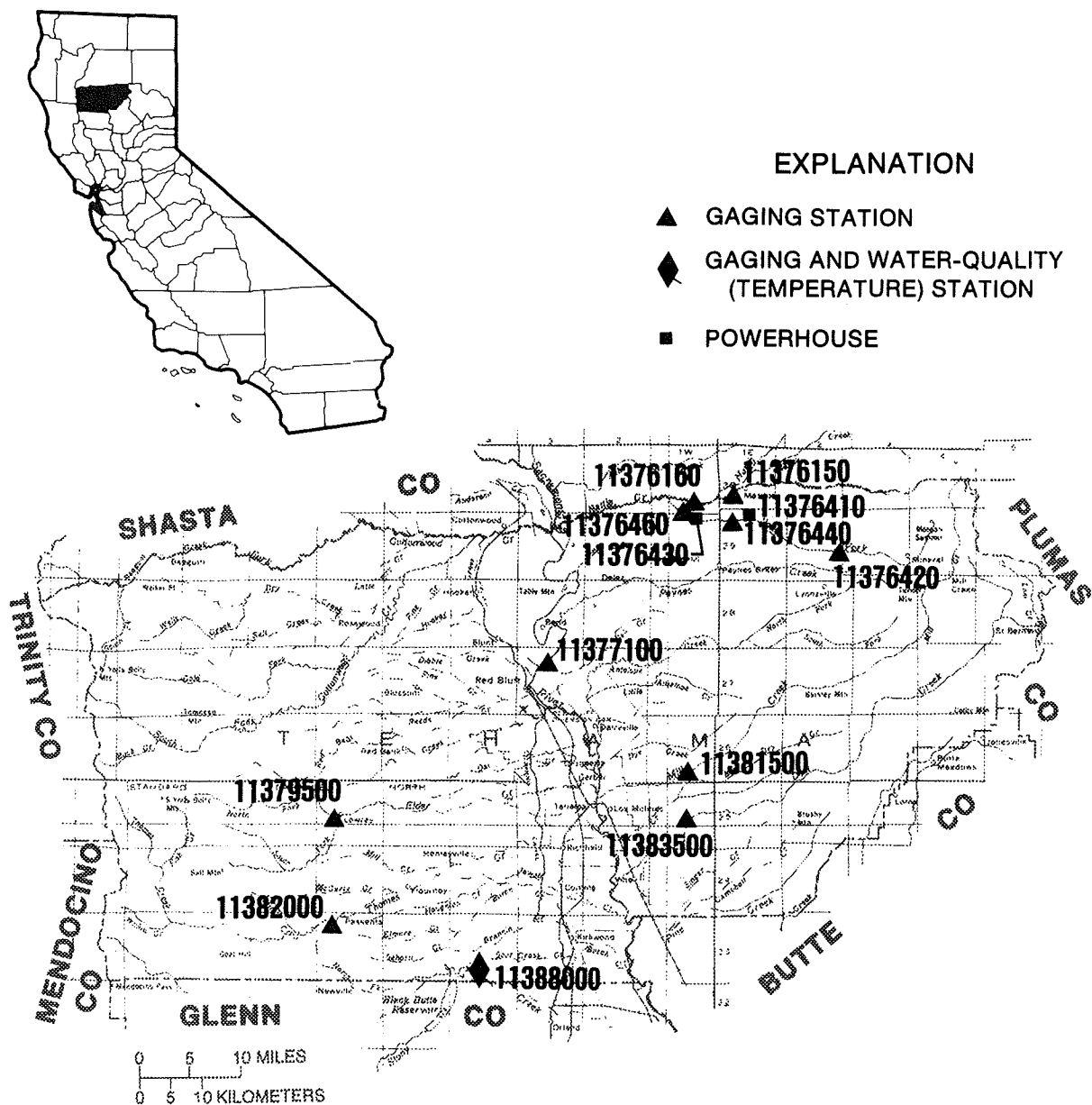


Figure 25. Location of discharge and water-quality stations in Tehama County.

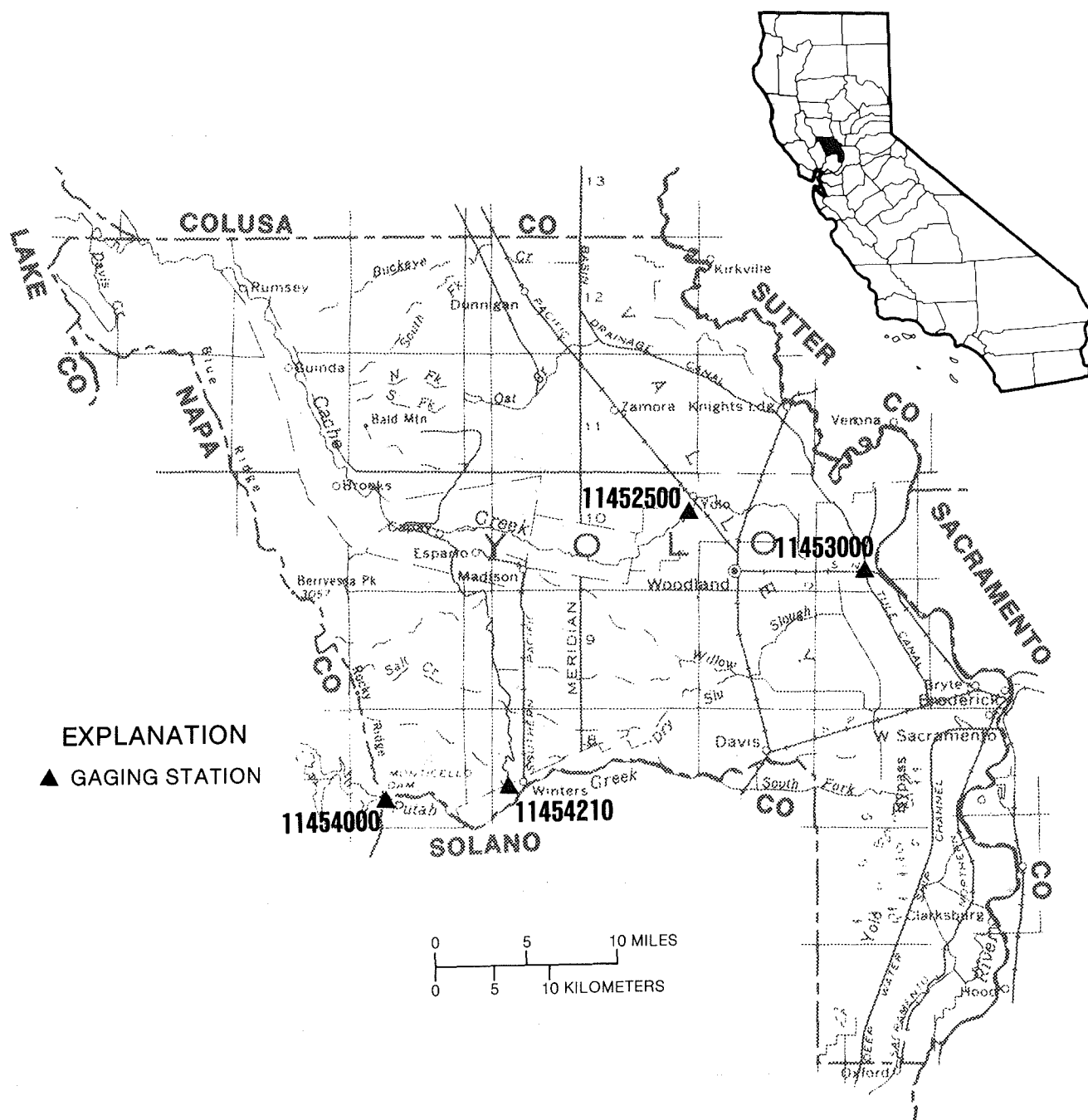


Figure 26. Location of discharge stations in Yolo County.

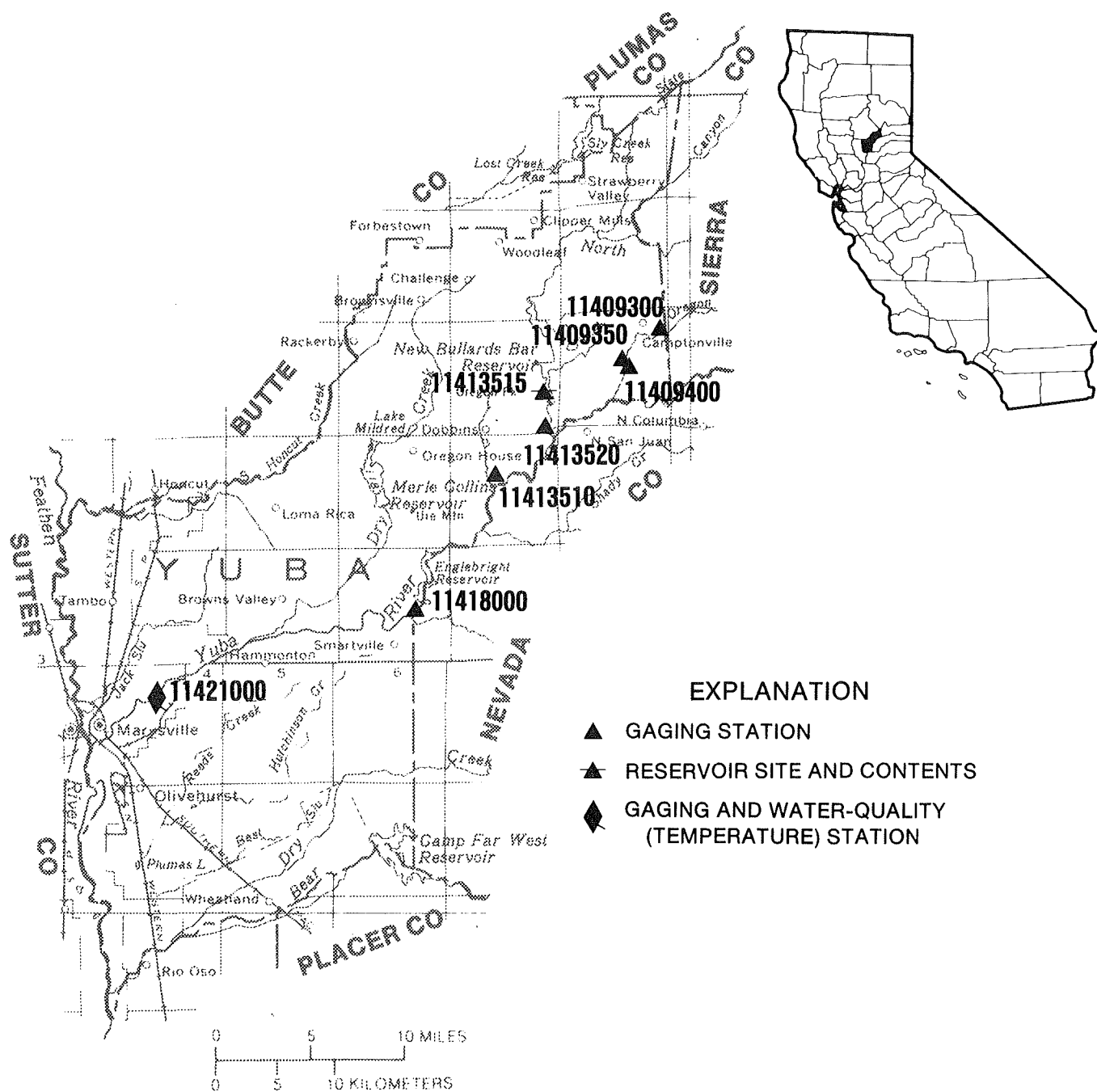


Figure 27. Location of discharge and water-quality stations in Yuba County.

GAGING STATION AND WATER-QUALITY RECORDS

Remark Codes

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

PRINTED OUTPUTREMARK

e	Estimated value
>	Actual value is 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

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 mi².

PERIOD OF RECORD.--December 1988 to current year. Some daily record and miscellaneous measurements furnished by the Long Valley Irrigation Company, 1917-19. Water year 1988, monthly measurements only, in files of U.S. Geological Survey.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 4,620 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation or large diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 336 ft³/s, revised, Mar. 8, 1989, gage height, 9.41 ft, from rating curve extended above 80 ft³/s on basis of step-backwater computation; minimum daily, 0.15 ft³/s, Sept. 5, 17, 1992.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	0900	4.6	*7.50	Feb. 19	0815	*5.8	7.38

Minimum daily, 0.15 ft³/s, Sept. 5, 17.

REVISIONS.--The maximum discharge for the 1989 water year has been revised as shown above, superseding the figure published in WDR CA-89-4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.41	.74	1.9	1.5	2.0	1.6	1.2	.28	.32	.22	.29
2	.31	.41	.73	1.7	1.4	1.7	1.5	1.2	.32	.31	.22	.25
3	.30	.42	.78	1.8	1.4	1.7	1.5	2.2	.30	.31	.24	.23
4	.32	.40	.77	1.8	1.5	1.7	1.3	1.3	.26	.30	.26	.18
5	.31	.40	.88	2.2	1.5	1.9	1.3	1.1	.29	.32	.25	.15
6	.32	.41	1.1	2.4	1.6	3.2	1.3	.86	.31	.33	.24	.22
7	.34	.30	2.8	2.2	2.0	3.3	1.2	.67	.28	.33	.24	.26
8	.37	.29	2.4	2.0	2.1	3.1	1.2	.62	.29	.33	.19	.25
9	.36	.25	1.6	1.7	2.1	2.7	1.3	.53	.30	.34	.20	.19
10	.34	.25	1.3	1.5	1.9	2.3	1.2	.52	.28	.36	.20	.29
11	.31	.27	1.3	1.5	1.8	2.5	1.2	.48	.29	.36	.20	.28
12	.31	.27	1.4	1.3	2.1	2.4	2.0	.46	.30	.34	.23	.27
13	.31	.51	1.2	1.3	2.4	2.6	2.6	.78	.33	.31	.21	.26
14	.32	.85	1.4	1.5	2.1	2.4	2.0	.83	.32	.33	.21	.27
15	.32	.98	1.4	1.6	2.8	2.4	1.7	.72	.30	.30	.35	.23
16	.33	.96	1.5	1.7	2.7	2.2	1.6	.66	.30	.30	.22	.16
17	.34	1.6	1.6	1.7	2.6	2.1	1.7	.65	.30	.26	.44	.15
18	.34	3.4	2.1	1.8	2.8	1.9	1.5	.59	.31	.29	.29	.16
19	.36	1.4	2.3	1.5	4.0	1.7	1.4	.54	.31	.28	.32	.22
20	.37	.73	1.7	1.5	4.5	1.7	1.3	.51	.31	.25	.31	.26
21	.36	.59	1.5	1.6	3.2	1.9	1.3	.61	.31	.27	.28	.26
22	.36	.44	1.6	1.5	2.9	2.5	1.2	.41	.32	.28	.31	.19
23	.37	.36	1.7	1.5	2.5	3.8	1.2	.41	.34	.30	.33	.31
24	.35	.39	1.5	1.6	2.3	3.4	1.1	.41	.31	.32	.32	.37
25	.34	.37	1.5	1.8	2.3	2.6	1.0	.38	.32	.32	.35	.38
26	.40	.40	1.5	1.8	2.3	2.3	1.1	.37	.34	.31	.32	.30
27	.36	.94	1.7	1.7	2.1	1.9	1.1	.34	.32	.29	.35	.32
28	.39	1.1	1.9	1.8	2.0	1.9	1.1	.31	.30	.20	.37	.32
29	.39	.92	2.1	1.7	2.0	1.6	1.1	.29	.29	.21	.33	.32
30	.39	.58	2.2	1.6	---	1.8	1.1	.23	.31	.20	.29	.32
31	.41	---	2.1	1.6	---	1.8	---	.25	---	.21	.29	---
TOTAL	10.78	20.60	48.30	52.8	66.4	71.0	41.7	20.43	9.14	9.18	8.58	7.66
MEAN	.35	.69	1.56	1.70	2.29	2.29	1.39	.66	.30	.30	.28	.26
MAX	.41	3.4	2.8	2.4	4.5	3.8	2.6	2.2	.34	.36	.44	.38
MIN	.30	.25	.73	1.3	1.4	1.6	1.0	.23	.26	.20	.19	.15
AC-FT	21	41	96	105	132	141	83	41	18	18	17	15

THE GREAT BASIN

HONEY LAKE BASIN--Continued

10354000 LONG VALLEY CREEK NEAR SCOTTS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.04	1.99	2.38	3.26	5.93	17.6	6.48	2.36	1.14	.42	.34	.41
MAX	2.44	3.86	3.50	4.28	13.7	48.6	17.0	4.46	2.63	.55	.42	.81
(WY)	1990	1990	1990	1990	1989	1989	1989	1989	1989	1991	1990	1989
MIN	.35	.69	1.56	1.70	2.29	2.29	1.39	.66	.30	.30	.28	.24
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1991

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1989 - 1992	
ANNUAL TOTAL	695.13		366.57			
ANNUAL MEAN	1.90		1.00		2.10	
HIGHEST ANNUAL MEAN					3.30	
LOWEST ANNUAL MEAN					1.00	
HIGHEST DAILY MEAN	60	Mar 4	4.5	Feb 20	150	Mar 8 1989
LOWEST DAILY MEAN	.17	Sep 23	.15	Sep 5	.15	Sep 5 1992
ANNUAL SEVEN-DAY MINIMUM	.18	Sep 18	.20	Sep 16	.18	Sep 18 1991
INSTANTANEOUS PEAK FLOW			5.8	Feb 19	336	Mar 8 1989
INSTANTANEOUS PEAK STAGE			7.50	Nov 18	9.41	Mar 8 1989
ANNUAL RUNOFF (AC-FT)	1380		727		1520	
10 PERCENT EXCEEDS	3.7		2.2		5.9	
50 PERCENT EXCEEDS	1.2		.51		1.6	
90 PERCENT EXCEEDS	.27		.26		.30	

10356500 SUSAN RIVER AT SUSANVILLE, CA
(National stream-quality accounting network station)

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 mi².

WATER-DISCHARGE RECORDS

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 current year. Published as "near Susanville" 1900-5. 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.

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 National Geodetic Vertical Datum of 1929. 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. 28 to Dec. 27, and Jan. 8 to Feb. 5, 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 ft³/s, Jan. 24, 1970, gage height, 8.89 ft, in gage well, 10.4 ft, from floodmarks, from rating curve extended above 1,000 ft³/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, 157 ft³/s, Feb. 20, gage height, 5.70 ft; minimum daily, 0.38 ft³/s, Aug. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	7.4	e6.8	9.7	e9.0	32	54	12	3.5	2.4	.64	2.4
2	2.0	7.4	e6.8	9.7	e9.0	32	54	11	3.3	2.1	.57	2.9
3	1.8	7.4	e7.6	9.7	e9.2	32	53	9.7	3.4	1.8	1.7	2.5
4	2.3	7.4	e7.6	9.7	e9.5	34	54	9.1	3.2	2.1	1.8	1.5
5	1.7	7.4	e7.6	9.7	e9.8	35	51	7.8	3.0	2.0	2.2	1.4
6	1.9	7.6	e7.4	9.7	11	41	47	7.6	3.2	1.8	1.8	1.2
7	2.4	7.6	e7.2	9.7	11	36	44	7.2	3.2	1.7	2.5	1.4
8	2.9	7.6	e6.8	e8.8	12	32	31	7.5	2.9	1.6	2.1	1.6
9	3.4	7.6	e6.8	e7.3	14	29	24	7.1	2.9	1.9	1.6	1.6
10	2.6	7.6	e6.9	e7.9	13	27	27	5.7	2.2	1.8	1.7	1.2
11	1.5	7.6	e7.0	e7.2	14	26	29	5.6	1.2	.42	1.6	1.7
12	1.6	7.6	e7.2	e7.0	16	27	35	4.8	1.3	.52	1.9	1.5
13	2.7	7.6	e7.2	e7.1	19	27	61	4.9	1.6	.88	1.7	2.3
14	2.1	7.6	e7.4	e7.4	17	28	59	5.0	1.9	.97	1.0	2.1
15	1.5	7.6	e7.4	e7.6	17	28	74	4.5	2.7	.84	2.1	2.0
16	1.6	8.3	e7.5	e7.3	16	28	66	4.4	3.1	1.2	.91	2.1
17	1.6	9.0	e7.7	e7.3	14	28	65	5.1	3.6	1.6	1.4	2.9
18	2.6	11	e7.8	e7.1	13	26	59	4.7	2.0	2.8	.67	1.9
19	3.5	11	e8.0	e7.0	18	24	60	3.5	2.0	1.9	.38	.99
20	3.8	9.9	e8.2	e7.0	110	23	55	3.8	1.7	2.0	1.3	1.5
21	2.8	11	e8.8	e7.1	62	22	49	4.9	1.9	1.7	2.2	2.3
22	2.8	10	e9.2	e7.4	58	23	42	4.3	1.1	1.9	1.9	2.3
23	3.7	9.5	9.9	e7.8	40	23	38	2.7	.63	2.3	1.2	3.2
24	4.0	9.5	9.9	e8.2	34	23	34	2.3	.88	1.6	.75	2.8
25	4.7	9.5	9.6	e8.8	30	23	25	2.4	2.0	1.6	1.1	1.4
26	16	9.5	9.5	e9.1	30	24	21	3.5	1.2	1.6	1.1	.60
27	12	11	9.5	e9.8	31	25	19	2.5	1.0	.99	.50	1.5
28	9.1	e10	9.5	e9.8	32	23	17	1.9	1.6	.78	.99	1.2
29	7.9	e7.4	9.5	e9.4	32	19	15	1.7	2.2	.71	1.6	.77
30	7.4	e7.2	9.7	e9.2	---	21	11	2.3	1.8	.67	2.6	.52
31	7.4	---	9.7	e9.0	---	31	---	3.3	---	1.5	2.7	---
TOTAL	123.4	256.8	251.7	259.5	710.5	852	1273	162.8	66.21	47.68	46.21	53.28
MEAN	3.98	8.56	8.12	8.37	24.5	27.5	42.4	5.25	2.21	1.54	1.49	1.78
MAX	16	11	9.9	9.8	110	41	74	12	3.6	2.8	2.7	3.2
MIN	1.5	7.2	6.8	7.0	9.0	19	11	1.7	.63	.42	.38	.52
AC-FT	245	509	499	515	1410	1690	2520	323	131	95	92	106

e Estimated.

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.7	34.7	57.2	83.6	109	146	206	222	97.5	53.8	32.3	8.85
MAX	214	377	405	683	645	463	780	858	386	139	102	38.8
(WY)	1963	1982	1965	1970	1986	1986	1952	1952	1983	1957	1983	1983
MIN	3.74	7.27	4.26	7.83	11.5	12.5	11.2	5.25	2.21	1.54	.63	.74
(WY)	1961	1991	1991	1977	1991	1977	1977	1992	1992	1992	1990	1990

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1950 - 1992	
ANNUAL TOTAL	7643.19		4103.08			
ANNUAL MEAN	20.9		11.2		88.8	
HIGHEST ANNUAL MEAN					221	
LOWEST ANNUAL MEAN					7.45	
HIGHEST DAILY MEAN	469	Apr 6	110	Feb 20	3690	Feb 17 1986
LOWEST DAILY MEAN	.30	Aug 12	.38	Aug 19	.00	Aug 15 1961
ANNUAL SEVEN-DAY MINIMUM	.88	Aug 7	.84	Jul 27	.15	Sep 5 1990
INSTANTANEOUS PEAK FLOW			157	Feb 20	5850	Jan 24 1970
INSTANTANEOUS PEAK STAGE			5.70	Feb 20	8.89	Jan 24 1970
ANNUAL RUNOFF (AC-FT)	15160		8140		64300	
10 PERCENT EXCEEDS	57		31		207	
50 PERCENT EXCEEDS	7.8		7.2		27	
90 PERCENT EXCEEDS	1.4		1.3		4.1	

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.

CHEMICAL DATA: Water years 1952 to current year.

BIOLOGICAL DATA: Water years 1978-81.

SEDIMENT DATA: Water years 1978 to current year.

REMARKS.--Samples are collected above Ramsey Ditch, which diverts flow from right bank of river 300 ft upstream from gage.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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 SATUR- ATION	COLI- FORM, FECAL, (PER- CENT UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 20...	1110	9.3	158	7.8	3.0	1.0	657	12.4	107	K7	K23
JAN 29...	1045	10	146	7.9	0.5	2.0	656	12.5	101	<3	K25
MAY 27...	1215	5.5	171	8.7	20.0	1.0	652	7.9	102	K16	170
JUL 21...	1135	3.9	194	8.5	21.5	1.2	655	8.0	106	80	90
SEP 16...	1320	3.6	198	8.4	15.0	2.0	655	10.6	123	K15	42

DATE	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)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3)
NOV 20...	76	0	16	8.6	6.3	15	0.3	2.1	107	0	88
JAN 29...	68	--	15	7.3	5.4	14	0.3	1.9	--	--	182
MAY 27...	77	0	17	8.4	6.8	16	0.3	2.3	106	5	95
JUL 21...	86	0	18	10	7.3	15	0.3	3.2	115	5	102
SEP 16...	86	0	18	9.8	--	--	--	3.4	134	0	110

DATE	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)	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 TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV 20...	1.3	2.1	0.10	31	121	120	0.16	<0.010	<0.010	<0.050
JAN 29...	1.1	2.1	0.20	29	91	--	--	<0.010	<0.010	0.060
MAY 27...	0.60	<0.10	<0.10	30	115	--	--	<0.010	<0.010	<0.050
JUL 21...	0.50	0.70	<0.10	--	121	101	0.16	<0.010	<0.010	<0.050
SEP 16...	0.20	2.5	<0.10	30	129	--	--	<0.010	<0.010	<0.050

HONEY LAKE BASIN

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (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 TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)
NOV 20...	<0.050	<0.010	0.010	<0.20	0.040	0.020	0.020	0.020	<10	20
JAN 29...	0.080	<0.010	<0.010	<0.20	0.050	0.020	0.040	0.030	<10	15
MAY 27...	<0.050	0.010	0.010	0.20	0.040	0.040	<0.010	0.010	<10	26
JUL 21...	<0.050	0.010	<0.010	<0.20	0.010	<0.010	0.020	0.020	--	--
SEP 16...	<0.050	<0.010	<0.010	0.20	0.020	0.020	0.010	<0.010	<10	29

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 20...	<3	86	<4	23	<10	<1	<1	<1.0	120	<6
JAN 29...	<3	53	<4	14	<10	<1	<1	<1.0	110	<6
MAY 27...	<3	83	<4	13	<10	<1	<1	<1.0	130	<6
JUL 21...	--	--	--	--	--	--	--	--	--	--
SEP 16...	<3	80	<4	25	<10	<1	<1	<1.0	150	<6

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	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 (PER- CENT SATUR- ATION)	SEDI- MENT, SUS- PENDED (MG/L)
MAY									
27...*	1115	0.70	4.50	174	8.4	19.0	652	7.9	100
27...*	1117	0.70	10.3	177	8.4	19.0	652	7.9	100
27...*	1119	0.68	13.3	178	8.5	19.0	652	7.9	100
27...*	1120	0.53	17.3	177	8.5	19.0	652	7.9	100
27...*	1121	0.79	20.5	173	8.6	19.0	652	7.9	100
SEP									
16...*	1225	0.30	2.80	199	7.7	15.0	655	--	--
16...*	1230	0.54	7.20	205	7.7	15.0	655	--	--
16...*	1235	0.35	11.8	198	7.9	15.0	655	--	--
16...*	1240	0.44	18.8	197	8.1	15.0	655	--	--
16...*	1245	0.55	24.1	207	8.1	15.0	655	--	--

* Instantaneous discharge at the time of the cross-sectional measurement: May 27, 5.5 ft³/s;
Sept. 16, 3.6 ft³/s.

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
20...	1105	9.3	3.0	4	0.10	86
JAN						
29...	1040	10	0.5	6	0.16	79
MAY						
27...	1145	5.5	19.0	6	0.09	--
27...	1210	5.5	19.0	5	0.07	86
JUL						
21...	1130	3.9	21.5	6	0.06	82
SEP						
16...	1250	3.6	15.0	6	0.06	--
16...	1315	3.6	15.0	5	0.05	86

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 mi², excludes that of Eagle Lake basin.

PERIOD OF RECORD.--October 1950 to current year.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. 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 ft³/s, Feb. 18, 1986, gage height, 6.25 ft, from rating curve extended above 600 ft³/s; minimum daily, 1.4 ft³/s, Aug. 11, Sept. 16, 17, 1992.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	1415	*28	*2.52				

Minimum daily, 1.4 ft³/s, Aug. 11, Sept. 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	9.4	13	11	22	23	16	7.3	3.4	3.7	2.0	2.5
2	5.0	9.4	13	11	22	22	16	7.0	3.3	3.6	2.1	2.3
3	5.4	11	13	11	22	16	15	7.0	3.3	3.6	2.1	2.1
4	4.7	11	12	11	22	15	13	6.8	3.4	3.4	2.0	1.9
5	4.7	10	12	12	22	15	10	6.6	3.4	3.3	2.0	2.1
6	4.8	10	12	11	22	16	10	6.3	3.3	3.2	2.0	2.4
7	4.9	10	13	11	22	17	9.6	6.2	3.3	3.1	2.0	2.3
8	5.1	10	12	11	22	17	9.2	6.1	3.2	3.0	1.9	2.1
9	6.9	11	11	12	21	15	9.3	6.0	3.4	2.8	1.8	2.0
10	7.8	11	12	12	21	14	10	6.0	3.6	2.7	1.5	2.0
11	8.3	11	12	12	21	15	11	6.4	3.6	2.6	1.4	2.0
12	8.9	11	12	11	23	15	12	6.4	3.6	2.5	1.6	1.8
13	9.0	11	12	11	23	16	14	6.1	3.6	2.5	2.1	1.6
14	9.3	12	12	12	22	16	14	5.6	3.7	2.5	2.0	1.6
15	9.5	12	12	14	23	16	13	5.4	3.9	2.5	1.9	1.5
16	9.9	12	12	13	23	16	14	5.2	4.0	2.5	1.9	1.4
17	8.9	14	12	13	23	16	13	5.0	4.1	2.6	2.1	1.4
18	8.9	14	13	13	23	16	13	4.9	4.6	2.7	2.0	1.5
19	8.8	13	12	12	24	16	11	4.8	4.8	2.6	1.9	1.7
20	8.6	14	11	13	28	16	11	4.7	4.7	2.7	1.8	1.9
21	8.6	15	11	13	27	16	11	4.5	4.4	2.7	1.7	2.0
22	9.0	13	11	13	25	17	11	4.4	4.2	2.6	1.6	2.1
23	9.5	13	11	13	24	18	9.7	4.3	3.9	2.5	1.6	2.3
24	9.7	14	11	14	24	18	9.2	4.3	3.9	2.4	1.7	2.5
25	10	13	11	18	24	18	9.1	4.7	3.9	2.3	1.6	2.5
26	12	13	12	18	24	18	9.5	3.9	3.8	2.3	1.7	2.6
27	12	13	12	18	23	18	9.5	3.7	3.7	2.3	1.7	2.8
28	11	12	12	19	23	18	8.9	3.6	3.8	2.2	1.9	2.9
29	10	11	12	18	23	17	8.1	3.5	3.7	2.2	1.9	3.0
30	8.9	12	12	21	---	16	7.6	3.5	3.7	2.2	2.1	3.0
31	9.3	---	11	23	---	16	---	3.5	---	2.0	2.5	---
TOTAL	254.4	355.8	369	425	668	518	337.7	163.7	113.2	83.8	58.1	63.8
MEAN	8.21	11.9	11.9	13.7	23.0	16.7	11.3	5.28	3.77	2.70	1.87	2.13
MAX	12	15	13	23	28	23	16	7.3	4.8	3.7	2.5	3.0
MIN	4.7	9.4	11	11	21	14	7.6	3.5	3.2	2.0	1.4	1.4
AC-FT	505	706	732	843	1320	1030	670	325	225	166	115	127

10358500 WILLOW CREEK NEAR SUSANVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.7	32.4	39.8	54.7	72.0	63.8	41.6	19.8	14.0	12.6	11.5	13.3
MAX	113	119	128	177	289	214	311	57.7	60.7	32.6	25.2	27.3
(WY)	1963	1982	1956	1970	1986	1983	1952	1983	1971	1971	1971	1983
MIN	6.14	11.9	11.9	13.7	21.1	15.7	11.3	5.28	3.77	2.70	1.87	2.13
(WY)	1991	1992	1992	1992	1955	1953	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1951 - 1992	
ANNUAL TOTAL	5165.3		3410.5			
ANNUAL MEAN	14.2		9.32		33.0	
HIGHEST ANNUAL MEAN					67.0	
LOWEST ANNUAL MEAN					9.32	
HIGHEST DAILY MEAN	81 Mar 5		28 Feb 20		1090 Feb 18 1986	
LOWEST DAILY MEAN	3.0 Aug 13		1.4 Aug 11		1.4 Aug 11 1992	
ANNUAL SEVEN-DAY MINIMUM	3.2 Aug 9		1.5 Sep 13		1.5 Sep 13 1992	
INSTANTANEOUS PEAK FLOW			28 Feb 20		1210 Feb 18 1986	
INSTANTANEOUS PEAK STAGE			2.52 Feb 20		6.25 Feb 18 1986	
ANNUAL RUNOFF (AC-FT)	10250		6760		23930	
10 PERCENT EXCEEDS	23		18		60	
50 PERCENT EXCEEDS	12		9.4		21	
90 PERCENT EXCEEDS	4.9		2.0		9.9	

SACRAMENTO RIVER BASIN

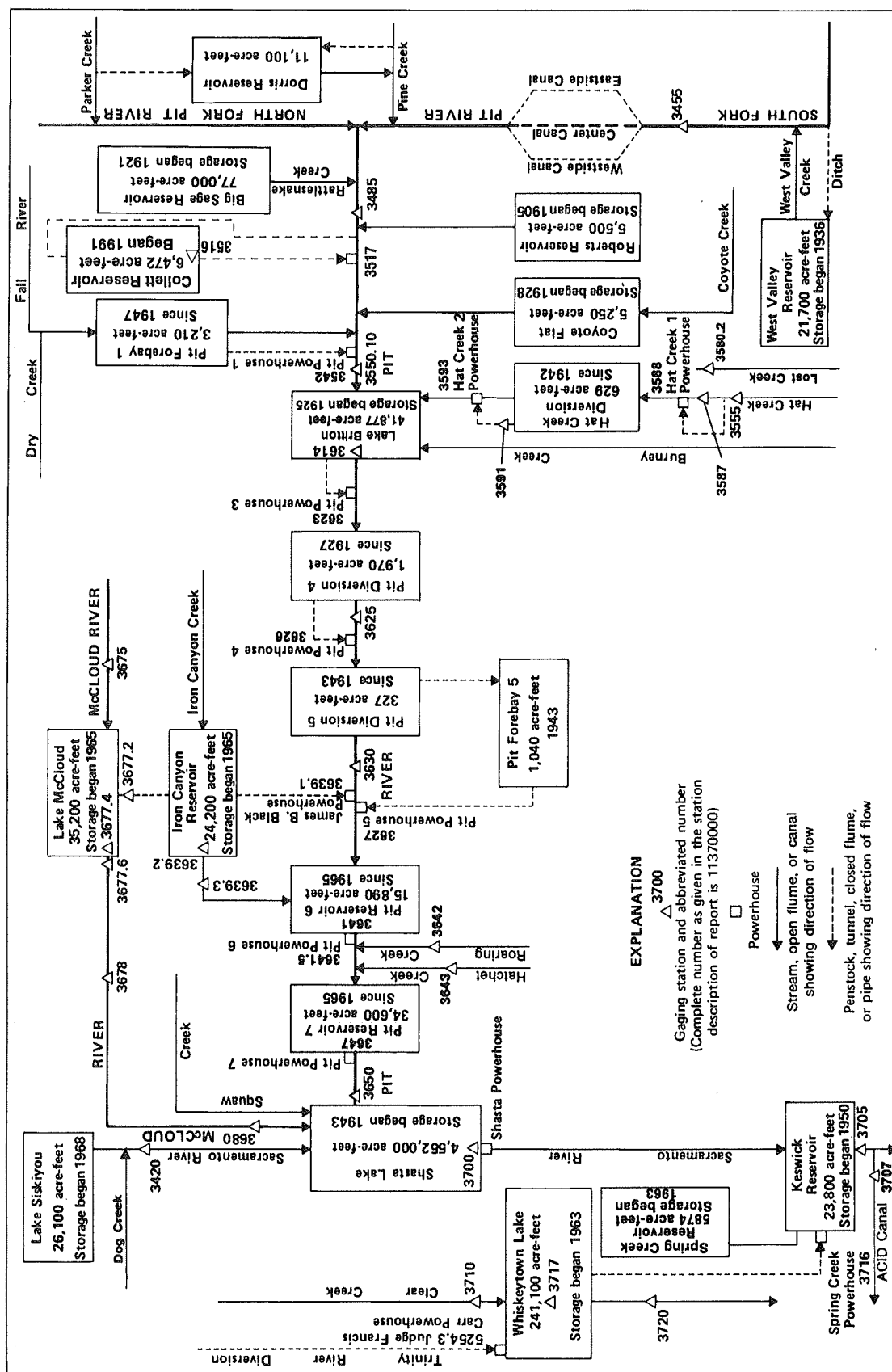


Figure 28. Diversions and storage in Pit and McCloud River basins.

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 mi².

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).

GAGE.--Water-stage recorder. Datum of gage is 1,075.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--No estimated daily discharges. 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 ft³/s, Jan. 16, 1974, gage height, 27.20 ft in gage well, 28.7 ft from floodmarks, from rating curve extended above 19,000 ft³/s on basis of slope-area measurements at gage height 19.50 ft, and of peak flow; minimum daily, 117 ft³/s, Aug. 5, 6, 12-15, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0600	*8,620	*10.24				

Minimum daily, 149 ft³/s, several days in October.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	168	181	275	358	2070	1930	1950	477	532	204	184
2	149	168	180	250	332	1920	2010	1720	484	408	204	182
3	149	168	178	238	308	1690	2090	1650	448	369	203	181
4	149	168	178	501	295	1740	2060	1670	420	346	201	178
5	150	168	178	1990	287	4180	1780	1730	398	326	200	181
6	152	167	187	985	286	3830	1510	1810	391	318	200	179
7	152	167	224	650	283	2810	1320	1970	378	306	200	178
8	152	170	192	499	394	2260	1290	1970	365	293	200	178
9	151	178	184	412	876	1840	1230	1770	358	283	199	177
10	149	170	181	362	3900	1570	1850	1540	352	273	196	179
11	149	168	180	329	6150	1410	1910	1400	337	273	193	181
12	150	170	178	302	7640	1350	3600	1290	361	277	192	179
13	150	170	178	286	5920	1310	5040	1220	378	270	190	175
14	149	169	179	273	6160	1480	3330	1160	404	265	188	177
15	149	169	180	268	4410	2890	2660	1130	360	256	187	178
16	149	172	179	273	2920	5220	2920	1080	352	251	186	175
17	150	292	183	272	2250	3770	4370	1030	333	246	184	174
18	152	232	343	271	2270	2740	3420	996	359	243	182	174
19	150	201	245	263	4260	2250	2730	936	342	238	181	174
20	150	228	209	256	5850	1980	2480	900	314	235	179	174
21	151	230	198	249	5290	1860	2370	806	301	235	179	173
22	153	197	194	243	4250	1780	2140	754	289	232	179	172
23	154	189	190	240	3000	1720	1870	721	279	231	181	172
24	157	186	192	236	2290	1620	1690	711	292	227	180	174
25	180	187	189	238	2110	1550	1640	705	336	222	180	173
26	240	189	189	236	2110	1600	1730	677	348	220	179	173
27	186	215	191	234	1960	1640	1730	618	301	218	177	171
28	173	199	366	336	1840	1600	1750	576	270	215	177	170
29	170	186	518	324	1660	1660	2120	550	503	212	178	170
30	167	183	363	303	---	1820	2210	529	818	209	179	174
31	167	---	306	293	---	1760	---	502	---	206	185	---
TOTAL	4901	5624	6813	11887	79659	66920	68780	36071	11348	8435	5843	5280
MEAN	158	187	220	383	2747	2159	2293	1164	378	272	188	176
MAX	240	292	518	1990	7640	5220	5040	1970	818	532	204	184
MIN	149	167	178	234	283	1310	1230	502	270	206	177	170
AC-FT	9720	11160	13510	23580	158000	132700	136400	71550	22510	16730	11590	10470

PACIFIC SLOPE BASINS IN CALIFORNIA

SACRAMENTO RIVER BASIN--Continued

11342000 SACRAMENTO RIVER AT DELTA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	371	827	1332	1707	2195	2117	1995	1646	759	326	229	231
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1945 - 1992	
ANNUAL TOTAL	154042		311561			
ANNUAL MEAN	422		851		1139	
HIGHEST ANNUAL MEAN					2715	
LOWEST ANNUAL MEAN					228	
HIGHEST DAILY MEAN	5680	Mar 4	7640	Feb 12	53900	Jan 16 1974
LOWEST DAILY MEAN	147	Sep 21	149	Oct 2	117	Aug 5 1977
ANNUAL SEVEN-DAY MINIMUM	148	Sep 20	149	Oct 10	117	Aug 11 1977
INSTANTANEOUS PEAK FLOW			8620	Feb 12	69800	Jan 16 1974
INSTANTANEOUS PEAK STAGE			10.24	Feb 12	27.20	Jan 16 1974
ANNUAL RUNOFF (AC-FT)	305500		618000		825000	
10 PERCENT EXCEEDS	942		2130		2560	
50 PERCENT EXCEEDS	209		273		524	
90 PERCENT EXCEEDS	153		170		197	

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 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

REMARKS.--Records good except for estimated daily discharges for the ice-affected period, Nov. 28 to Feb. 5, 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 ft³/s, June 2, 1971, gage height, 6.05 ft; minimum, 0.2 ft³/s, Feb. 3, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 138 ft³/s, June 19, gage height, 2.87 ft; minimum daily, 5.1 ft³/s, Feb. 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	30	e8.0	e7.8	e6.2	11	42	109	81	22	70	23
2	22	28	e7.8	e7.7	e6.1	10	35	117	81	21	69	23
3	22	28	e8.9	e7.5	e6.3	11	20	116	81	17	70	21
4	21	30	e8.8	e7.3	e5.8	12	21	114	80	15	68	19
5	20	30	e9.2	e7.1	e6.0	11	19	110	82	22	66	19
6	16	31	e9.8	e6.9	7.3	15	14	110	83	31	65	18
7	19	32	e11	e6.7	7.3	18	10	109	83	48	65	18
8	28	31	e12	e6.3	7.4	19	10	109	82	61	64	18
9	40	37	e13	e5.9	7.7	20	9.2	108	82	62	61	18
10	38	34	e11	e6.6	7.4	18	16	107	82	60	61	18
11	34	33	e9.7	e6.0	6.9	16	20	105	80	62	78	18
12	28	30	e9.0	e5.8	5.1	15	16	104	79	60	92	19
13	28	29	e9.1	e5.5	5.1	16	19	103	79	59	89	19
14	27	25	e9.2	e5.2	6.2	16	14	103	80	78	87	18
15	27	11	e9.3	e6.2	6.6	16	67	101	80	106	62	18
16	27	28	e9.3	e6.2	6.6	15	110	100	87	105	37	18
17	27	22	e9.4	e6.1	7.1	16	119	100	119	104	28	19
18	27	19	e9.6	e5.9	7.3	13	115	100	134	102	21	17
19	28	14	e9.9	e5.7	7.3	13	113	93	113	100	19	16
20	28	17	e10	e5.5	10	13	111	90	92	101	18	16
21	28	15	e10	e5.3	10	13	112	88	77	86	18	17
22	27	7.5	e11	e5.2	12	12	113	85	69	74	23	17
23	30	7.7	e9.5	e5.2	9.2	14	112	85	61	62	27	16
24	30	6.4	e9.3	e5.3	9.3	15	109	83	57	52	28	11
25	29	6.4	e9.0	e5.4	9.7	15	108	84	59	51	27	12
26	40	6.6	e8.8	e5.4	10	16	104	84	64	51	26	17
27	35	11	e8.5	e5.5	10	19	103	82	48	52	25	20
28	30	e9.5	e8.3	e5.8	11	21	103	82	43	59	27	19
29	35	e8.7	e8.2	e5.9	12	25	101	81	41	74	26	17
30	30	e8.4	e8.0	e6.1	---	32	95	81	28	73	25	12
31	31	---	e7.9	e6.3	---	31	---	81	---	70	24	---
TOTAL	874	626.2	292.5	189.3	228.9	507	1960.2	3024	2307	1940	1466	531
MEAN	28.2	20.9	9.44	6.11	7.89	16.4	65.3	97.5	76.9	62.6	47.3	17.7
MAX	40	37	13	7.8	12	32	119	117	134	106	92	23
MIN	16	6.4	7.8	5.2	5.1	10	9.2	81	28	15	18	11
AC-FT	1730	1240	580	375	454	1010	3890	6000	4580	3850	2910	1050

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.3	28.6	29.1	30.2	35.4	49.1	109	225	167	84.3	111	54.0
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	16.9	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1929 - 1992	
ANNUAL TOTAL	22806.6		13946.1			
ANNUAL MEAN	62.5		38.1		79.8	
HIGHEST ANNUAL MEAN					183	
LOWEST ANNUAL MEAN					27.3	
HIGHEST DAILY MEAN	413	May 20	134	Jun 18	1220	Jun 2 1971
LOWEST DAILY MEAN	2.6	Mar 24	5.1	Feb 12	.80	Mar 19 1940
ANNUAL SEVEN-DAY MINIMUM	3.5	Feb 21	5.3	Jan 20	1.1	Feb 3 1941
INSTANTANEOUS PEAK FLOW			138	Jun 19	1620	Jun 2 1971
INSTANTANEOUS PEAK STAGE			2.87	Jun 19	6.05	Jun 2 1971
ANNUAL RUNOFF (AC-FT)	45240		27660		57780	
10 PERCENT EXCEEDS	163		101		182	
50 PERCENT EXCEEDS	28		21		42	
90 PERCENT EXCEEDS	7.9		6.6		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 mi², 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 National Geodetic Vertical Datum of 1929. 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 ft³/s, Mar. 8, 1904, gage height, 15.0 ft, site and datum then in use; minimum daily, 0.1 ft³/s, several days in April 1934 and August 1935.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 29	1245	*237	*3.18				
Minimum daily, 0.29 ft ³ /s, July 22, 23, 25, 26.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	148	72	68	67	70	36	.52	2.3	77	1.5	.71
2	36	121	88	61	61	60	23	.54	2.0	55	1.4	.74
3	36	92	72	55	57	58	15	.56	1.9	32	2.1	.75
4	36	105	76	67	62	59	14	.57	2.5	28	2.4	.75
5	32	87	72	68	58	62	5.4	.58	1.9	23	1.5	.77
6	31	85	79	66	60	65	5.1	.99	2.6	19	.91	.77
7	30	76	88	65	68	86	3.2	.89	2.0	19	1.0	.90
8	30	77	87	65	65	119	2.9	1.2	1.3	14	1.4	.77
9	30	97	79	56	64	134	2.7	.94	2.2	11	1.3	.73
10	24	109	65	58	65	131	2.8	1.5	2.1	8.1	1.3	.78
11	20	115	77	64	65	115	2.7	2.0	1.2	5.1	.97	.81
12	18	111	92	67	64	102	2.7	5.4	.98	2.7	.72	.80
13	17	97	73	67	61	95	2.9	10	1.4	.89	.69	.96
14	16	98	73	74	62	86	2.7	4.4	4.1	.65	.66	.84
15	14	91	76	78	68	84	2.5	6.0	3.3	.64	.64	.76
16	16	83	76	77	64	85	2.3	5.2	3.3	.45	.62	.83
17	12	103	73	73	63	76	2.2	7.2	3.0	.39	.60	1.3
18	12	122	85	67	61	76	2.0	4.0	1.8	.34	.61	1.3
19	12	108	83	59	62	79	1.5	1.5	1.3	.31	.58	1.7
20	11	134	80	58	63	77	.99	1.7	2.6	.30	.58	1.1
21	10	117	71	64	65	63	.81	2.1	3.5	.30	.58	1.3
22	16	92	74	64	71	62	.80	2.1	4.2	.29	.59	1.5
23	20	79	77	61	71	62	.78	2.5	4.6	.29	.63	1.3
24	20	88	72	61	55	64	.76	1.4	4.4	.30	.62	.94
25	29	76	75	63	38	65	.74	.85	7.7	.29	.63	1.6
26	59	68	73	64	40	64	.73	.77	4.1	.29	.68	1.0
27	31	79	74	63	43	62	.69	.67	3.7	.31	.66	.82
28	66	83	74	67	48	57	.66	.76	3.8	.47	.67	.74
29	61	87	76	66	128	47	.55	.59	8.1	9.7	.71	.81
30	92	64	75	68	---	46	.53	.56	18	1.7	.71	.96
31	147	---	72	73	---	44	---	3.8	---	1.2	.72	---
TOTAL	1020	2892	2379	2027	1819	2355	139.64	71.79	105.88	313.01	28.68	29.04
MEAN	32.9	96.4	76.7	65.4	62.7	76.0	4.65	2.32	3.53	10.1	.93	.97
MAX	147	148	92	78	128	134	36	10	18	77	2.4	1.7
MIN	10	64	65	55	38	44	.53	.52	.98	.29	.58	.71
AC-FT	2020	5740	4720	4020	3610	4670	277	142	210	621	57	58

SACRAMENTO RIVER BASIN

11348500 PIT RIVER NEAR CANBY, CA --Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	78.6	105	194	292	415	525	469	427	255	64.9	42.3	62.1
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1904 - 1992	
ANNUAL TOTAL	59620.6		13180.04			
ANNUAL MEAN	163		36.0			
HIGHEST ANNUAL MEAN					242	
LOWEST ANNUAL MEAN					676	
HIGHEST DAILY MEAN	2270		148		22.4	
LOWEST DAILY MEAN	5.5		.29		8580	
ANNUAL SEVEN-DAY MINIMUM	7.5		.29		.10	
INSTANTANEOUS PEAK FLOW			237		.13	
INSTANTANEOUS PEAK STAGE			3.18		13000	
ANNUAL RUNOFF (AC-FT)	118300		26140		15.0	
10 PERCENT EXCEEDS	341		85		175300	
50 PERCENT EXCEEDS	80		17		620	
90 PERCENT EXCEEDS	19		.66		92	
					15	

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, 1.9 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.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

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 4,060.17 ft, capacity 6,472 acre-ft. Crest of spillway is at elevation 4,065 ft. Reservoir is used for power generation. Figures given represent total contents. 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)

4,030.00	155
4,032.00	395
4,035.00	931
4,040.00	1,899
4,050.00	4,052
4,060.17	6,472

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	209	173	---	---	---	414	375	---	---	---	---
2	---	212	171	---	---	---	413	368	---	---	---	---
3	---	214	170	---	---	---	413	366	---	---	---	---
4	---	214	168	---	---	---	410	342	---	---	---	---
5	---	214	167	---	---	---	406	270	---	---	---	---
6	---	214	170	---	---	---	404	193	---	---	---	---
7	---	214	172	---	---	---	398	---	---	---	---	---
8	---	217	171	---	---	---	397	---	---	---	---	---
9	---	222	170	---	---	---	397	---	---	---	---	---
10	---	222	168	---	---	---	397	---	---	---	---	---
11	---	222	167	---	---	---	394	---	---	---	---	---
12	---	222	165	---	---	---	397	---	---	---	---	---
13	---	222	164	---	---	---	397	---	---	---	---	---
14	---	222	162	---	---	---	410	---	---	---	---	---
15	---	222	162	---	---	---	411	---	---	---	---	---
16	---	220	161	---	---	---	409	---	---	---	---	---
17	---	232	159	---	---	---	407	---	---	---	---	---
18	---	234	162	---	---	---	403	---	---	---	---	---
19	---	232	161	---	---	---	400	---	---	---	---	---
20	---	234	159	---	---	---	400	---	---	---	---	---
21	---	234	158	---	---	---	396	---	---	---	---	---
22	---	232	158	---	---	---	391	---	---	---	---	---
23	---	231	156	---	---	---	390	---	---	---	---	---
24	---	229	---	---	---	---	388	---	---	---	---	---
25	---	229	---	---	---	---	387	---	---	---	---	---
26	---	174	---	---	---	---	383	---	---	---	---	---
27	---	179	---	---	---	---	381	---	---	---	---	---
28	---	177	---	---	---	---	377	---	---	---	---	---
29	216	176	---	---	---	---	377	---	---	---	---	---
30	262	174	---	---	---	---	377	---	---	---	---	---
31	180	---	---	---	---	---	---	---	---	---	---	---
MAX	---	234	---	---	---	---	414	---	---	---	---	---
MIN	---	174	---	---	---	---	377	---	---	---	---	---

SACRAMENTO RIVER BASIN

11351700 MUCK VALLEY POWERPLANT NEAR LITTLE VALLEY, CA

LOCATION.--Lat 40°58'21", long 121°15'10", in SW 1/4 NW 1/4 sec.11, T.36 N., R.6 E., Lassen County, Hydrologic Unit 18020003, on right bank of Pit River 0.8 mi downstream from Bob Creek, 6.8 mi northwest of Little Valley and 12.3 mi downstream from diversion to Muck Valley powerplant.

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

REMARKS.--No estimated daily discharges. Water is diverted from right bank of Pit River at NW 1/4 SW 1/4 sec.27, T.37 N., R.7 E., through a tunnel to powerplant and then into Pit River. See schematic diagram of Pit and McCloud River basins. At times water is diverted from Collett Reservoir through the powerplant.

COOPERATION.--Records were collected by Malacha Hydro Limited Partnership, 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, 179 ft³/s, Mar. 12, 1992; no flow many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	42	60	65	54	42	.00	.00	.00	.00	.00	.00
2	.00	92	54	58	59	104	.00	.00	.00	.00	.00	.00
3	.00	93	55	41	59	44	.00	.00	.00	.00	.00	.00
4	.00	82	58	61	55	40	.00	15	.00	.00	.00	.00
5	.00	65	53	56	49	61	.00	22	.00	.00	.00	.00
6	.00	78	62	66	52	62	.00	17	.00	.00	.00	.00
7	.00	63	65	67	55	70	.00	12	.00	.00	.00	.00
8	.00	55	70	61	57	95	.00	9	.00	.00	.00	.00
9	.00	61	66	57	63	133	.00	.00	.00	.00	.00	.00
10	.00	59	59	59	61	146	.00	.00	.00	.00	.00	.00
11	.00	56	53	51	62	148	.00	.00	.00	.00	.00	.00
12	.00	77	49	44	64	179	.00	.00	.00	.00	.00	.00
13	.00	102	53	43	66	153	.00	.00	.00	.00	.00	.00
14	.00	90	56	47	67	127	.00	.00	.00	.00	.00	.00
15	.00	86	46	53	68	108	.00	.00	.00	.00	.00	.00
16	.00	84	42	50	69	94	.00	.00	.00	.00	.00	.00
17	.00	80	40	58	77	89	.00	.00	.00	.00	.00	.00
18	.00	92	55	53	81	83	.00	.00	.00	.00	.00	.00
19	.00	99	56	45	74	72	.00	.00	.00	.00	.00	.00
20	.00	111	44	29	74	68	.00	.00	.00	.00	.00	.00
21	.00	130	53	45	88	52	.00	.00	.00	.00	.00	.00
22	.00	129	63	49	96	.00	.00	.00	.00	.00	.00	.00
23	.00	115	44	45	90	.00	.00	.00	.00	.00	.00	.00
24	.00	98	46	50	88	.00	.00	.00	.00	.00	.00	.00
25	.00	82	54	53	83	.00	.00	.00	.00	.00	.00	.00
26	.00	88	55	49	66	72	.00	.00	.00	.00	.00	.00
27	.00	84	58	51	46	88	.00	.00	.00	.00	.00	.00
28	90	82	57	55	43	44	.00	.00	.00	.00	.00	.00
29	48	76	64	58	40	1	.00	.00	.00	.00	.00	.00
30	27	64	89	62	---	.00	.00	.00	.00	.00	.00	.00
31	48	---	70	56	---	.00	---	.00	---	.00	.00	---
TOTAL	213.00	2515	1749	1637	1906	2175.00	0.00	75.00	0.00	0.00	0.00	0.00
MEAN	6.87	83.8	56.4	52.8	65.7	70.2	.0000	2.42	.0000	.0000	.0000	.0000
MAX	90	130	89	67	96	179	.00	22	.00	.00	.00	.00
MIN	.00	42	40	29	40	.00	.00	.00	.00	.00	.00	.00
AC-FT	422	4990	3470	3250	3780	4310	.00	149	.00	.00	.00	.00

NOTE: Flow diverted from Collett Reservoir (station 11351600), through powerplant, May 4-8.

SUMMARY STATISTICS

FOR 1992 WATER YEAR

ANNUAL TOTAL	10270.00
ANNUAL MEAN	28.1
HIGHEST DAILY MEAN	179 Mar 12
LOWEST DAILY MEAN	.00 Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1
ANNUAL RUNOFF (AC-FT)	20370
10 PERCENT EXCEEDS	82
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

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, 2,160 ft³/s, Mar. 11, 1989; no flow, Aug. 21, 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1040	1040	1050	1010	442	1040	927	920	925	945	860	889
2	1000	1100	1080	882	945	1080	1070	923	953	972	971	870
3	997	1130	1100	1060	989	937	1010	1000	802	1010	864	918
4	1040	1090	1120	1040	941	1190	1030	990	967	852	1090	960
5	1110	1130	1180	927	999	891	997	905	904	941	878	916
6	1100	1120	1100	1090	1070	1290	922	964	923	927	861	811
7	1100	1110	1130	1060	932	1150	1090	909	882	987	927	1050
8	1100	1110	1100	943	959	1060	1010	1070	835	900	889	881
9	1100	1130	1190	896	985	986	1030	809	877	916	845	911
10	1070	1130	1050	1050	1090	1030	1140	752	943	899	883	1000
11	1060	1150	1120	1030	974	1040	886	952	902	951	931	889
12	1080	1100	1110	837	1030	1070	1140	967	899	802	847	986
13	1120	1100	1040	1080	983	1070	976	969	927	816	845	931
14	1120	1120	855	999	1060	1000	1150	1040	871	857	906	846
15	1020	1140	1030	1050	1080	1040	1420	1120	996	891	995	1010
16	1030	1100	1020	999	1030	1150	1090	1070	888	811	850	958
17	1030	1160	967	1030	1130	1090	1070	960	939	557	874	956
18	1120	1160	992	974	924	966	1160	927	959	416	905	918
19	1140	1150	1050	897	890	1060	1150	852	982	457	859	957
20	1100	1080	1000	1030	1230	929	1070	984	940	709	729	999
21	1060	1080	926	974	1050	1040	1060	1030	940	708	.00	884
22	1030	1120	1000	950	1150	982	1150	950	826	719	366	912
23	1070	1130	1070	987	1030	1160	1000	952	882	772	629	976
24	1130	1110	965	989	1010	1030	1120	916	1010	1090	815	939
25	1100	1150	1040	1040	1030	1040	930	913	877	910	866	906
26	1100	1100	961	959	1060	1060	929	947	1040	860	860	989
27	1170	1150	1010	1050	1030	1130	964	919	823	872	856	941
28	1150	1110	1040	1000	1050	677	1030	870	903	927	886	996
29	1120	1140	1030	1040	965	1290	757	1050	931	1030	879	979
30	1120	1090	957	1030	---	1030	1180	847	1010	748	883	701
31	1070	---	1040	959	---	1140	---	872	---	918	1030	---
TOTAL	33597	33530	32323	30862	29058	32648	31458	29349	27556	26171	25879.00	27879
MEAN	1084	1118	1043	996	1002	1053	1049	947	919	844	835	929
MAX	1170	1160	1190	1090	1230	1290	1420	1120	1040	1090	1090	1050
MIN	997	1040	855	837	442	677	757	752	802	416	.00	701
AC-FT	66640	66510	64110	61210	57640	64760	62400	58210	54660	51910	51330	55300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	1147	1164	1151	1139	1130	1278	1232	1145	1070	1008	995	1046
MAX	1318	1283	1274	1282	1321	1591	1429	1248	1179	1151	1144	1177
(WY)	1987	1987	1987	1987	1987	1989	1989	1987	1987	1987	1987	1987
MIN	1034	1050	1043	996	1002	1053	1049	947	919	844	835	929
(WY)	1991	1991	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1987 - 1992
ANNUAL TOTAL	381148	360310.00	
ANNUAL MEAN	1044	984	1125
HIGHEST ANNUAL MEAN			1264
LOWEST ANNUAL MEAN			984
HIGHEST DAILY MEAN	1880	1420	2160
LOWEST DAILY MEAN	492	.00	.00
ANNUAL SEVEN-DAY MINIMUM	757	609	609
ANNUAL RUNOFF (AC-FT)	756000	714700	815200
10 PERCENT EXCEEDS	1160	1130	1300
50 PERCENT EXCEEDS	1040	998	1120
90 PERCENT EXCEEDS	918	854	940

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 mi², 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 National Geodetic Vertical Datum of 1929 (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 ft³/s, Feb. 20, 1986, gage height, 17.03 ft; minimum daily, 580 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 2	1000	*2,290	*6.76				

Minimum daily, 580 ft³/s, Feb. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	1160	1170	1270	580	1570	1090	1040	996	1010	880	1030
2	1020	1230	1240	1130	1190	1310	1230	1030	1050	1070	1050	969
3	1020	1310	1230	1270	1170	1170	1160	1120	935	1100	864	1020
4	1050	1290	1260	1290	1140	1430	1180	1110	1020	996	1130	1070
5	1150	1290	1310	1160	1190	1070	1140	1010	977	1060	948	979
6	1140	1270	1250	1340	1300	1510	1130	1070	1010	1030	955	930
7	1130	1260	1280	1300	1180	1410	1140	1010	977	1120	1030	1150
8	1120	1250	1290	1180	2020	1320	1130	1180	917	997	993	987
9	1110	1290	1270	1150	1200	1260	1150	928	971	1030	946	1010
10	1100	1300	1260	1290	1310	1330	1230	850	1050	1010	990	1100
11	1090	1260	1260	1270	1190	1350	1100	1030	1000	1050	989	980
12	1120	1250	1230	1050	1250	1370	1240	1060	984	903	1000	1080
13	1110	1270	1220	1310	1320	1410	1110	1070	1030	919	934	1030
14	1110	1320	1060	1220	1630	1280	1370	1150	969	979	1000	932
15	1060	1320	2010	1280	1320	1320	1580	1280	1100	979	1090	1070
16	1090	1260	1270	1230	1250	1400	1180	1190	991	880	948	1070
17	1070	1390	1180	1260	1360	1330	1200	1040	1020	866	974	1060
18	1210	1420	1240	1210	1350	1190	1300	1030	1050	954	1000	1020
19	1150	1310	1290	1110	1900	1320	1290	949	1070	1010	950	1040
20	1100	1270	1250	1260	1950	1160	1160	1080	1050	980	800	1100
21	1100	1300	1120	1190	1300	1280	1110	1130	1050	959	719	990
22	1050	1350	1230	1180	1400	1170	1200	1070	900	978	885	1020
23	1140	1350	1290	1210	1330	1330	1030	1050	975	1060	1210	1070
24	1160	1310	1190	1210	1310	1170	1200	1010	1100	1230	978	1040
25	1150	1300	1280	1280	1420	1150	1100	1000	964	1030	987	1050
26	1140	1270	1200	1420	1340	1180	1010	1040	1140	957	971	1040
27	1200	1340	1240	1810	1220	1330	1090	1000	888	979	967	1050
28	1220	1300	1290	1240	1260	800	1160	997	990	1000	1000	1100
29	1320	1310	1280	1240	1160	1670	856	1120	1030	1110	985	1050
30	1240	1230	1210	1240	---	1190	1310	946	1160	877	985	783
31	1160	---	1300	1180	---	1320	---	975	---	1010	1120	---
TOTAL	34880	38780	39200	38780	38540	40100	35176	32565	30364	31133	30278	30820
MEAN	1125	1293	1265	1251	1329	1294	1173	1050	1012	1004	977	1027
MAX	1320	1420	2010	1810	2020	1670	1580	1280	1160	1230	1210	1150
MIN	1020	1160	1060	1050	580	800	856	850	888	866	719	783
AC-FT	69180	76920	77750	76920	76440	79540	69770	64590	60230	61750	60060	61130

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1412	1660	1844	2049	2681	2925	2379	1943	1495	1283	1267	1316
MAX	1722	3181	3834	5351	8539	6302	5614	3861	2789	1666	1563	1623
(WY)	1976	1982	1984	1980	1986	1983	1982	1983	1983	1983	1983	1983
MIN	1125	1274	1248	1222	1291	1294	1173	1050	1012	1004	977	1027
(WY)	1992	1991	1991	1991	1991	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1975 - 1992	
ANNUAL TOTAL	516890		420616			
ANNUAL MEAN	1416		1149		1847	
HIGHEST ANNUAL MEAN					2890	
LOWEST ANNUAL MEAN					1149	
HIGHEST DAILY MEAN	3700	Mar 6	2020	Feb 8	28800	Feb 20 1986
LOWEST DAILY MEAN	640	Aug 13	580	Feb 1	580	Feb 1 1992
ANNUAL SEVEN-DAY MINIMUM	940	Aug 9	897	Aug 16	897	Aug 16 1992
INSTANTANEOUS PEAK FLOW			2290	Jan 2	30000	Feb 20 1986
INSTANTANEOUS PEAK STAGE			6.76	Jan 2	17.03	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	1025000		834300		1338000	
10 PERCENT EXCEEDS	1950		1320		2920	
50 PERCENT EXCEEDS	1260		1140		1470	
90 PERCENT EXCEEDS	1070		969		1170	

SACRAMENTO RIVER BASIN

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 mi², hydrologic drainage boundary uncertain because of ground-water exchange.

PERIOD OF RECORD.--July 1926 to September 1929, April 1930 to current year.

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

GAGE.--Water-stage recorder. Elevation of gage is 4,300 ft above National Geodetic Vertical Datum of 1929, 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 good. 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 ft³/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 ft³/s on basis of slope-area measurement of peak flow; minimum, 67 ft³/s, Sept. 7, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 24	1630	*163	*2.76				

Minimum daily, 81 ft³/s, several days during September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	87	95	94	94	97	98	124	106	93	89	83
2	97	86	97	94	92	96	100	121	105	91	89	82
3	97	86	97	95	92	95	101	121	104	89	89	83
4	97	86	97	96	93	95	103	125	103	88	89	84
5	96	87	98	96	93	96	102	129	103	88	89	82
6	96	87	98	95	94	96	101	132	102	87	89	82
7	96	92	98	95	94	96	100	137	100	86	89	82
8	92	96	95	94	93	95	101	144	100	85	88	86
9	90	100	96	94	93	95	103	138	98	85	85	88
10	90	99	96	95	94	94	98	128	93	89	83	88
11	90	98	95	95	93	94	98	133	90	91	83	88
12	90	97	95	94	94	95	103	135	91	92	83	88
13	90	97	95	94	94	95	109	132	93	92	83	88
14	90	97	95	94	94	95	103	131	94	92	83	88
15	90	96	96	94	92	95	101	129	94	91	82	88
16	90	97	96	95	92	94	101	128	92	91	83	88
17	89	101	96	95	92	94	126	127	90	92	82	87
18	94	98	98	94	93	94	122	125	90	91	82	83
19	96	98	95	93	94	94	114	123	89	91	85	81
20	95	101	94	93	99	94	113	123	93	87	88	81
21	95	100	94	93	102	93	113	112	95	85	88	82
22	95	96	95	93	100	93	110	106	94	85	88	82
23	95	98	95	93	97	94	106	106	94	84	88	81
24	96	99	95	94	96	93	105	106	99	85	88	81
25	97	98	95	94	96	93	109	106	96	84	88	81
26	107	98	95	94	96	94	117	106	95	83	89	82
27	100	100	95	94	96	94	118	104	94	84	88	81
28	91	97	96	95	96	94	122	102	95	84	89	85
29	87	96	95	94	96	95	132	101	101	83	85	87
30	86	95	95	94	---	95	132	98	101	87	83	87
31	87	---	94	94	---	96	---	103	---	89	82	---
TOTAL	2898	2863	2966	2921	2744	2933	3261	3735	2894	2724	2669	2529
MEAN	93.5	95.4	95.7	94.2	94.6	94.6	109	120	96.5	87.9	86.1	84.3
MAX	107	101	98	96	102	97	132	144	106	93	89	88
MIN	86	86	94	93	92	93	98	98	89	83	82	81
AC-FT	5750	5680	5880	5790	5440	5820	6470	7410	5740	5400	5290	5020

11355500 HAT CREEK NEAR HAT CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	128	134	135	133	132	133	142	178	182	141	126	123
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 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1927 - 1992		
ANNUAL TOTAL	37488			35137					
ANNUAL MEAN	103			96.0			141		
HIGHEST ANNUAL MEAN							196		
LOWEST ANNUAL MEAN							81.4		
HIGHEST DAILY MEAN	158			Jun 11			1710		
LOWEST DAILY MEAN	86			Oct 30			68		
ANNUAL SEVEN-DAY MINIMUM	86			Oct 29			68		
INSTANTANEOUS PEAK FLOW				163			3320		
INSTANTANEOUS PEAK STAGE				2.76			7.75		
ANNUAL RUNOFF (AC-FT)	74360			69690			102000		
10 PERCENT EXCEEDS	117			106			186		
50 PERCENT EXCEEDS	101			94			134		
90 PERCENT EXCEEDS	91			85			94		

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. During times of powerplant operation the minimum release requirement is 15 ft³/s; flow is computed to 57 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	17	16	17	17	16	15	15	15	15	15	15
2	16	17	17	17	17	16	15	15	15	15	15	15
3	16	18	17	17	17	16	15	15	15	15	15	15
4	17	17	17	17	17	16	15	15	15	15	15	15
5	16	25	17	17	17	17	15	15	15	15	15	17
6	16	18	17	17	17	16	15	15	15	15	15	16
7	16	23	17	17	17	16	15	16	16	15	15	16
8	17	17	17	17	17	15	15	15	15	15	15	15
9	17	17	17	17	17	15	15	15	15	15	15	15
10	16	17	17	17	17	16	15	15	15	15	15	15
11	16	17	17	17	16	16	15	15	15	15	15	15
12	16	16	21	17	16	16	15	15	15	15	15	15
13	16	16	18	17	16	16	15	15	15	15	15	15
14	16	16	17	17	16	16	15	15	15	17	15	15
15	17	17	17	17	24	16	15	15	15	16	15	15
16	16	16	17	17	17	18	15	15	15	17	17	15
17	16	16	17	17	16	16	15	15	15	20	15	15
18	16	16	17	17	16	16	15	15	15	16	15	15
19	16	16	23	17	16	16	15	15	15	16	15	15
20	16	16	17	17	16	16	15	16	15	16	15	15
21	18	16	17	17	16	16	15	16	15	16	29	15
22	19	16	17	17	16	16	15	16	15	16	43	15
23	18	16	17	19	16	16	15	16	15	15	43	15
24	17	16	17	17	16	16	15	16	15	15	43	15
25	17	18	17	17	16	16	15	16	15	15	26	15
26	17	16	17	17	20	16	15	16	16	15	16	15
27	17	16	17	17	16	16	19	16	15	15	15	15
28	17	16	17	17	16	16	29	16	15	15	15	15
29	17	16	17	17	16	16	17	16	15	15	15	15
30	17	17	17	17	---	16	15	16	15	15	15	15
31	17	---	17	17	---	16	---	15	---	15	15	---
TOTAL	516	511	537	529	487	497	470	477	452	480	577	454
MEAN	16.6	17.0	17.3	17.1	16.8	16.0	15.7	15.4	15.1	15.5	18.6	15.1
MAX	19	25	23	19	24	18	29	16	16	20	43	17
MIN	16	16	16	17	16	15	15	15	15	15	15	15
AC-FT	1020	1010	1070	1050	966	986	932	946	897	952	1140	901
a	2320	2210	2260	2250	2160	2330	2170	2190	2150	2180	1880	2080

CAL YR 1991 TOTAL 6449 MEAN 17.7 MAX 50 MIN 16 AC-FT 12790
WTR YR 1992 TOTAL 5987 MEAN 16.4 MAX 43 MIN 15 AC-FT 11880

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

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 mi².

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 Cipoletti weir. Elevation of gage is 3,180 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 2.0 ft³/s at all times. Flow is computed to 4.0 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	2.6	2.8	2.8	2.8	2.8	2.8	2.9	3.1	3.0	2.6	2.6
2	2.6	2.6	2.8	2.8	2.8	2.8	2.8	2.9	3.0	3.0	2.7	2.6
3	2.7	2.6	2.7	2.8	2.8	2.8	2.8	2.7	3.0	3.0	3.0	2.6
4	2.7	2.7	2.7	2.8	2.8	2.8	2.8	3.0	3.0	3.0	2.9	2.6
5	2.7	2.7	2.7	2.8	2.9	2.8	2.8	3.1	3.0	3.0	2.8	2.6
6	2.7	2.7	2.7	2.8	3.4	2.8	2.7	3.1	3.0	2.9	2.9	2.7
7	2.7	2.7	2.7	2.8	3.1	2.8	2.8	3.0	3.0	2.9	2.8	2.8
8	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	3.0	2.9	2.7	2.7
9	2.7	2.7	2.7	2.8	2.8	2.8	2.7	2.7	3.0	2.8	2.6	2.7
10	2.6	2.7	2.9	2.8	2.8	2.8	2.8	2.7	3.0	2.8	2.6	2.6
11	2.6	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.7	2.5	2.6
12	2.6	2.8	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.6	2.6	2.6
13	2.6	2.8	2.7	2.8	2.8	2.8	2.8	2.6	2.8	2.6	2.7	2.6
14	2.6	2.8	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.2	2.6	2.5
15	2.6	2.8	2.7	2.8	2.8	2.8	2.8	2.9	2.8	3.0	2.6	2.7
16	2.5	2.8	2.7	2.8	2.8	2.8	2.8	2.9	2.8	2.8	2.8	2.8
17	2.5	2.8	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
18	2.5	2.8	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.8	2.8
19	2.5	2.7	2.7	2.8	2.8	2.7	2.8	2.8	3.0	2.7	2.7	2.8
20	2.5	2.8	2.7	2.8	2.9	2.7	2.8	2.9	2.7	2.7	3.2	2.8
21	2.6	2.9	2.8	2.8	2.9	2.7	2.7	2.9	2.8	2.8	3.4	3.0
22	2.6	2.9	3.0	2.8	2.8	2.7	2.8	3.0	3.1	3.3	3.4	3.0
23	2.7	2.9	3.0	2.8	2.8	2.7	2.8	3.1	3.1	3.0	3.3	2.9
24	2.7	2.9	2.9	2.8	2.8	2.7	2.8	3.0	3.0	2.9	2.8	2.9
25	2.7	2.9	2.9	2.8	2.8	2.7	2.7	3.1	3.0	2.9	2.3	2.9
26	2.8	2.8	2.9	2.8	2.8	2.7	2.8	3.1	3.1	2.8	2.8	2.9
27	2.8	2.9	2.9	2.8	2.8	2.7	2.7	3.0	3.0	2.6	2.7	2.9
28	2.7	2.9	2.9	2.8	2.9	2.7	2.7	3.0	3.0	2.5	2.7	2.9
29	2.7	2.8	2.9	2.8	2.9	2.7	2.7	3.0	3.0	2.6	2.7	2.8
30	2.7	2.8	2.8	2.8	---	2.7	2.6	2.9	3.0	2.6	2.6	2.9
31	2.7	---	2.8	2.8	---	2.8	---	3.1	---	2.6	2.6	---
TOTAL	82.2	83.2	86.2	86.8	82.6	85.6	83.1	90.4	88.5	86.7	86.2	82.6
MEAN	2.65	2.77	2.78	2.80	2.85	2.76	2.77	2.92	2.95	2.80	2.78	2.75
MAX	2.9	2.9	3.0	2.8	3.4	2.8	2.8	3.1	3.1	3.3	3.4	3.0
MIN	2.5	2.6	2.7	2.8	2.8	2.7	2.6	2.6	2.7	2.2	2.3	2.5
AC-FT	163	165	171	172	164	170	165	179	176	172	171	164

SACRAMENTO RIVER BASIN

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.

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 ft³/s, Oct. 20, 1986; no flow several days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	257	280	280	268	268	245	198	198	198	198	198
2	210	257	280	280	280	268	233	198	198	198	186	198
3	210	257	280	268	268	268	221	210	210	210	198	210
4	221	257	268	268	268	257	221	104	198	198	198	198
5	210	268	268	268	233	257	210	.00	210	210	198	198
6	210	268	268	268	87	257	210	.00	198	210	210	198
7	210	257	280	268	145	268	198	.00	210	198	210	198
8	210	268	280	268	268	268	186	138	210	198	198	198
9	221	268	280	268	268	268	186	198	198	198	198	198
10	221	280	186	268	268	268	198	198	210	198	198	198
11	210	280	280	268	268	268	210	136	210	198	198	198
12	210	280	268	268	268	257	198	114	210	198	198	186
13	221	280	268	268	268	257	198	198	198	198	198	186
14	221	268	268	280	280	257	186	210	210	198	198	198
15	221	268	280	268	268	257	198	198	198	198	198	198
16	221	268	280	268	268	257	198	198	198	198	198	198
17	210	268	268	268	268	257	198	198	210	198	198	198
18	210	280	280	268	268	257	198	210	210	198	198	198
19	210	280	280	280	257	257	210	198	186	198	198	198
20	221	292	280	268	257	257	198	210	186	210	198	198
21	221	280	280	268	268	257	198	210	210	210	.00	198
22	221	280	268	268	257	257	198	210	210	210	.00	198
23	210	280	268	268	257	257	198	210	198	210	.00	210
24	221	280	268	268	257	257	210	210	198	210	.00	210
25	233	268	268	268	268	257	198	198	198	198	150	198
26	280	280	280	268	268	245	210	198	198	198	186	186
27	280	280	268	268	257	245	198	198	210	198	186	186
28	280	268	268	268	268	245	198	210	198	198	186	198
29	268	268	280	268	257	257	186	210	198	198	198	198
30	257	268	280	268	---	245	186	198	198	198	186	198
31	257	---	280	268	---	233	---	210	---	186	198	---
TOTAL	7016	8153	8430	8356	7380	7983	6080	5376.00	6072	6222	5262.00	5928
MEAN	226	272	272	270	254	258	203	173	202	201	170	198
MAX	280	292	280	280	280	268	245	210	210	210	210	210
MIN	210	257	186	268	87	233	186	.00	186	186	.00	186
AC-FT	13920	16170	16720	16570	14640	15830	12060	10660	12040	12340	10440	11760
a	10230	20870	22050	21810	20000	21070	16870	17290	14610	16890	14180	16030

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	307	304	340	338	330	329	283	247	251	252	243	252
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	226	72.5	272	270	254	258	203	150	202	201	170	198
(WY)	1992	1990	1992	1992	1992	1992	1992	1991	1992	1992	1992	1992

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1987 - 1992

ANNUAL TOTAL	89023.00	82250.00	
ANNUAL MEAN	244	225	290
HIGHEST ANNUAL MEAN			362
LOWEST ANNUAL MEAN			225
HIGHEST DAILY MEAN	350	Mar 3	292
LOWEST DAILY MEAN	.00	May 14	.00
ANNUAL SEVEN-DAY MINIMUM	.00	May 14	75
ANNUAL RUNOFF (AC-FT)	176600	163200	209800
10 PERCENT EXCEEDS	292	280	396
50 PERCENT EXCEEDS	245	210	292
90 PERCENT EXCEEDS	210	198	210

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 above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 8.0 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	8.8	8.8	8.5	8.5	8.5	8.4	9.1	9.8	9.3	8.8	9.0
2	8.7	8.8	8.8	8.5	8.6	8.6	8.6	8.9	9.5	9.4	8.9	9.0
3	8.8	8.8	8.8	8.6	8.5	8.5	8.6	8.8	9.4	9.3	9.0	8.9
4	8.8	8.8	8.8	8.5	8.5	8.5	8.6	8.6	9.7	9.2	9.0	9.0
5	8.8	8.8	8.8	8.6	8.5	8.5	8.4	8.9	9.8	9.1	9.0	9.0
6	---	8.8	8.8	8.6	8.6	8.6	8.5	8.8	9.4	9.1	9.1	9.0
7	---	8.7	8.9	8.6	8.9	8.6	8.5	8.8	9.6	9.1	9.0	9.0
8	---	9.0	8.8	8.5	9.2	8.6	8.7	8.9	9.6	9.1	9.0	9.1
9	---	9.0	8.8	8.5	8.7	8.5	8.6	9.0	9.4	9.1	9.0	9.0
10	---	8.9	9.1	8.5	8.6	8.5	8.5	8.9	9.4	9.1	8.9	9.0
11	---	9.0	9.4	8.5	8.6	8.5	8.6	8.6	9.4	9.1	8.9	9.0
12	---	8.8	9.0	8.5	8.6	8.5	8.7	8.8	9.5	9.1	9.1	8.9
13	---	8.8	8.8	8.5	8.6	8.4	8.6	9.0	9.4	9.1	9.0	9.2
14	---	8.8	8.8	8.4	8.6	8.5	8.6	8.6	9.5	9.1	8.9	9.0
15	8.4	8.8	8.8	8.6	8.8	8.6	8.5	8.9	9.6	9.1	9.0	9.1
16	9.5	8.8	8.8	8.6	8.7	8.6	8.6	8.9	9.6	9.1	8.9	8.6
17	9.4	9.0	8.8	8.6	8.7	8.7	8.7	9.0	9.7	9.2	8.9	8.7
18	9.3	9.0	8.9	8.6	8.7	8.7	8.5	9.1	9.7	9.1	8.9	9.2
19	9.3	8.9	8.8	8.6	8.7	8.7	8.6	9.1	9.6	8.9	8.8	9.1
20	9.3	8.9	8.8	8.5	8.7	8.6	8.5	9.1	10	9.0	8.9	9.0
21	9.3	8.9	8.8	8.5	8.7	8.6	8.7	9.2	9.6	8.9	9.5	9.1
22	9.2	8.9	8.7	8.5	8.7	8.6	8.7	9.3	9.5	8.9	9.8	9.3
23	9.2	8.9	8.7	8.4	8.7	8.6	8.7	9.3	9.7	8.9	9.6	9.2
24	9.1	8.9	8.7	8.4	8.6	8.6	8.8	9.2	9.5	8.9	9.7	9.3
25	9.2	8.9	8.7	8.5	8.6	8.6	8.7	9.1	9.4	8.9	9.5	9.2
26	9.5	8.9	8.6	8.6	8.6	8.5	8.7	9.2	9.5	8.9	8.6	9.3
27	9.4	9.0	8.5	8.6	8.5	8.5	8.4	9.3	9.4	8.9	8.9	9.1
28	9.4	8.9	8.6	8.6	8.5	8.5	8.4	9.3	9.4	8.8	8.8	9.3
29	9.2	8.8	8.6	8.7	8.5	8.5	8.6	9.3	9.4	8.9	8.8	9.2
30	9.0	8.8	8.6	8.5	---	8.5	8.7	9.3	9.3	8.9	9.1	9.1
31	8.8	---	8.6	8.3	---	8.4	---	9.4	---	8.8	9.0	---
TOTAL	---	266.1	272.4	264.4	250.7	265.1	257.7	279.7	286.3	280.3	280.3	271.9
MEAN	---	8.87	8.79	8.53	8.64	8.55	8.59	9.02	9.54	9.04	9.04	9.06
MAX	---	9.0	9.4	8.7	9.2	8.7	8.8	9.4	10	9.4	9.8	9.3
MIN	---	8.7	8.5	8.3	8.5	8.4	8.4	8.6	9.3	8.8	8.6	8.6
AC-FT	---	528	540	524	497	526	511	555	568	556	556	539

NOTE: Canal out of service Oct. 6-14, and all flow remained in the natural channel.

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 mi², excluding Goose Lake Basin. PERIOD OF RECORD, October 1965 to current year (month-end 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 National Geodetic Vertical Datum of 1929 (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. 23, elevation, 2,757.00 ft; minimum, 27,730 acre-ft, May 14, elevation, 2,745.60 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 mi². PERIOD OF RECORD, December 1965 to current year (monthend contents only). GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 990 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, 21,656 acre-ft, May 25, elevation, 2,659.70 ft; minimum, 9,424 acre-ft, Feb. 17, elevation, 2,625.80 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 mi². PERIOD OF RECORD, October 1965 to current year (monthend contents only). GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 31,716 acre-ft, Apr. 20, 21, May 9-11, elevation, 2,673.00 ft; minimum, 18,121 acre-ft, Nov. 8, elevation, 2,640.10 ft.

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

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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.....	2,754.80	37,891	--	2,641.60	14,258	--	2,650.90	22,072	--
Oct. 31.....	2,747.15	29,293	-8,598	2,631.90	11,140	-3,118	2,643.30	19,240	-2,832
Nov. 30.....	2,748.40	30,599	1,306	2,638.50	13,207	2,067	2,641.60	18,640	-600
Dec. 31.....	2,754.70	37,769	7,170	2,639.30	13,473	266	2,645.00	19,853	1,213
CAL YR 1991..	--	--	2,498	--	--	1,484	--	--	1,422
Jan. 31.....	2,753.70	36,566	-1,203	2,636.00	12,397	-1,076	2,643.30	19,240	-613
Feb. 28.....	2,754.70	37,769	1,203	2,629.00	10,303	-2,094	2,650.40	21,878	2,638
Mar. 31.....	2,754.75	37,830	61	2,645.00	15,481	5,178	2,659.10	25,406	3,528
Apr. 30.....	2,753.10	35,856	-1,974	2,653.20	18,746	3,265	2,671.70	31,089	5,683
May 31.....	2,756.45	39,931	4,075	2,658.30	21,005	2,259	2,668.60	29,628	-1,461
June 30.....	2,756.30	39,743	-188	2,657.10	20,457	-548	2,666.30	28,571	-1,057
July 31.....	2,752.60	35,271	-4,472	2,650.50	17,621	-2,836	2,662.50	26,874	-1,697
Aug. 31.....	2,754.75	37,830	2,559	2,647.70	16,507	-1,114	2,660.90	26,177	-697
Sept. 30.....	2,750.50	32,880	-4,950	2,641.30	14,154	-2,353	2,651.50	22,306	-3,871
WTR YR 1992..	--	--	-5,011	--	--	-104	--	--	234

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 mi², 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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Feb. 20, 1986, gage height, 18.70 ft; minimum daily, prior to diversion to Pit No. 4 powerplant in 1955, 234 ft³/s, Sept. 13, 1953. Minimum daily, since diversion to Pit No. 4 powerplant, 22 ft³/s, Dec. 2-4, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,580 ft³/s, Aug. 24, gage height, 7.45 ft; minimum daily, 81 ft³/s, July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	158	159	157	158	157	160	158	159	168	166	163
2	156	155	160	156	159	157	159	158	156	169	165	160
3	155	156	158	157	157	157	159	158	160	167	165	159
4	155	156	158	157	158	158	161	159	172	166	166	154
5	155	154	157	157	157	157	161	158	173	166	167	155
6	157	156	159	156	160	156	159	156	172	165	167	158
7	155	160	158	157	157	155	160	156	167	104	162	158
8	154	159	158	157	157	157	158	161	168	82	162	156
9	156	159	157	156	158	159	160	161	169	83	161	156
10	157	162	157	156	159	160	157	158	168	109	160	158
11	156	158	156	157	158	159	158	158	170	171	160	159
12	157	159	155	158	157	160	156	157	167	171	160	160
13	155	158	158	156	155	158	155	159	168	169	159	158
14	155	159	159	158	158	162	158	158	169	163	162	160
15	155	157	157	157	155	158	158	161	170	164	160	160
16	157	160	157	159	155	159	158	165	168	167	160	160
17	155	158	158	159	155	159	159	180	168	172	160	163
18	156	157	156	158	155	171	160	171	167	169	161	161
19	156	157	158	157	156	161	162	165	166	168	161	160
20	155	156	160	157	164	158	162	157	165	164	160	161
21	157	157	159	155	156	158	158	158	165	90	162	162
22	156	159	159	155	159	159	159	160	166	81	194	161
23	154	155	160	156	160	159	159	158	168	106	338	160
24	156	155	159	155	160	158	160	157	168	168	1840	161
25	156	163	157	155	160	157	158	157	167	166	1800	157
26	155	172	159	155	159	157	157	157	165	167	1790	160
27	153	164	160	155	159	159	156	157	167	166	1760	160
28	155	159	157	157	158	157	159	158	166	166	1350	158
29	154	157	157	156	155	158	158	158	168	166	1410	159
30	154	157	157	157	---	159	157	160	171	165	162	158
31	155	---	157	158	---	159	---	159	---	167	162	---
TOTAL	4819	4750	4896	4856	4574	4918	4761	4953	5013	4665	14212	4775
MEAN	155	158	158	157	158	159	159	160	167	150	458	159
MAX	157	172	160	159	164	171	162	180	173	172	1840	163
MIN	153	154	155	155	155	155	155	156	156	81	159	154
AC-FT	9560	9420	9710	9630	9070	9750	9440	9820	9940	9250	28190	9470
a	101600	98510	93440	99940	93450	103100	90470	79200	78340	84300	75210	84190
b	108300	105700	100200	106100	100000	110800	97620	85470	82530	90210	62510	89770

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.

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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	245	230	445	928	1017	988	763	410	226	163	163	158
MAX	2189	2436	3791	7250	7657	4498	3416	2539	1479	490	458	268
(WY)	1955	1955	1965	1970	1986	1983	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1955 - 1992

ANNUAL TOTAL	59753	67192	
ANNUAL MEAN	164	184	476
HIGHEST ANNUAL MEAN			1868
LOWEST ANNUAL MEAN			98.4
HIGHEST DAILY MEAN	571	Mar 6	1840
LOWEST DAILY MEAN	153	Oct 27	81
ANNUAL SEVEN-DAY MINIMUM	155	Oct 25	125
INSTANTANEOUS PEAK FLOW			2580
INSTANTANEOUS PEAK STAGE			7.45
ANNUAL RUNOFF (AC-FT)	118500	133300	344500
10 PERCENT EXCEEDS	168	168	1080
50 PERCENT EXCEEDS	160	158	151
90 PERCENT EXCEEDS	156	155	58

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 mi², 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 National Geodetic Vertical Datum of 1929. 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 ft³/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 ft³/s; maximum gage height, 18.70 ft, Feb. 20, 1986, site then in use; minimum daily, 692 ft³/s, July 9, 1925; since diversion to Pit No. 5 powerplant, minimum daily, 34 ft³/s, Mar. 28, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 28	0200	*3,400	*9.70				

Minimum daily, 78 ft³/s, July 24, 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	136	137	135	137	167	150	148	132	140	141	138
2	139	138	138	135	134	168	151	139	135	136	140	134
3	132	138	136	130	134	168	152	134	134	135	141	141
4	133	131	138	144	134	207	145	143	142	136	142	137
5	132	131	132	142	132	224	142	144	138	137	140	135
6	131	135	133	138	134	215	148	143	129	138	144	134
7	134	132	137	145	132	199	148	141	129	142	143	139
8	130	128	130	133	133	186	143	138	135	132	144	135
9	134	138	128	127	135	182	139	129	133	139	145	142
10	133	135	132	134	141	179	151	128	131	118	153	142
11	135	132	130	132	167	171	139	133	131	85	146	143
12	138	130	134	129	187	175	187	130	129	84	147	141
13	138	140	130	133	173	164	192	135	131	92	147	147
14	139	132	128	130	184	155	170	134	129	142	148	148
15	139	131	132	139	185	168	160	134	127	139	146	144
16	135	135	130	132	189	195	175	125	124	137	145	141
17	136	135	145	137	187	191	223	125	135	134	145	136
18	131	125	147	129	201	174	183	129	132	135	145	140
19	133	134	143	130	356	170	172	123	132	136	140	144
20	135	134	136	136	748	170	176	127	133	130	135	145
21	137	131	131	133	397	157	169	128	131	127	152	143
22	141	137	133	132	331	152	163	131	135	129	149	144
23	142	139	131	133	254	163	159	122	137	116	148	142
24	144	140	132	131	224	159	156	124	136	78	1770	139
25	144	148	129	129	200	160	151	125	129	78	1940	142
26	151	154	134	129	194	158	143	132	132	93	1890	139
27	138	149	131	129	188	156	152	130	132	129	1840	142
28	144	143	140	138	175	146	150	124	128	129	1490	141
29	144	138	139	134	163	145	149	126	132	137	1300	141
30	145	140	134	134	---	155	145	120	165	131	174	144
31	148	---	136	134	---	151	---	124	---	135	156	---
TOTAL	4281	4089	4166	4146	6049	5330	4783	4068	3998	3849	13886	4223
MEAN	138	136	134	134	209	172	159	131	133	124	448	141
MAX	151	154	147	145	748	224	223	148	165	142	1940	148
MIN	130	125	128	127	132	145	139	120	124	78	135	134
AC-FT	8490	8110	8260	8220	12000	10570	9490	8070	7930	7630	27540	8380

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
LOWEST ANNUAL MEAN	1787
HIGHEST DAILY MEAN	30300
LOWEST DAILY MEAN	692
ANNUAL SEVEN-DAY MINIMUM	915
INSTANTANEOUS PEAK FLOW	a34200
INSTANTANEOUS PEAK STAGE	16.26
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	213	219	504	977	1172	1238	1093	539	243	130	129	122
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1944 - 1992

ANNUAL TOTAL	55256	62868	
ANNUAL MEAN	151	172	545
HIGHEST ANNUAL MEAN			1548
LOWEST ANNUAL MEAN			86.5
HIGHEST DAILY MEAN	938	Mar 4	1940
LOWEST DAILY MEAN	117	Jun 2	78
ANNUAL SEVEN-DAY MINIMUM	124	May 30	107
INSTANTANEOUS PEAK FLOW			3400
INSTANTANEOUS PEAK STAGE			9.70
ANNUAL RUNOFF (AC-FT)	109600	124700	394900
10 PERCENT EXCEEDS	165	175	1470
50 PERCENT EXCEEDS	139	138	134
90 PERCENT EXCEEDS	130	129	71

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., in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,420 ft³/s, July 15, 1966; no flow several days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	492	193	558	449	1010	1110	555	879	634	185	1050
2	699	558	363	543	378	847	528	62	963	782	135	264
3	504	636	580	319	591	729	652	209	150	135	734	337
4	787	559	555	614	519	859	658	839	751	251	1100	783
5	282	346	339	317	643	917	677	836	292	218	718	436
6	577	443	221	768	447	652	755	647	97	582	591	299
7	447	516	452	715	259	260	910	566	562	717	646	414
8	464	457	296	903	261	535	568	534	511	673	598	748
9	485	207	495	739	577	862	811	519	470	472	461	520
10	845	.00	429	341	639	877	664	632	553	331	468	266
11	527	430	518	320	675	514	325	1080	426	703	803	860
12	452	427	977	154	725	865	485	589	618	148	563	476
13	129	444	447	488	955	375	525	587	467	765	342	145
14	616	219	283	647	1270	211	843	529	322	632	557	222
15	528	515	43	574	1390	621	1060	509	553	431	918	463
16	540	298	667	575	659	866	680	482	830	715	482	433
17	343	418	487	680	1070	767	757	838	920	595	277	464
18	568	884	500	249	817	781	891	975	121	121	429	501
19	517	683	379	275	847	697	1280	353	551	110	829	510
20	473	639	478	476	377	835	1030	580	757	519	281	389
21	610	300	437	553	1410	798	771	452	662	713	.00	583
22	201	478	306	635	769	944	1100	467	724	930	.00	600
23	421	532	361	702	631	714	833	832	169	.00	.00	540
24	765	510	281	367	869	528	632	638	620	848	.00	386
25	318	465	545	392	902	830	740	131	275	795	.00	643
26	333	608	601	158	880	579	197	886	803	606	.00	434
27	416	604	732	521	851	546	311	659	.00	729	.00	383
28	784	2.9	227	543	843	239	965	433	130	255	.00	816
29	877	.00	746	340	714	479	631	912	531	780	49	600
30	789	166	322	450	---	652	517	373	984	916	1700	874
31	607	---	171	586	---	516	---	403	---	821	1550	---
TOTAL	16924	12836.90	13431	15502	21417	20905	21906	18107	15691.00	16927.00	14416.00	15439
MEAN	546	428	433	500	739	674	730	584	523	546	465	515
MAX	1020	884	977	903	1410	1010	1280	1080	984	930	1700	1050
MIN	129	.00	43	154	259	211	197	62	.00	.00	.00	145
AC-FT	33570	25460	26640	30750	42480	41470	43450	35920	31120	33570	28590	30620
a	124700	121500	118800	124200	119500	129900	117400	106100	101900	111000	86320	109300

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	MEAN	745	762	900	957	995	1153	1130	983	869	845	805	782
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	546	465	515	
(WY)	1982	1992	1992	1992	1978	1991	1990	1977	1987	1992	1992	1992	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR				FOR 1992 WATER YEAR				WATER YEARS 1966 - 1992			
ANNUAL TOTAL	195543.90				203501.90							
ANNUAL MEAN	536				556				906			
HIGHEST ANNUAL MEAN									1313			
LOWEST ANNUAL MEAN									547			
HIGHEST DAILY MEAN	1090				1700				2420			
LOWEST DAILY MEAN	.00				.00				.00			
ANNUAL SEVEN-DAY MINIMUM	266				.00				.00			
ANNUAL RUNOFF (AC-FT)	387900				403600				656100			
10 PERCENT EXCEEDS	831				879				1490			
50 PERCENT EXCEEDS	528				548				874			
90 PERCENT EXCEEDS	227				200				393			

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 mi².

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 National Geodetic Vertical Datum of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.--No estimated daily discharges. Flow is completely regulated by Iron Canyon Reservoir (station 11363920). There is interbasin diversion from Lake McCloud (station 11367740) to Iron Canyon Reservoir and then into 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 ft³/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 ft³/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, 210 ft³/s, Feb. 12, from equation for 4 by 4-ft sluice gate; gage height, 2.00 ft, from highwater mark (flashboards removed from weir); minimum daily, 3.4 ft³/s, Nov. 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.6	3.7	3.8	3.8	3.8	3.8	3.9	4.2	4.2	3.9	3.8
2	3.6	3.6	3.7	3.7	3.7	3.8	3.8	4.0	4.1	4.1	3.9	3.7
3	3.6	3.6	3.7	3.7	3.7	3.8	3.7	4.1	4.1	4.1	3.6	3.7
4	3.5	3.6	3.7	3.9	3.8	3.8	3.8	4.1	4.1	4.1	3.9	3.7
5	3.5	3.6	3.7	4.1	3.8	3.9	3.8	4.1	4.1	4.1	3.7	3.7
6	3.6	3.7	3.7	3.8	3.8	3.8	3.8	4.1	4.1	4.2	3.7	3.8
7	3.6	3.7	3.7	3.8	3.8	3.8	3.7	4.1	4.2	4.2	3.7	3.8
8	3.6	3.7	3.7	3.7	3.8	3.8	3.7	4.1	4.2	4.1	3.7	3.7
9	3.6	3.8	3.7	3.8	3.8	3.8	3.8	4.1	4.2	4.1	3.7	3.7
10	3.6	3.8	3.7	3.8	4.0	3.8	3.8	4.2	4.2	4.1	3.8	3.8
11	3.6	3.7	3.7	3.8	4.4	3.8	3.8	4.1	4.2	4.1	3.7	3.7
12	3.6	3.7	3.7	3.8	4.4	3.8	4.0	4.1	4.2	4.1	3.8	3.7
13	3.7	3.8	3.7	3.7	4.2	3.8	4.1	4.1	4.2	4.2	3.7	3.8
14	3.7	3.6	3.7	3.7	4.3	3.8	4.0	4.1	4.2	4.1	3.7	3.8
15	3.7	3.5	3.7	3.7	4.0	4.0	3.9	4.1	4.2	4.1	3.8	3.8
16	3.7	3.4	3.7	3.8	3.8	4.1	3.9	4.2	4.2	4.1	3.7	3.7
17	3.7	3.4	3.8	3.7	3.8	3.9	4.1	4.2	4.1	4.1	3.8	3.7
18	3.7	3.7	3.8	3.7	4.2	3.8	3.9	4.1	4.1	4.1	3.8	3.8
19	3.7	3.6	3.7	3.7	4.9	3.8	3.8	4.1	4.2	4.2	3.7	3.8
20	3.7	3.7	3.7	3.7	4.9	3.8	3.8	4.1	4.1	4.2	3.7	3.8
21	3.7	3.7	3.7	3.7	5.8	3.8	3.8	4.1	4.1	4.2	3.7	3.8
22	3.8	3.7	3.7	3.8	4.0	3.8	3.8	4.2	4.1	4.1	3.8	3.7
23	3.9	3.7	3.7	3.7	3.8	3.8	3.8	4.1	4.1	4.1	3.8	3.8
24	3.9	3.7	3.7	3.7	3.8	3.8	3.8	4.1	4.1	4.2	3.8	3.7
25	3.9	3.7	3.7	3.8	3.8	3.8	3.8	4.1	4.1	4.1	3.9	3.7
26	3.9	3.8	3.8	3.8	3.8	3.8	3.8	4.1	4.1	4.1	4.0	3.7
27	3.9	3.7	3.7	3.8	3.8	3.8	3.8	4.2	4.1	4.0	4.0	3.8
28	3.9	3.7	3.8	3.8	3.8	3.8	3.9	4.2	4.1	4.0	4.0	3.7
29	3.8	3.7	3.9	3.8	3.8	3.8	3.9	4.2	4.3	4.0	4.1	3.8
30	3.7	3.7	3.8	3.8	---	3.8	3.9	4.2	4.7	3.7	4.1	3.7
31	3.7	---	3.8	3.8	---	3.8	---	4.2	---	3.9	3.9	---
TOTAL	114.7	109.9	115.5	116.9	117.3	118.5	115.3	127.7	125.0	127.0	118.1	112.4
MEAN	3.70	3.66	3.73	3.77	4.04	3.82	3.84	4.12	4.17	4.10	3.81	3.75
MAX	3.9	3.8	3.9	4.1	5.8	4.1	4.1	4.2	4.7	4.2	4.1	3.8
MIN	3.5	3.4	3.7	3.7	3.7	3.8	3.7	3.9	4.1	3.7	3.6	3.7
AC-FT	228	218	229	232	233	235	229	253	248	252	234	223

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.41	3.42	3.35	4.26	19.6	11.1	3.55	3.55	3.49	3.49	3.38	3.43
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	1402.7		1418.3			
ANNUAL MEAN	3.84		3.88		5.42	
HIGHEST ANNUAL MEAN					44.4	
LOWEST ANNUAL MEAN					2.99	
HIGHEST DAILY MEAN	5.7	Mar 4	5.8	Feb 21	538	Feb 25 1978
LOWEST DAILY MEAN	3.4	Feb 7	3.4	Nov 16	.00	Jul 15 1967
ANNUAL SEVEN-DAY MINIMUM	3.5	Sep 15	3.6	Nov 14	.37	Dec 28 1987
INSTANTANEOUS PEAK FLOW			210	Feb 12	650	Feb 5 1986
INSTANTANEOUS PEAK STAGE			2.00	Feb 12		
ANNUAL RUNOFF (AC-FT)	2780		2810		3920	
10 PERCENT EXCEEDS	4.2		4.2		4.2	
50 PERCENT EXCEEDS	3.8		3.8		3.2	
90 PERCENT EXCEEDS	3.6		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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s except March to May when the minimum release requirement is 40 ft³/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 1991-92) Maximum discharge, 496 ft³/s, Feb. 20, 1992, gage-height, 2.98 ft, from rating curve extended above 50 ft³/s on basis of theoretical computation of flow over weir; minimum daily, 6.6 ft³/s, many days in August and September, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 496 ft³/s, Feb. 20, gage-height, 2.98 ft; minimum daily, 6.6 ft³/s, many days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	10	11	16	19	44	44	45	20	18	8.6	7.0
2	7.4	10	11	15	18	43	42	47	19	17	8.2	7.0
3	7.4	10	11	14	15	42	41	45	18	15	8.2	7.0
4	7.4	10	11	18	15	48	40	43	18	15	8.2	7.0
5	7.4	10	11	17	15	46	39	41	18	14	8.2	7.0
6	7.4	10	11	17	15	43	37	40	18	14	8.2	7.0
7	7.4	10	13	18	15	43	37	39	17	13	8.2	7.0
8	7.4	10	11	18	16	43	36	39	17	13	7.8	7.0
9	7.4	11	11	19	17	46	37	37	16	12	7.8	6.6
10	7.4	11	11	18	19	48	40	36	16	12	7.4	6.6
11	7.4	11	11	17	18	42	40	36	16	12	7.4	6.6
12	7.4	11	11	15	20	42	53	35	18	14	7.4	6.6
13	7.4	11	11	15	18	42	43	34	18	13	7.0	6.6
14	7.4	10	11	14	26	41	44	33	17	13	7.0	6.6
15	7.4	10	11	13	26	44	42	31	17	12	7.0	6.6
16	7.4	10	11	13	24	44	44	31	16	12	7.0	6.6
17	7.4	21	11	13	27	44	59	31	16	11	7.0	6.6
18	7.4	18	21	13	19	42	43	30	16	11	7.0	6.6
19	7.4	13	15	13	66	43	42	29	15	11	7.0	6.6
20	7.4	13	13	13	229	42	43	29	14	10	7.0	6.6
21	7.4	14	13	13	134	42	42	28	13	10	7.0	6.6
22	7.4	13	12	13	94	42	41	26	13	10	6.6	6.6
23	7.4	12	12	13	33	42	42	26	13	10	6.6	6.6
24	7.4	12	12	13	17	43	43	25	14	10	6.6	6.6
25	14	11	12	13	17	43	43	24	13	10	7.0	6.6
26	24	11	12	12	17	42	42	24	12	10	6.6	6.6
27	13	12	12	12	17	42	42	23	12	9.1	6.6	6.6
28	10	11	19	16	18	43	42	22	13	8.6	6.6	6.6
29	10	11	18	14	18	43	42	21	17	8.6	6.6	7.0
30	10	11	18	14	---	42	42	21	21	8.6	6.6	7.0
31	10	---	18	13	---	44	---	20	---	8.6	7.0	---
TOTAL	268.6	348	396	455	1002	1340	1267	991	481	365.5	225.4	202.0
MEAN	8.66	11.6	12.8	14.7	34.6	43.2	42.2	32.0	16.0	11.8	7.27	6.73
MAX	24	21	21	19	229	48	59	47	21	18	8.6	7.0
MIN	7.4	10	11	12	15	41	36	20	12	8.6	6.6	6.6
AC-FT	533	690	785	902	1990	2660	2510	1970	954	725	447	401
a	0	0	22	67	2250	1270	944	4.0	6.0	0	0	0

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

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.2	12.4	13.0	16.8	25.0	47.0	43.4	35.7	18.7	11.9	7.95	7.12
MAX	11.7	13.3	13.3	18.9	34.6	50.7	44.6	39.5	21.5	12.0	8.64	7.51
(WY)	1991	1991	1991	1991	1992	1991	1991	1991	1991	1991	1991	1991
MIN	8.66	11.6	12.8	14.7	15.1	43.2	42.2	32.0	16.0	11.8	7.27	6.73
(WY)	1992	1992	1992	1992	1991	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1991 - 1992	
ANNUAL TOTAL	7668.1		7341.5			
ANNUAL MEAN	21.0		20.1		20.8	
HIGHEST ANNUAL MEAN					21.4	
LOWEST ANNUAL MEAN					20.1	
HIGHEST DAILY MEAN	203	Mar 4	229	Feb 20	229	Feb 20 1992
LOWEST DAILY MEAN	7.0	Sep 11	6.6	Aug 22	6.6	Aug 22 1992
ANNUAL SEVEN-DAY MINIMUM	7.1	Sep 16	6.6	Sep 9	6.6	Sep 9 1992
INSTANTANEOUS PEAK FLOW			496	Feb 20	496	Feb 20 1992
INSTANTANEOUS PEAK STAGE			2.98	Feb 20	2.98	Feb 20 1992
ANNUAL RUNOFF (AC-FT)	15210		14560		15030	
10 PERCENT EXCEEDS	44		42		43	
50 PERCENT EXCEEDS	14		13		14	
90 PERCENT EXCEEDS	7.4		7.0		7.4	

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--During times of powerplant operation the minimum flow requirement is 15 ft³/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 1991-92) Maximum discharge, 349 ft³/s, Mar. 4, 1991, gage height, 3.09 ft from rating curve extended above 42 ft³/s on basis of theoretical computation of flow over weir; minimum daily, 3.8 ft³/s, Aug. 18 to Sept. 8, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 132 ft³/s, Feb. 20, gage height, 1.29 ft; minimum daily, 3.8 ft³/s, Aug. 18 to Sept. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	7.2	8.4	10	12	19	18	21	8.8	10	4.7	e3.8
2	5.1	7.2	8.4	9.6	11	19	18	20	8.8	8.4	4.4	e3.8
3	5.1	7.2	8.4	9.2	10	19	18	18	8.4	7.6	4.4	e3.8
4	5.1	7.2	8.4	12	10	19	18	18	8.4	7.2	4.4	e3.8
5	5.1	6.8	8.4	17	10	19	18	17	8.0	7.2	4.4	e3.8
6	5.1	6.8	8.8	14	10	18	19	17	8.0	7.2	4.4	e3.8
7	5.1	6.8	11	13	10	19	19	16	8.0	6.8	4.4	e3.8
8	5.1	7.2	9.6	12	13	19	18	16	8.0	6.4	4.4	e3.8
9	5.1	8.8	8.8	11	14	19	19	15	8.0	6.4	4.4	4.1
10	5.1	7.6	8.4	11	16	18	24	15	7.6	6.1	4.4	4.1
11	5.1	7.2	8.4	10	21	18	24	14	7.6	6.4	4.1	4.1
12	5.1	7.2	8.0	9.6	19	18	26	14	9.6	6.4	4.1	4.4
13	5.1	7.2	8.0	9.6	18	18	21	14	9.2	6.4	4.1	4.4
14	5.1	7.2	8.0	9.6	18	18	19	14	9.2	6.1	4.1	4.4
15	5.1	7.2	8.0	9.6	19	20	18	14	9.2	6.1	4.1	4.4
16	5.1	7.2	8.0	9.6	19	18	19	13	8.8	5.7	4.1	4.4
17	5.1	18	8.4	9.6	18	19	18	13	8.4	5.7	4.1	4.4
18	5.1	16	19	9.2	18	18	20	12	8.4	5.4	3.8	4.4
19	5.1	10	13	8.8	37	18	19	12	8.4	5.4	3.8	4.4
20	5.1	12	10	8.8	74	18	19	13	7.6	5.4	3.8	4.4
21	5.1	12	9.6	8.8	29	18	18	12	7.2	5.4	e3.8	4.4
22	5.4	10	9.2	8.4	27	18	18	11	6.8	5.4	e3.8	4.4
23	6.1	9.2	8.8	8.4	18	18	19	11	6.8	5.4	e3.8	4.4
24	6.1	8.8	8.4	8.8	18	18	19	10	6.8	5.4	e3.8	4.4
25	10	8.8	8.8	9.2	19	18	19	10	6.8	5.1	e3.8	4.4
26	18	8.8	8.8	8.8	18	18	18	10	6.4	5.1	e3.8	4.4
27	10	14	8.4	8.8	18	18	18	10	6.4	5.1	e3.8	4.4
28	8.4	11	10	12	19	18	18	9.6	6.8	4.7	e3.8	4.4
29	8.0	9.6	10	12	19	18	18	9.6	10	4.7	e3.8	4.4
30	7.6	8.0	11	11	---	18	20	9.2	12	4.7	e3.8	4.4
31	7.6	---	11	10	---	18	---	8.8	---	4.7	e3.8	---
TOTAL	194.3	272.2	291.4	319.4	562	569	577	417.2	244.4	188.0	126.2	126.3
MEAN	6.27	9.07	9.40	10.3	19.4	18.4	19.2	13.5	8.15	6.06	4.07	4.21
MAX	18	18	19	17	74	20	26	21	12	10	4.7	4.4
MIN	5.1	6.8	8.0	8.4	10	18	18	8.8	6.4	4.7	3.8	3.8
AC-FT	385	540	578	634	1110	1130	1140	828	485	373	250	251
a	0	0	0	0	1100	744	545	0	0	0	0	0

e Estimated.

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

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.33	9.80	9.56	10.6	17.0	24.3	19.3	15.4	13.1	7.76	5.21	4.81
MAX	10.4	10.5	9.73	10.8	19.4	30.2	19.3	17.3	18.0	9.45	6.35	5.40
(WY)	1991	1991	1991	1991	1992	1991	1991	1991	1991	1991	1991	1991
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1991 - 1992	
ANNUAL TOTAL	4742.8		3887.4			
ANNUAL MEAN	13.0		10.6		12.1	
HIGHEST ANNUAL MEAN					13.5	
LOWEST ANNUAL MEAN					10.6	
HIGHEST DAILY MEAN	186	Mar 4	74	Feb 20	186	Mar 4 1991
LOWEST DAILY MEAN	5.1	Sep 17	3.8	Aug 18	3.8	Aug 18 1992
ANNUAL SEVEN-DAY MINIMUM	5.1	Sep 17	3.8	Aug 18	3.8	Aug 18 1992
INSTANTANEOUS PEAK FLOW			132	Feb 20	349	Mar 4 1991
INSTANTANEOUS PEAK STAGE			1.29	Feb 20	3.09	Mar 4 1991
ANNUAL RUNOFF (AC-FT)	9410		7710		8730	
10 PERCENT EXCEEDS	21		19		19	
50 PERCENT EXCEEDS	10		8.8		10	
90 PERCENT EXCEEDS	5.4		4.4		5.1	

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 mi², 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 National Geodetic Vertical Datum of 1929 (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 NGVD of 1929.

REMARKS.--No estimated daily discharges. 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 ft³/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 ft³/s, July 12, 27, 1975, result of construction work below Pit No. 7 powerplant.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,680 ft³/s, Feb. 21, gage height, 63.27 ft; minimum daily, 188 ft³/s, Oct. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3670	3300	3460	3710	935	3260	3160	3200	3300	2680	624	3440
2	3600	2240	3750	2690	1290	2700	1680	2190	3680	4110	194	1940
3	2830	356	4840	3040	3630	3340	3400	533	2260	1960	2970	3420
4	3350	3540	4060	2250	2870	3270	1540	3870	2450	1240	3310	4830
5	1380	1620	2020	1290	4610	4070	2390	3530	2040	1000	2690	2060
6	1600	2730	3450	3630	1790	2160	3250	3380	586	2220	2290	1550
7	3140	3150	3570	3330	1900	1830	3870	3010	1250	3410	3010	3230
8	2680	3590	2060	3370	1500	2380	3090	3370	3110	3340	1160	2670
9	2860	679	4920	2590	2640	4760	2730	2190	2840	2590	1170	2520
10	3210	1160	5190	4310	3180	4410	3210	1160	2530	2260	1890	3180
11	2400	3220	5070	1720	4050	3380	1530	4070	2740	1430	3020	2960
12	1570	2800	4820	1670	3760	4620	2700	2530	2140	517	3180	1170
13	188	1650	4520	3130	5000	3210	3420	2990	1090	2900	3550	448
14	3480	2930	1820	2710	4250	1650	3830	3530	770	3350	1110	2650
15	2510	4190	754	3620	3780	2640	4640	2550	3210	2480	2690	3270
16	3000	3140	2920	2280	3050	4410	3850	1310	3370	2810	1220	2410
17	1730	2120	3460	3800	5310	4300	4130	1150	2980	2310	2480	1450
18	2730	5710	5580	2090	3590	4060	4000	1310	1510	724	3070	2540
19	1160	5950	3830	2600	5690	3740	2010	1910	3280	629	2700	1730
20	1400	4260	2370	3960	8430	4100	5650	2880	2330	3060	1790	718
21	2960	5750	1520	4630	8070	2770	2810	2240	942	3210	464	1800
22	2390	5650	1380	4940	7740	2450	3720	2470	2990	2570	472	3070
23	2610	3750	3490	3390	4580	4290	3880	1560	2150	1710	470	3100
24	3860	1210	2130	2260	4160	2770	2600	1440	2640	3190	841	1610
25	3210	3030	3030	1510	3750	4110	2370	2410	1590	1670	2160	1840
26	810	3630	3290	1230	3310	2920	1540	3290	3110	1650	1790	1390
27	852	3670	3080	3340	3800	3820	2710	3070	228	2660	2580	1000
28	3050	3530	2050	3340	5410	4910	4170	2790	1740	1840	1860	3500
29	3140	2560	2780	1950	3400	1920	3660	2640	3190	2590	1480	2110
30	3280	4710	1820	2910	---	3040	2410	1290	1980	3380	3900	3320
31	4010	---	2890	3310	---	2290	---	664	---	3280	3390	---
TOTAL	78660	95825	99924	90600	115475	103580	93950	74527	68026	72770	63525	70926
MEAN	2537	3194	3223	2923	3982	3341	3132	2404	2268	2347	2049	2364
MAX	4010	5950	5580	4940	8430	4910	5650	4070	3680	4110	3900	4830
MIN	188	356	754	1230	935	1650	1530	533	228	517	194	448
AC-FT	156000	190100	198200	179700	229000	205500	186300	147800	134900	144300	126000	140700
a	14505	14965	15017	14888	14991	10668	14480	15356	15408	15147	14632	9439
b	163200	154000	150200	165000	206600	211000	186900	153100	139200	150300	109700	125000
c	32395	33399	33215	33307	21761	33723	33032	33169	32622	32986	33307	32035

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.

SACRAMENTO RIVER BASIN

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
LOWEST ANNUAL MEAN	2658
HIGHEST DAILY MEAN	32100
LOWEST DAILY MEAN	150
ANNUAL SEVEN-DAY MINIMUM	1610
INSTANTANEOUS PEAK FLOW	37100
INSTANTANEOUS PEAK STAGE	14.12
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3354	4050	4791	6364	6850	7737	6458	5155	3845	3268	3116	3104
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	2489	2604	2408	2632	2784	3241	2626	2404	2268	2347	2049	1427
(WY)	1991	1991	1991	1991	1991	1977	1977	1992	1992	1992	1992	1966

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	1085208	1027788	
ANNUAL MEAN	2973	2808	4831
HIGHEST ANNUAL MEAN			7693
LOWEST ANNUAL MEAN			2808
HIGHEST DAILY MEAN	7610	Mar 5	8430
LOWEST DAILY MEAN	187	Sep 23	188
ANNUAL SEVEN-DAY MINIMUM	1260	Aug 12	1140
INSTANTANEOUS PEAK FLOW			8680
INSTANTANEOUS PEAK STAGE			63.27
ANNUAL RUNOFF (AC-FT)	2153000	2039000	3500000
10 PERCENT EXCEEDS	4590	4210	8320
50 PERCENT EXCEEDS	2980	2850	3990
90 PERCENT EXCEEDS	1190	1220	2040

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Dec. 21, 1955, gage heights, 9.42 ft, in gage well, 10.7 ft from floodmarks, from rating curve extended above 8,800 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 524 ft³/s, Nov. 23, 24, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 17	1400	*1,010	*1.83				

Minimum daily, 541 ft³/s, many days during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	561	556	541	546	547	647	705	665	576	629	559	552
2	561	556	541	546	542	662	710	652	574	602	559	551
3	561	556	541	546	541	655	715	646	572	591	558	551
4	561	556	541	553	541	659	731	642	568	584	558	551
5	561	556	541	562	541	731	718	639	567	579	558	551
6	561	556	543	551	541	734	695	636	567	576	558	551
7	561	556	542	551	541	698	679	633	569	575	558	551
8	561	555	541	549	549	677	670	634	570	574	557	551
9	561	551	541	546	551	660	672	629	570	572	556	551
10	561	551	541	546	570	650	684	622	570	569	556	551
11	561	551	541	546	591	644	724	618	571	570	556	551
12	561	551	541	546	617	639	807	612	574	570	556	551
13	561	545	541	546	619	637	965	610	576	569	556	551
14	561	543	541	546	619	645	887	605	576	568	556	551
15	561	542	541	546	604	672	816	603	576	566	556	550
16	561	542	541	546	591	700	811	600	575	566	556	551
17	561	549	543	544	581	704	969	597	575	566	556	551
18	561	545	547	541	581	688	884	593	576	566	556	551
19	560	542	546	541	601	670	802	591	574	566	556	550
20	560	546	546	541	657	661	768	591	573	566	556	550
21	561	546	546	541	687	656	754	588	571	565	556	550
22	561	541	546	541	701	653	731	584	570	565	556	549
23	560	541	546	541	678	653	708	581	567	563	556	548
24	561	541	546	541	658	653	694	581	566	563	556	548
25	563	541	546	541	642	653	685	580	566	562	555	547
26	561	542	546	541	637	659	683	578	566	561	554	547
27	561	544	546	542	637	666	673	578	566	561	553	547
28	559	541	550	547	634	669	667	579	567	561	553	546
29	558	541	551	546	632	671	670	578	607	561	552	546
30	556	541	546	543	---	693	674	576	631	560	553	546
31	556	---	546	541	---	703	---	576	---	560	552	---
TOTAL	17375	16424	16856	16904	17431	20762	22351	18797	17226	17706	17233	16492
MEAN	560	547	544	545	601	670	745	606	574	571	556	550
MAX	563	556	551	562	701	734	969	665	631	629	559	552
MIN	556	541	541	541	541	637	667	576	566	560	552	546
AC-FT	34460	32580	33430	33530	34570	41180	44330	37280	34170	35120	34180	32710

11367500 McCLOUD RIVER NEAR McCLOUD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	768	795	863	896	972	1027	1120	1117	944	833	794	772
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	676	606	574	561	556	544
(WY)	1933	1933	1933	1933	1933	1935	1931	1992	1992	1934	1992	1932

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1931 - 1992		
ANNUAL TOTAL	217276			215557					
ANNUAL MEAN	595			589			911		
HIGHEST ANNUAL MEAN							1406		
LOWEST ANNUAL MEAN							589		
HIGHEST DAILY MEAN	1280			Mar 4			10100		
LOWEST DAILY MEAN	541			Nov 22			524		
ANNUAL SEVEN-DAY MINIMUM	541			Nov 28			528		
INSTANTANEOUS PEAK FLOW				1010			11800		
INSTANTANEOUS PEAK STAGE				1.83			9.42		
ANNUAL RUNOFF (AC-FT)	431000			427600			659800		
10 PERCENT EXCEEDS	671			675			1240		
50 PERCENT EXCEEDS	581			561			838		
90 PERCENT EXCEEDS	546			542			612		

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 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	494	456	186	347	363	713	608	621	491	445	439	557
2	504	446	237	367	343	716	600	563	517	473	378	493
3	477	461	307	336	370	694	600	524	468	417	417	445
4	504	467	340	376	376	703	604	552	481	388	476	463
5	446	404	318	357	401	720	608	573	448	353	481	431
6	451	392	282	412	383	703	614	575	385	376	471	393
7	430	395	307	448	336	636	639	565	397	409	471	368
8	421	380	287	499	307	617	616	556	397	420	463	405
9	413	326	314	506	347	637	626	546	400	415	442	402
10	464	227	318	451	404	654	618	544	403	391	422	355
11	454	283	340	409	456	620	582	586	394	415	453	408
12	435	303	440	336	504	637	586	573	406	363	442	396
13	360	322	412	350	568	585	608	561	403	403	408	333
14	395	274	367	386	656	527	648	546	379	412	408	296
15	398	311	278	401	728	543	687	530	385	403	460	311
16	410	295	350	407	694	585	691	510	423	420	439	311
17	383	314	353	435	716	603	718	530	466	426	390	323
18	395	418	360	373	701	640	737	557	409	372	377	330
19	404	440	343	333	698	619	780	526	412	321	425	337
20	395	451	353	343	646	636	795	519	440	339	380	326
21	415	398	350	363	738	644	783	500	453	372	304	358
22	350	379	329	395	733	669	803	484	463	431	232	371
23	350	389	325	424	703	658	792	510	409	352	159	371
24	409	389	295	395	705	629	764	510	414	406	147	354
25	379	380	329	367	711	640	747	456	382	437	65	374
26	347	404	363	303	711	621	692	496	420	439	51	361
27	340	418	409	340	708	602	649	496	346	455	16	344
28	401	303	353	360	703	552	668	474	302	411	47	402
29	467	205	407	336	686	537	655	507	349	439	44	408
30	494	186	373	340	---	555	634	476	426	478	396	452
31	482	---	311	367	---	546	---	456	---	498	526	---
TOTAL	13067	10816	10336	11862	16395	19441	20152	16422	12468	12679	10629	11478
MEAN	422	361	333	383	565	627	672	530	416	409	343	383
MAX	504	467	440	506	738	720	803	621	517	498	526	557
MIN	340	186	186	303	307	527	582	456	302	321	16	296
AC-FT	25920	21450	20500	23530	32520	38560	39970	32570	24730	25150	21080	22770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	MEAN	672	698	835	889	945	1105	1130	892	796	759	723
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	165174		165745			
ANNUAL MEAN	453		453		871	
HIGHEST ANNUAL MEAN					1260	
LOWEST ANNUAL MEAN					453	
HIGHEST DAILY MEAN	685		803		1890	
LOWEST DAILY MEAN	186		16		.00	
ANNUAL SEVEN-DAY MINIMUM	252		76		.00	
ANNUAL RUNOFF (AC-FT)	327600		328800		631100	
10 PERCENT EXCEEDS	566		655		1400	
50 PERCENT EXCEEDS	446		418		814	
90 PERCENT EXCEEDS	340		318		484	

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 ft³/s at all times. Prior to water year 1974, flow was computed up to 400 ft³/s. During water years 1975-81, because of channel changes, flow was computed up to 200 ft³/s. Currently, because of maximum required release, flow is computed to 210 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	174	178	153	160	62	94	114	182	187	190	---
2	171	175	178	151	159	61	93	116	182	162	190	---
3	171	175	178	151	160	61	96	119	184	173	190	---
4	171	173	178	153	160	61	97	121	185	178	189	---
5	171	173	178	134	153	64	99	123	185	180	190	---
6	172	173	178	137	153	64	104	125	185	184	191	---
7	172	175	178	140	153	59	107	125	185	183	191	---
8	172	175	178	145	152	58	111	126	185	183	190	---
9	171	175	178	145	143	58	111	129	186	185	190	---
10	173	175	178	147	111	62	111	130	186	188	191	---
11	173	175	178	148	64	65	113	131	186	187	192	---
12	173	176	178	150	65	71	93	132	186	187	192	---
13	173	176	178	151	65	75	67	133	186	187	193	---
14	173	176	177	151	65	78	68	134	186	188	193	---
15	173	176	178	151	65	71	69	145	186	189	193	---
16	173	177	169	145	63	68	72	168	186	189	193	---
17	173	174	165	150	61	68	68	170	190	189	193	---
18	173	172	160	160	61	67	70	168	192	189	192	---
19	173	173	164	159	64	67	70	163	192	189	192	---
20	173	173	162	159	---	66	71	169	194	189	192	---
21	174	172	162	160	72	68	77	173	194	189	192	---
22	175	173	162	159	69	75	84	174	196	189	192	---
23	174	174	163	159	65	74	90	175	196	189	192	---
24	175	174	164	159	63	74	91	176	196	189	193	---
25	175	173	164	159	63	75	97	175	196	190	193	---
26	175	173	164	159	63	79	101	177	197	192	193	---
27	174	173	164	159	63	85	105	178	197	192	194	---
28	175	173	164	160	62	90	107	178	200	191	194	---
29	175	174	161	159	61	93	109	179	202	191	195	---
30	174	177	161	159	---	94	112	179	203	191	196	---
31	174	---	161	160	---	91	---	180	---	191	201	---
TOTAL	5365	5227	5279	4732	---	2204	2757	4685	5706	5780	5962	---
MEAN	173	174	170	153	---	71.1	91.9	151	190	186	192	---
MAX	175	177	178	160	---	94	113	180	203	192	201	---
MIN	171	172	160	134	---	58	67	114	182	162	189	---
AC-FT	10640	10370	10470	9390	---	4370	5470	9290	11320	11460	11830	---

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 mi².

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,160 ft above National Geodetic Vertical Datum of 1929, 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 ft³/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 ft³/s, Dec. 22, 1964, gage height, 9.43 ft, from rating curve extended above 2,500 ft³/s; minimum daily, 86 ft³/s, Oct. 1-26, 1964. Since completion of McCloud Dam, maximum discharge, 26,400 ft³/s, Jan. 16, 1974, gage height, 13.88 ft in gage well, 15.38 ft from floodmarks, from rating curve extended above 8,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 41 ft³/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 ft³/s, from rating curve extended above 2,500 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	1530	*1,580	*4.06				

Minimum daily, 169 ft³/s, Jan. 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	187	197	176	187	250	193	179	212	261	204	223
2	184	187	197	173	185	247	191	179	212	214	204	227
3	183	187	197	173	184	226	193	180	212	217	204	225
4	182	185	196	190	183	242	192	180	213	217	204	225
5	183	185	195	215	176	344	187	181	212	216	204	225
6	184	185	197	179	176	358	186	181	212	217	204	225
7	185	186	200	176	176	290	185	179	212	214	204	225
8	185	189	197	176	189	247	185	179	212	213	204	225
9	185	190	197	173	186	217	184	180	212	214	203	225
10	185	189	197	173	228	200	184	181	212	216	204	225
11	185	192	197	173	321	190	187	180	212	213	204	224
12	185	192	197	173	373	188	205	181	214	213	204	224
13	185	192	195	173	347	186	207	180	214	212	205	223
14	185	192	194	173	339	190	202	181	213	211	205	223
15	185	192	194	173	294	210	189	188	215	213	204	223
16	185	193	186	169	227	293	199	213	212	211	204	223
17	185	199	185	169	190	299	232	214	215	211	204	223
18	185	191	196	180	217	264	222	211	217	211	204	223
19	185	192	188	180	349	237	205	204	217	210	204	223
20	185	195	183	180	559	219	192	209	217	210	204	223
21	185	194	182	180	456	210	188	212	217	208	204	223
22	186	192	181	180	425	208	185	212	217	207	204	223
23	187	192	181	180	323	201	185	212	217	207	204	223
24	187	192	182	180	264	193	179	211	217	207	204	223
25	191	192	182	180	249	188	180	211	217	207	204	223
26	194	192	182	180	262	189	180	212	217	209	205	223
27	189	197	182	180	257	192	181	211	217	208	205	223
28	187	194	190	188	245	194	180	211	221	208	207	223
29	187	195	191	185	231	194	179	211	289	208	207	223
30	187	198	185	185	---	196	183	211	341	207	207	223
31	187	---	185	183	---	191	---	211	---	204	212	---
TOTAL	5757	5738	5908	5548	7798	7053	5740	6085	6637	6594	6344	6712
MEAN	186	191	191	179	269	228	191	196	221	213	205	224
MAX	194	199	200	215	559	358	232	214	341	261	212	227
MIN	182	185	181	169	176	186	179	179	212	204	203	223
AC-FT	11420	11380	11720	11000	15470	13990	11390	12070	13160	13080	12580	13310

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	258	298	305	431	413	452	358	346	255	229	226	237
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

ANNUAL TOTAL	65556	75914	
ANNUAL MEAN	180	207	317
HIGHEST ANNUAL MEAN			1326
LOWEST ANNUAL MEAN			168
HIGHEST DAILY MEAN	561	Mar 4	17300
LOWEST DAILY MEAN	165	Jul 14	41
ANNUAL SEVEN-DAY MINIMUM	165	Jul 14	42
INSTANTANEOUS PEAK FLOW		1580	26400
INSTANTANEOUS PEAK STAGE		4.06	13.68
ANNUAL RUNOFF (AC-FT)	130000	150600	229600
10 PERCENT EXCEEDS	192	225	528
50 PERCENT EXCEEDS	178	200	205
90 PERCENT EXCEEDS	166	180	167

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 mi².

PERIOD OF RECORD.--October 1945 to current year. Prior to 1950, published as "above Shasta Reservoir."

REVISED RECORDS.--WSP 1445: 1953(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above National Geodetic Vertical Datum of 1929 (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 ft³/s, Jan. 16, 1974, gage height, 28.26 ft, from rating curve extended above 15,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 109 ft³/s, Dec. 16-20, 1971. Minimum prior to regulation by Lake McCloud, 820 ft³/s, Jan. 3, 1950.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	0430	*4,590	*14.73				

Minimum daily, 196 ft³/s, Oct. 2-6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	217	225	248	279	889	552	435	316	535	255	256
2	196	217	225	230	271	856	541	423	312	390	254	259
3	196	223	225	223	263	773	529	414	308	357	253	259
4	196	218	227	335	261	793	519	407	304	341	252	259
5	196	217	225	732	254	1330	494	398	301	328	251	260
6	196	216	230	459	247	1670	478	390	299	320	253	259
7	198	217	252	385	247	1330	462	383	298	313	253	258
8	200	221	233	341	303	1090	453	377	294	304	251	255
9	200	228	229	302	401	919	451	372	292	299	249	255
10	200	221	228	277	915	799	452	370	290	299	249	255
11	200	219	228	262	2310	721	453	365	289	297	249	258
12	200	221	228	250	2960	668	639	362	301	297	247	255
13	200	221	226	243	2540	626	875	357	302	294	246	251
14	200	219	225	238	2480	632	759	352	301	288	245	253
15	200	217	225	236	2420	979	679	347	304	286	245	253
16	200	218	221	232	1750	2240	702	363	295	282	243	254
17	200	290	219	222	1430	2050	986	364	288	280	243	253
18	200	244	319	240	1670	1540	899	361	292	277	242	253
19	200	230	250	237	2720	1240	788	352	296	274	241	251
20	200	245	225	236	4010	1070	707	353	289	273	240	251
21	200	247	219	232	2890	976	650	352	283	273	240	251
22	202	229	216	231	2580	903	597	347	280	271	240	251
23	203	225	214	228	1870	839	563	341	278	269	241	250
24	205	226	214	228	1400	768	531	338	284	267	240	251
25	239	222	214	228	1170	716	510	335	280	265	240	251
26	275	221	214	228	1080	681	493	331	279	265	240	251
27	223	239	214	228	984	652	479	327	278	265	241	251
28	217	227	282	271	894	618	466	326	282	263	240	251
29	224	224	354	261	812	609	459	321	586	261	242	249
30	218	224	294	251	---	600	456	320	879	260	243	253
31	217	---	271	247	---	576	---	314	---	257	246	---
TOTAL	6399	6803	7371	8561	41411	30153	17622	11197	9680	9250	7614	7616
MEAN	206	227	238	276	1428	973	587	361	323	298	246	254
MAX	275	290	354	732	4010	2240	986	435	879	535	255	260
MIN	196	216	214	222	247	576	451	314	278	257	240	249
AC-FT	12690	13490	14620	16980	82140	59810	34950	22210	19200	18350	15100	15110

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
LOWEST ANNUAL MEAN	1213
HIGHEST DAILY MEAN	36100
LOWEST DAILY MEAN	825
ANNUAL SEVEN-DAY MINIMUM	826
INSTANTANEOUS PEAK FLOW	a45200
INSTANTANEOUS PEAK STAGE	28.20
ANNUAL RUNOFF (AC-FT)	1231000
10 PERCENT EXCEEDS	2670
50 PERCENT EXCEEDS	1270
90 PERCENT EXCEEDS	928

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	309	625	822	1302	1379	1532	920	642	401	310	276	284
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1967 - 1992

ANNUAL TOTAL	109329	163677	
ANNUAL MEAN	300	447	730
HIGHEST ANNUAL MEAN			1720
LOWEST ANNUAL MEAN			230
HIGHEST DAILY MEAN	3000	Mar 4	4010
LOWEST DAILY MEAN	189	Aug 13	196
ANNUAL SEVEN-DAY MINIMUM	190	Aug 21	197
INSTANTANEOUS PEAK FLOW			4590
INSTANTANEOUS PEAK STAGE			14.73
ANNUAL RUNOFF (AC-FT)	216900	324700	529200
10 PERCENT EXCEEDS	470	876	1430
50 PERCENT EXCEEDS	224	270	351
90 PERCENT EXCEEDS	196	217	243

a from rating curve extended above 6,400 ft³/s on basis of slope-area measurement of peak flow.

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 mi², 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 National Geodetic Vertical Datum of 1929 (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, 562,800 acre-ft, Sept. 13, 1977, elevation, 836.68 ft.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 2,671,050 acre-ft, Apr. 30, elevation, 992.62 ft; minimum, 1,290,319 acre-ft, Dec. 24, elevation, 909.88 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1345253	1386374	1314338	1306554	1341298	1980744	2396926	2669169	2585219	2411733	2179940	1879474
2	1351214	1383806	1314597	1307072	1339719	1990855	2402381	2667078	2584197	2412122	2167955	1871248
3	1353598	1381389	1314468	1308370	1342482	2001348	2411148	2661852	2578471	2405888	2161626	1866813
4	1357841	1378971	1314857	1312392	1343534	2012558	2416411	2665197	2573584	2398874	2155116	1865171
5	1357174	1376554	1312911	1319540	1348830	2037408	2421887	2666660	2567107	2390724	2147914	1857469
6	1356114	1374137	1313819	1326072	1347505	2053637	2428342	2667914	2557392	2384525	2139644	1846858
7	1357841	1372122	1310576	1331563	1347240	2067446	2435776	2668542	2548660	2380650	2132291	1840191
8	1361041	1371988	1306813	1335510	1347240	2080264	2440694	2667078	2545001	2375815	2120495	1833055
9	1364376	1366110	1307072	1336957	1351081	2094563	2445612	2665197	2541749	2369457	2109460	1826737
10	1368111	1361175	1307072	1338667	1368644	2107684	2452694	2659971	2536057	2362909	2100220	1821417
11	1369577	1359842	1306813	1336826	1405221	2116922	2457823	2660179	2527801	2352728	2092091	1815130
12	1368777	1358375	1307072	1334326	1453298	2130861	2473646	2657258	2519352	2340088	2084318	1805977
13	1366377	1353995	1304737	1337088	1489966	2140184	2491742	2654763	2507527	2333795	2076050	1794768
14	1368244	1352141	1300228	1337747	1533023	2149891	2506527	2654139	2495724	2328272	2061666	1786330
15	1369178	1352406	1295590	1339325	1577823	2177395	2521364	2650397	2489354	2320652	2050669	1781711
16	1372122	1347638	1295333	1339851	1612318	2195801	2538293	2647070	2483187	2317618	2038629	1776637
17	1372257	1345386	1295848	1342614	1643104	2213765	2560225	2641457	2476225	2311179	2029556	1769201
18	1373465	1346048	1298167	1339588	1670467	2233680	2577448	2636266	2469690	2297940	2021056	1763036
19	1372928	1345253	1297265	1336957	1718498	2253721	2588083	2632957	2468109	2284948	2011864	1755173
20	1371854	1346048	1296235	1336957	1782349	2269205	2605519	2633577	2464350	2275945	2000486	1745286
21	1373197	1343271	1293915	1338141	1828675	2283443	2615183	2631509	2454857	2270141	1988969	1737942
22	1374540	1341825	1290702	1339719	1865498	2296811	2626547	2626547	2449153	2263589	1975615	1733723
23	1376285	1337877	1291598	1341825	1887569	2312694	2636678	2621170	2441874	2255210	1962330	1729058
24	1379777	1333405	1290319	1340509	1901662	2323128	2643328	2614771	2438333	2249440	1949791	1721604
25	1385833	1332221	1290575	1339193	1911813	2335700	2649981	2610864	2430102	2238863	1940330	1714146
26	1385292	1333537	1291598	1336299	1923857	2344111	2653723	2608602	2425408	2228129	1929896	1705910
27	1383134	1332221	1291854	1337877	1938142	2353878	2658298	2604285	2416215	2219469	1921515	1696771
28	1384751	1327116	1295204	1340904	1954024	2366762	2665405	2598938	2406863	2210820	1910308	1692910
29	1386780	1322414	1301387	1339851	1966077	2372926	2670005	2596881	2408032	2202936	1899169	1686579
30	1387591	1319540	1300228	1340377	---	2381812	2671050	2592173	2411148	2197082	1891864	1683201
31	1386374	---	1301903	1342876	---	2388400	---	2586447	---	2190863	1884925	---
MAX	1387591	1386374	1314857	1342876	1966077	2388400	2671050	2669169	2585219	2412122	2179940	1879474
MIN	1345253	1319540	1290319	1306554	1339719	1980744	2396926	2586447	2406863	2190863	1884925	1683201
a	917.18	912.14	910.78	913.92	955.32	978.58	992.62	988.53	979.75	968.08	950.48	937.80
b	+46523	-66834	-17637	+40973	+623201	+422323	+282650	-84603	-175299	-220285	-305938	-201724
c	5591	1742	1221	904	1526	2715	6080	12089	10992	11655	11303	7888

CAL YR 1991 b -323876

WTR YR 1992 b +343350

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.

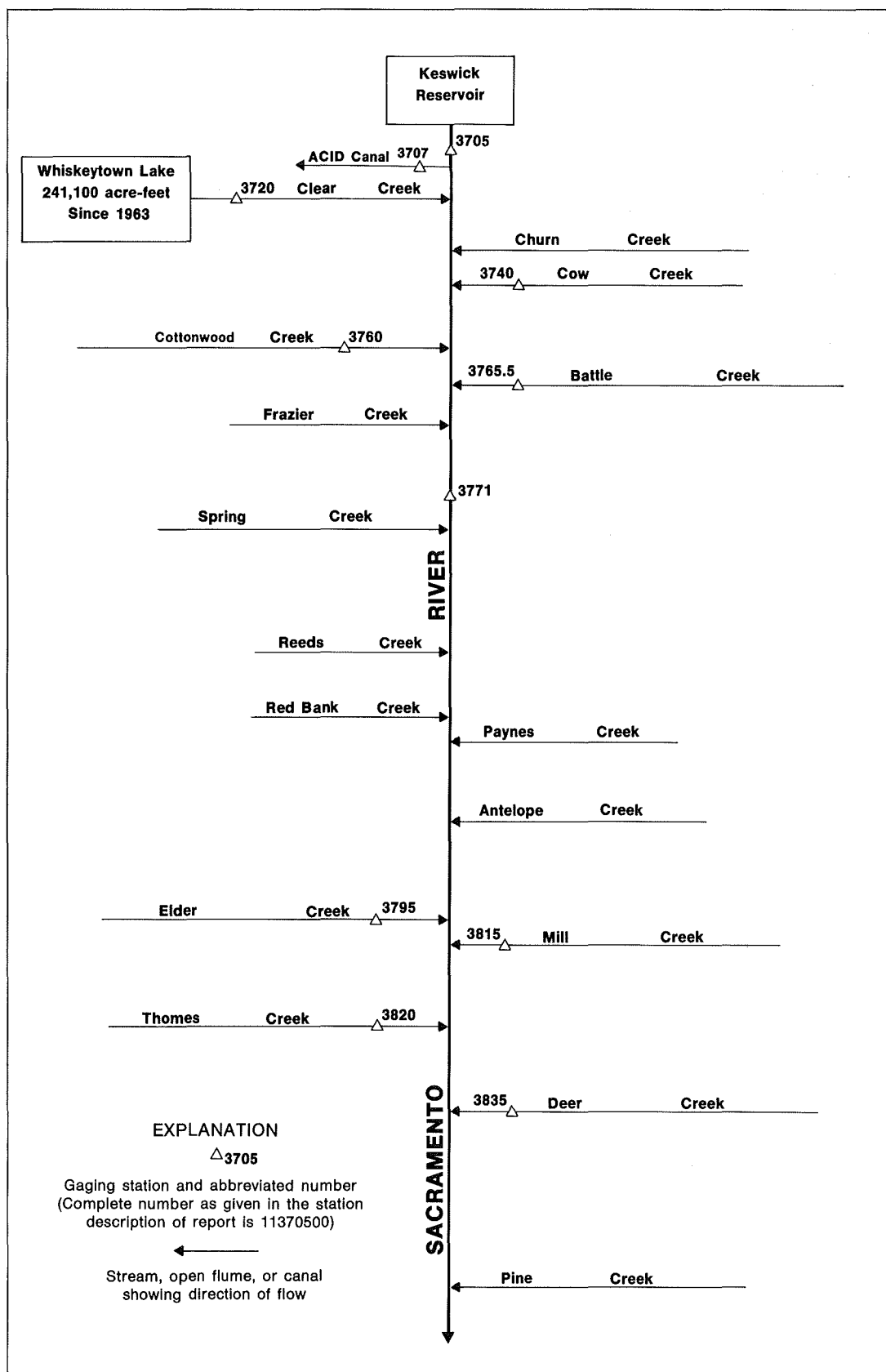


Figure 29. Diversions and storage in upper Sacramento River basin.

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 mi², 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 National Geodetic Vertical Datum of 1929. 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 Pit and McCloud River basins and upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 186,000 ft³/s, Feb. 23, 1940, gage height, 47.2 ft, site and datum then in use, from rating curve extended above 75,000 ft³/s on basis of peak discharge at Kennet plus 4,000 ft³/s estimated inflow; minimum observed, 2,730 ft³/s, Aug. 22, 1939. Since regulation by Shasta Dam in 1943, maximum discharge, 81,400 ft³/s, Apr. 1, 1974, gage height, 31.92 ft; maximum gage height, 32.22 ft, Jan. 24, 1970; minimum discharge, 154 ft³/s, May 15, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,800 ft³/s, Mar. 16, gage height, 20.72 ft; minimum daily, 2,720 ft³/s, Apr. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4600	3930	4700	3430	3270	3250	3050	7040	6660	7330	7760	7170
2	4850	4160	4420	3420	3230	3220	3020	7050	6660	7300	7690	6920
3	4700	4150	4190	3500	3240	3220	3010	6410	6910	7260	7580	6670
4	4810	4140	4150	3530	3240	3290	3010	6010	7080	7330	7570	6630
5	4730	4050	3810	3560	3240	3920	2980	6170	7380	7320	7560	6850
6	4720	3920	3750	3520	3240	5140	3030	6720	7510	7310	7550	7230
7	4730	4070	3670	3570	3240	4360	3020	7260	7490	7320	7640	7280
8	4540	4080	3650	3530	3260	3380	3010	7630	7520	7350	7600	7180
9	4560	4220	3680	3510	3260	3180	3030	7710	7510	7380	7660	7210
10	4770	4220	3670	3510	3380	3190	2980	7670	7520	7600	8140	7180
11	4770	e4390	3710	3520	3410	3250	3050	7730	7510	8040	8330	7220
12	4790	4760	3690	3510	3720	3200	3190	7700	7530	8010	8460	7140
13	4790	4770	3710	3510	3560	3200	3160	7450	7470	8040	8830	7320
14	4770	4720	3700	3490	3670	3240	3170	7360	7500	7670	8900	7420
15	4810	4670	3670	3510	3520	5120	e3240	7380	7550	7530	8210	6670
16	4500	4660	3700	3520	3520	21200	e3200	7210	7480	7520	8290	6210
17	4560	4760	3700	3510	3570	13500	e2990	7160	7200	7600	8180	6220
18	4560	4820	3690	3490	3570	7360	2910	7170	6970	7840	8080	6690
19	4420	4820	3690	3500	4080	5690	2890	6930	6940	8050	8160	6670
20	4540	4810	3720	3490	4000	4020	2880	6700	6990	8090	8160	6420
21	4580	4680	3700	3500	4380	3290	2850	6620	7320	8060	8140	6440
22	4540	4490	3680	3510	5250	3100	2860	6630	7630	8040	8110	6410
23	4300	4490	3740	3510	5150	3100	2850	6620	7610	8130	8070	6390
24	4250	4490	3910	3510	5100	3080	2830	6630	7610	8000	7940	6390
25	4410	4490	3960	3500	5310	3080	2720	6680	7420	8060	7970	6360
26	4390	4470	3650	3510	4210	3080	3170	6670	7430	8090	7890	6420
27	4170	4460	3480	3520	3380	3050	3780	6650	7430	8090	8070	6380
28	3920	4490	3480	3490	3220	3000	4220	6670	7460	8030	8470	6480
29	3890	4490	3570	3500	3220	2990	5300	6590	7470	8020	8650	6260
30	3940	4670	3460	3510	---	3000	6570	6660	7490	8040	8570	5910
31	3940	---	3520	3510	---	3000	---	6660	---	7910	7940	---
TOTAL	139850	133340	116820	108700	108440	139700	97970	215540	220250	240360	250170	201740
MEAN	4511	4445	3768	3506	3739	4506	3266	6953	7342	7754	8070	6725
MAX	4850	4820	4700	3570	5310	21200	6570	7730	7630	8130	8900	7420
MIN	3890	3920	3460	3420	3220	2990	2720	6010	6660	7260	7550	5910
AC-FT	277400	264500	231700	215600	215100	277100	194300	427500	436900	476800	496200	400200

e Estimated.

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6421	7721	10500	11280	12580	10100	9054	10450	11140	12370	11410	8001
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	3662	2847	3430	3268	2869	3096	6953	7342	7754	8070	4564
(WY)	1978	1988	1978	1988	1990	1991	1991	1992	1992	1992	1992	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1964 - 1992	
ANNUAL TOTAL	2066070		1972880			
ANNUAL MEAN	5660		5390		10080	
HIGHEST ANNUAL MEAN					18230	
LOWEST ANNUAL MEAN					5390	
HIGHEST DAILY MEAN	9650		21200		79700	
LOWEST DAILY MEAN	2420		2720		2360	
ANNUAL SEVEN-DAY MINIMUM	2530		2840		2460	
INSTANTANEOUS PEAK FLOW			24800		81400	
INSTANTANEOUS PEAK STAGE			20.72		32.22	
INSTANTANEOUS LOW FLOW			2720			
ANNUAL RUNOFF (AC-FT)	4098000		3913000		7303000	
10 PERCENT EXCEEDS	9140		7950		14700	
50 PERCENT EXCEEDS	4680		4710		8520	
90 PERCENT EXCEEDS	2690		3200		4110	

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.

CHEMICAL DATA: Water years 1951 to current year. 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 current year.

WATER TEMPERATURE: Water years 1978 to current year.

SEDIMENT DATA: Water years 1978 to current year.

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 1991 TO SEPTEMBER 1992

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 SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 19...	0845	4820	141	7.5	14.0	2.2	756	11.2	110	K6	K10
JAN 28...	0930	3450	137	7.5	9.5	1.7	756	10.5	93	K7	<3
MAR 24...	0905	3100	96	7.6	9.5	3.6	750	11.3	100	K3	<3
MAY 26...	1005	6530	118	7.5	10.0	1.6	759	11.1	99	K8	K7
JUL 20...	1020	8070	128	7.9	10.5	1.3	748	12.9	118	K19	K4
SEP 15...	0900	6640	114	7.7	13.5	0.80	759	11.1	107	K6	K2

DATE	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)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3)
NOV 19...	54	0	12	5.8	9.6	27	0.6	1.9	83	0	68
JAN 28...	54	0	12	5.9	9.5	27	0.6	1.9	79	0	65
MAR 24...	39	0	7.5	4.9	4.9	21	0.3	0.80	51	0	42
MAY 26...	45	0	10	4.9	6.5	23	0.4	1.2	65	0	53
JUL 20...	50	0	11	5.4	7.3	24	0.5	1.4	70	0	57
SEP 15...	48	0	11	4.9	11	33	0.7	1.1	70	0	57

DATE	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)	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 TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV 19...	3.3	3.7	<0.10	29	99	107	0.13	0.010	<0.010	0.130
JAN 28...	4.1	4.0	0.20	29	83	106	0.11	<0.010	<0.010	0.120
MAR 24...	8.3	3.7	<0.10	18	64	73	0.09	<0.010	<0.010	0.072
MAY 26...	5.7	3.0	<0.10	21	85	85	0.12	<0.010	<0.010	0.120
JUL 20...	6.8	3.6	<0.10	24	87	95	0.12	<0.010	<0.010	0.150
SEP 15...	6.3	2.8	<0.10	19	93	91	0.13	<0.010	<0.010	0.071

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (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 TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)
NOV 19...	0.120	<0.010	0.010	<0.20	0.020	0.030	0.030	0.030	20	13
JAN 28...	0.120	0.010	0.020	<0.20	0.030	0.020	0.030	0.020	20	14
MAR 24...	0.071	0.020	<0.010	<0.20	0.020	<0.010	<0.010	<0.010	--	--
MAY 26...	0.110	0.010	0.020	<0.20	0.020	0.010	0.010	0.010	40	13
JUL 20...	0.140	0.020	0.010	<0.20	0.020	0.010	<0.010	0.010	--	--
SEP 15...	0.067	0.020	0.030	<0.20	0.020	0.010	0.010	0.020	30	14

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
NOV 19...	<3	32	4	1	<10	<1	<1	<1.0	64	7
JAN 28...	<3	20	6	2	<10	<1	<1	<1.0	57	6
MAR 24...	--	--	--	--	--	--	--	--	--	--
MAY 26...	<3	38	4	3	<10	<1	<1	<1.0	51	<6
JUL 20...	--	--	--	--	--	--	--	--	--	--
SEP 15...	<3	8	<4	5	<10	3	<1	<1.0	48	<6

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	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 (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	SEDI- MENT, SUS- PENDED (MG/L)
MAR											
24...*	0745	5.30	39.0	99	7.5	9.5	749	11.0	98		4
24...*	0755	5.30	101	98	7.4	9.5	749	11.1	99		4
24...*	0800	4.80	173	99	7.5	9.5	749	11.2	100		4
24...*	0805	5.00	231	99	7.4	9.5	749	11.2	100		4
24...*	0810	2.20	339	98	7.5	9.5	749	11.0	98		4

* Instantaneous discharge at the time of cross-sectional measurement: Mar. 24, 3,070 ft³/s.

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 19...	0840	4820	14.0	4	52	--
JAN 28...	0925	3450	9.5	1	9.3	--
MAR 24...	0900	3100	9.5	4	33	--
MAY 26...	1000	6530	10.0	4	71	82
JUL 20...	1015	8070	10.5	4	87	92
SEP 15...	0855	6640	13.5	2	36	70

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--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 ft³/s, June 9, 1989; minimum, no flow at times each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	123	.00	.00	.00	.00	.00	312	300	e275	283	277
2	259	124	.00	.00	.00	.00	.00	301	286	283	288	269
3	255	124	.00	.00	.00	.00	.00	301	302	283	289	268
4	253	128	.00	.00	.00	.00	.00	298	295	282	290	265
5	244	129	.00	.00	.00	.00	.00	299	305	281	290	271
6	238	129	.00	.00	.00	.00	.00	302	309	280	290	264
7	236	130	.00	.00	.00	.00	.00	302	307	282	289	269
8	246	94	.00	.00	.00	.00	.00	306	309	285	286	275
9	245	16	.00	.00	.00	.00	.00	301	296	291	286	279
10	244	15	.00	.00	.00	.00	.00	291	298	295	280	278
11	244	11	.00	.00	.00	.00	.00	290	297	297	284	278
12	242	2.8	.00	.00	.00	.00	.00	290	297	295	285	278
13	242	.00	.00	.00	.00	.00	.00	291	304	294	284	276
14	246	.00	.00	.00	.00	.00	.00	303	295	293	284	275
15	247	.00	.00	.00	.00	.00	.00	306	291	284	288	271
16	246	.00	.00	.00	.00	.00	.00	306	292	283	288	271
17	244	.00	.00	.00	.00	.00	.00	308	302	283	e285	272
18	240	.00	.00	.00	.00	.00	.00	306	287	285	e285	273
19	237	.00	.00	.00	.00	.00	.00	304	291	284	e285	274
20	232	.00	.00	.00	.00	.00	104	302	287	284	e289	277
21	223	.00	.00	.00	.00	.00	228	298	286	288	e296	270
22	230	.00	.00	.00	.00	.00	228	287	286	294	e299	280
23	234	.00	.00	.00	.00	.00	253	282	288	293	e296	268
24	229	.00	.00	.00	.00	.00	277	278	286	293	e296	259
25	191	.00	.00	.00	.00	.00	276	279	282	293	e298	268
26	129	.00	.00	.00	.00	.00	282	288	283	292	e290	265
27	113	.00	.00	.00	.00	.00	303	290	288	291	e280	263
28	110	.00	.00	.00	.00	.00	318	298	291	289	e282	261
29	127	.00	.00	.00	.00	.00	323	298	279	285	e285	251
30	125	.00	.00	.00	.00	.00	316	299	265	286	e288	256
31	123	---	.00	.00	---	.00	---	300	---	283	e283	---
TOTAL	6728	1025.80	0.00	0.00	0.00	0.00	2908.00	9216	8784	8906	8921	8101
MEAN	217	34.2	.000	.000	.000	.000	96.9	297	293	287	288	270
MAX	259	130	.00	.00	.00	.00	323	312	309	297	299	280
MIN	110	.00	.00	.00	.00	.00	.00	278	265	275	280	251
AC-FT	13340	2030	.00	.00	.00	.00	5770	18280	17420	17670	17690	16070

WTR YR 1992 TOTAL 54589.80 MEAN 149 MAX 323 MIN .00 AC-FT 108300

e Estimated.

11371000 CLEAR CREEK AT FRENCH GULCH, CA

LOCATION.--Lat 40°41'42", long 122°38'08", unsurveyed, Shasta County, Hydrologic Unit 18020112, on right bank 1,200 ft downstream from French Gulch, 0.3 mi south of town of French Gulch, and 15 mi northwest of Redding.

DRAINAGE AREA.--115 mi².

PERIOD OF RECORD.--July 1950 to current year.

SEDIMENT DATA: Water years 1966-67.

REVISED RECORDS.--WSP 1285: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,320.60 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 28, 1959, at datum 3.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. No large diversion upstream from station. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft³/s, Jan. 16, 1974, gage height, 14.99 ft, from rating curve extended above 5,200 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 1.5 ft³/s, July 19-22, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0715	*3,560	*8.98	Mar. 16	0415	2,500	7.88

Minimum daily, 5.7 ft³/s, Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	14	18	51	69	391	267	171	58	67	15	10
2	6.1	14	18	43	68	372	252	161	57	53	15	11
3	6.0	14	18	39	63	338	244	155	56	47	15	11
4	5.9	14	18	81	59	311	236	147	53	46	14	11
5	5.7	14	18	720	56	604	224	137	51	45	14	9.6
6	6.1	14	19	437	55	986	212	131	50	44	14	9.6
7	6.2	14	24	237	54	803	202	127	50	41	14	9.7
8	6.6	14	22	170	61	643	197	125	49	38	14	9.4
9	6.7	16	20	129	179	527	212	118	47	36	14	8.8
10	6.4	16	19	105	1410	442	211	115	47	35	13	8.8
11	6.2	16	19	90	2190	388	195	111	46	34	12	9.4
12	6.1	15	18	78	2810	347	247	109	53	35	12	10
13	6.2	15	18	70	2070	317	385	107	55	35	11	9.4
14	6.2	14	18	63	2080	382	327	103	54	33	10	9.2
15	6.4	15	18	59	1680	1320	290	102	53	31	10	9.4
16	6.3	15	18	58	1150	2220	301	98	52	29	11	9.5
17	6.4	29	19	59	843	1480	522	94	47	27	11	9.1
18	6.9	28	40	58	673	1050	471	93	46	27	10	9.5
19	7.2	21	34	57	910	804	446	94	46	25	9.7	9.4
20	7.1	23	25	54	1250	688	415	103	42	24	9.5	9.4
21	7.0	28	22	51	1250	617	348	90	38	22	9.8	8.1
22	7.4	22	21	49	1220	569	309	86	35	21	10	8.6
23	8.1	19	20	47	944	516	257	82	34	22	11	8.7
24	9.3	18	20	45	723	461	242	75	36	22	10	8.8
25	14	18	20	45	604	401	229	71	36	21	10	9.4
26	28	18	20	44	532	378	220	70	36	19	9.7	9.6
27	17	20	20	44	467	364	210	67	35	18	9.1	9.8
28	14	20	56	62	413	356	198	66	35	18	8.6	9.7
29	14	19	128	72	373	319	191	65	68	17	8.6	9.7
30	14	18	76	65	---	318	182	63	100	16	9.2	10
31	14	---	60	61	---	289	---	60	---	15	9.4	---
TOTAL	273.6	535	884	3243	24256	19001	8242	3196	1465	963	353.6	285.6
MEAN	8.83	17.8	28.5	105	836	613	275	103	48.8	31.1	11.4	9.52
MAX	28	29	128	720	2810	2220	522	171	100	67	15	11
MIN	5.7	14	18	39	54	289	182	60	34	15	8.6	8.1
AC-FT	543	1060	1750	6430	48110	37690	16350	6340	2910	1910	701	566

11371000 CLEAR CREEK AT FRENCH GULCH, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	34.5	127	267	422	539	494	334	167	69.7	28.8	15.7	15.3
MAX	186	896	1009	1550	2548	2414	1003	600	169	67.1	38.1	43.6
(WY)	1951	1974	1984	1978	1958	1983	1958	1983	1983	1983	1983	1957
MIN	7.77	16.9	17.4	24.3	26.0	34.1	17.9	33.8	11.0	2.07	2.16	5.70
(WY)	1988	1960	1977	1977	1977	1977	1977	1977	1977	1977	1977	1987

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1951 - 1992	
ANNUAL TOTAL	21223.8		62697.8			
ANNUAL MEAN	58.1		171		208	
HIGHEST ANNUAL MEAN					582	
LOWEST ANNUAL MEAN					17.4	
HIGHEST DAILY MEAN	720	Mar 4	2810	Feb 12	12000	Jan 16 1974
LOWEST DAILY MEAN	4.7	Aug 25	5.7	Oct 5	1.5	Jul 19 1977
ANNUAL SEVEN-DAY MINIMUM	5.1	Aug 21	6.0	Oct 1	1.5	Jul 16 1977
INSTANTANEOUS PEAK FLOW			3560	Feb 12	14600	Jan 16 1974
INSTANTANEOUS PEAK STAGE			8.98	Feb 12	14.99	Jan 16 1974
ANNUAL RUNOFF (AC-FT)	42100		124400		150600	
10 PERCENT EXCEEDS	156		450		517	
50 PERCENT EXCEEDS	22		41		63	
90 PERCENT EXCEEDS	6.0		9.4		13	

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 Pit and McCloud River basins.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,000 ft³/s, Oct. 18, 1987; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2910	.00	.00	.00	.00	.00	.00	801	1857	2285	952	467
2	2867	3	.00	.00	.00	.00	.00	788	621	2069	977	502
3	3072	5	.00	.00	.00	.00	.00	434	853	1562	1634	467
4	2776	.00	2	.00	.00	.00	.00	676	849	1446	1483	467
5	2241	2	.00	.00	5	.00	.00	1178	886	862	199	812
6	2646	.00	20	.00	.00	.00	.00	1180	848	859	2	639
7	2823	14	.00	10	.00	.00	.00	1237	848	923	290	507
8	3083	13	.00	77	.00	.00	.00	1136	2070	1007	.00	388
9	2961	.00	.00	.00	1	.00	.00	1596	2083	1037	.00	507
10	2859	.00	.00	2	1	.00	.00	1596	1901	963	.00	561
11	2173	.00	.00	.00	.00	.00	.00	1596	2	994	.00	447
12	1483	2	32	2	.00	.00	.00	1597	4	949	558	457
13	1900	.00	13	1	.00	.00	812	1597	.00	1059	846	451
14	1802	502	259	12	2	.00	958	1597	.00	919	808	457
15	1734	.00	.00	32	.00	.00	605	1613	.00	1064	655	520
16	830	.00	.00	.00	.00	.00	505	1598	.00	2075	462	489
17	885	.00	.00	.00	.00	.00	495	1616	.00	1744	473	491
18	712	.00	.00	.00	67	.00	.00	1371	1210	557	517	547
19	669	.00	.00	.00	.00	.00	.00	1302	2213	.00	540	525
20	669	.00	.00	33	.00	.00	.00	2046	2868	.00	512	315
21	729	.00	.00	28	.00	.00	.00	1933	38	1474	534	356
22	745	.00	9	7	.00	7	.00	1146	677	1464	539	307
23	743	.00	.00	29	.00	1477	.00	521	840	1040	468	316
24	744	.00	.00	1	.00	870	.00	529	1775	1056	294	314
25	459	.00	.00	.00	.00	908	.00	685	1005	333	429	337
26	459	.00	.00	.00	.00	1139	.00	660	1255	403	337	331
27	458	.00	.00	.00	.00	1154	.00	.00	1245	573	469	422
28	258	.00	.00	2	.00	1176	486	291	1208	938	465	422
29	257	.00	.00	8	.00	.00	798	2046	1109	1020	467	422
30	226	.00	.00	.00	---	1	795	2033	1299	902	340	462
31	228	---	.00	.00	---	.00	---	1821	---	941	472	---
TOTAL	46401	541.00	335.00	244.00	76.00	6732.00	5454.00	38220.00	29564.00	32518.00	15722.00	13705
MEAN	1497	18.0	10.8	7.87	2.62	217	182	1233	985	1049	507	457
MAX	3080	502	259	77	67	1480	958	2050	2870	2280	1630	812
MIN	226	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	307
AC-FT	92040	1070	664	484	151	13350	10820	75810	58640	64500	31180	27180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	1470	905	781	676	870	946	1186	1333	1796	2333	2252	2229																		
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	214	18.0	9.61	.000	.34	.000	.000	.097	170	253	507	457																		
(WY)	1981	1992	1989	1986	1988	1988	1978	1991	1988	1978	1992	1992																		

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1963 - 1992
ANNUAL TOTAL	300569.00	189512.00	
ANNUAL MEAN	823	518	1415
HIGHEST ANNUAL MEAN			2485
LOWEST ANNUAL MEAN			301
HIGHEST DAILY MEAN	3540	3080	4000
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	596200	375900	1025000
10 PERCENT EXCEEDS	2980	1600	3150
50 PERCENT EXCEEDS	6.0	212	1260
90 PERCENT EXCEEDS	.00	.00	.00

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 Pit and McCloud 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 ft³/s, May 2, 1983; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3155	.00	.00	.00	.00	1374	539	487	1964	3155	949	463
2	3097	7	20	1	.00	865	473	489	868	2003	1146	477
3	3133	8	1	.00	.00	566	478	462	968	1462	1181	457
4	3141	.00	2	.00	.00	565	476	820	1006	1388	551	458
5	2740	4	.00	.00	2	567	480	960	1006	1009	465	467
6	2724	2	.00	.00	.00	566	.00	943	1013	996	471	484
7	2751	1	.00	3	.00	560	.00	988	1003	996	474	467
8	2739	3	.00	1	.00	572	.00	1474	2017	987	2	464
9	2778	.00	.00	15	.00	560	.00	1512	2016	986	.00	460
10	2701	.00	.00	2	.00	560	84	1512	2016	981	.00	477
11	2778	1	.00	.00	.00	560	168	1512	3	1008	53	471
12	2785	.00	.00	1	.00	1102	262	1468	.00	1008	471	475
13	2765	.00	9	29	22	1367	485	1035	.00	702	467	480
14	2758	.00	3	3	967	1368	485	1391	.00	1035	469	485
15	2767	.00	.00	3	1381	1365	486	1439	.00	1025	474	480
16	2521	.00	.00	.00	2819	2891	483	1438	.00	1911	482	433
17	2372	.00	.00	.00	2964	3965	483	1434	240	1649	476	476
18	2285	.00	.00	.00	1775	4037	479	1506	978	218	464	412
19	2335	.00	6	.00	1297	3591	480	1443	2180	.00	460	348
20	2245	.00	.00	10	.00	1988	477	1953	1969	1	465	340
21	2296	.00	.00	25	.00	1985	474	1946	983	1448	468	335
22	2234	.00	7	22	.00	2021	477	1076	1018	1436	475	344
23	2333	.00	.00	3	.00	1890	478	1070	1020	1386	474	336
24	2265	.00	.00	13	.00	1328	478	1078	1767	1340	470	338
25	2267	.00	.00	.00	346	1372	473	1074	986	471	472	336
26	2048	.00	.00	.00	971	563	481	1092	1212	466	383	341
27	1979	.00	.00	.00	1362	562	517	149	1312	468	468	338
28	1583	.00	.00	.00	1355	571	479	136	1283	898	462	340
29	1292	.00	.00	6	1371	561	479	1941	1260	974	474	341
30	834	.00	.00	.00	---	564	476	1949	2053	878	463	354
31	539	---	.00	.00	---	558	---	1941	---	992	355	---
TOTAL	74240	26.00	48.00	137.00	16632.00	41064	11630.00	37718	32141.00	33277.00	14484.00	12477
MEAN	2395	.87	1.55	4.42	574	1325	388	1217	1071	1073	467	416
MAX	3155	8.0	20	29	2964	4037	539	1953	2180	3155	1181	485
MIN	539	.00	.00	.00	.00	558	.00	136	.00	.00	.00	335
AC-FT	147300	52	95	272	32990	81450	23070	74810	63750	66000	28730	24750
a	0	0	0	0	1260	5020	1890	2270	1480	1520	627	589

a Discharge, in acre-feet, from Spring Creek Reservoir, provided by U.S. Bureau of Reclamation.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

MEAN	1784	1351	1230	1352	1612	1668	1414	1537	1938	2393	2342	2394
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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1964 - 1992
ANNUAL TOTAL	331579.00	273874.00	
ANNUAL MEAN	908	748	1752
HIGHEST ANNUAL MEAN			3389
LOWEST ANNUAL MEAN			748
HIGHEST DAILY MEAN	3797	Sep 5	4800
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	May 29	.00
ANNUAL RUNOFF (AC-FT)	657700	543200	1269000
10 PERCENT EXCEEDS	3170	2020	3520
50 PERCENT EXCEEDS	14	474	1660
90 PERCENT EXCEEDS	.00	.00	2.0

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 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, 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, 240,424 acre-ft, June 20, elevation, 1,209.79 ft; minimum, 145,562 acre-ft, Dec. 27, elevation, 1,176.05 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	208759	148621	146894	147524	156384	207511	214296	230185	238631	237609	237545	237482
2	208224	148475	146797	147524	156485	207037	214235	231218	238279	237895	237164	237482
3	207957	148377	146700	147548	156536	207126	214084	231562	238151	238183	237895	237418
4	207096	148303	146604	148303	156586	207126	213873	231688	237959	238343	239560	237418
5	205977	148157	146531	151001	156662	208907	213602	232446	237768	238215	238951	237895
6	205564	148059	146531	152582	156712	211712	214084	233266	237514	238023	238023	238151
7	205387	147961	146458	153429	156762	213421	214658	234086	237291	238023	237673	238151
8	205446	147936	146337	154003	157014	214537	215201	234338	237673	238087	237482	237895
9	205505	147863	146289	154253	157644	215201	215774	234591	238023	238151	237355	237895
10	205653	147766	146168	154552	163342	216106	216227	234812	238055	238215	237228	238023
11	204209	147645	146022	154727	171588	216288	216774	235321	238151	238183	237037	237959
12	201027	147548	145950	154827	181981	215321	218324	235797	238183	238087	237164	237831
13	198710	147427	145877	154927	189284	213752	220615	237101	238247	238279	237895	237704
14	196639	148254	146240	154977	195719	213059	222577	237514	238279	238087	238631	237609
15	194435	148108	146168	155126	199144	219849	223842	238055	238439	238215	238888	237609
16	191002	148010	146095	155226	197730	224274	225230	238503	238503	238471	238823	237673
17	187996	148108	146071	155276	194692	221717	226784	239079	238151	238567	238695	237673
18	184600	148059	146240	155326	194122	217200	227219	238983	238695	239079	238695	237831
19	181158	147985	146143	155377	195489	212730	227467	238855	238791	239015	238759	238151
20	177864	147985	146095	155427	199608	211053	227623	239367	240424	238919	238695	238087
21	174549	147912	145998	155452	203917	209056	227623	239688	238631	238951	238631	238087
22	171455	147815	145925	155503	207601	206831	227530	240168	238023	238791	238631	237959
23	168102	147742	145877	155553	210215	207363	227374	239431	237768	238279	238503	237895
24	164947	147645	145756	155578	212281	207838	227126	238695	238343	237704	238151	237768
25	161414	147524	145683	155654	213330	208194	226877	238279	238407	237482	237959	237704
26	158329	147475	145586	155654	212999	210394	226597	237673	238471	237291	237831	237673
27	155176	147354	145562	155704	211682	212730	226224	237514	238407	237418	237768	237768
28	152558	147258	146264	155881	210185	214929	226815	237959	238503	237418	237704	237959
29	150507	147112	147233	156007	208640	214779	227996	238407	239303	237673	237673	238055
30	149331	146991	147427	156082	---	214748	229120	238695	239143	237673	237355	238407
31	148719	---	147500	156183	---	214507	---	238631	---	237545	237545	---
MAX	208759	148621	147500	156183	213330	224274	229120	240168	240424	239079	239560	238407
MIN	148719	146991	145562	147524	156384	206831	213602	230185	237291	237291	237037	237418
a	1177.35	1176.64	1176.85	1180.36	1199.50	1201.46	1206.22	1209.23	1209.39	1208.89	1208.89	1209.16
b	-60574	-1728	+509	+8683	+52457	+5867	+14613	+9511	+512	-1598	0	+862
c	726	120	90	57	155	295	575	1247	1218	1391	1394	1023
CAL YR 1991	MAX 239047	MIN 145562	b	-37322								
WTR YR 1992	MAX 240424	MIN 145562	b	+29114								

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.

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 mi².

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 National Geodetic Vertical Datum of 1929.

REMARKS.--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 diagrams of Pit and McCloud River basins and upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft³/s, Dec. 21, 1955, gage height, 13.75 ft; minimum daily, 8.6 ft³/s, Sept. 4, 6, 7, 1950. Since completion of Whiskeytown Dam in 1963, maximum discharge, 19,200 ft³/s, Mar. 3, 1983, gage height, 12.73 ft, from rating curve extended above 12,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 30 ft³/s, Oct. 10, 11, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,500 ft³/s, Feb. 12, gage height, unknown; minimum daily, 46 ft³/s, Aug. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	64	74	81	66	119	93	88	62	164	49	48
2	54	73	74	72	63	108	91	85	61	84	49	48
3	55	73	74	61	62	105	91	83	61	73	49	48
4	55	73	75	90	61	230	90	81	60	70	49	48
5	55	73	75	126	61	246	87	82	59	67	50	48
6	55	72	75	126	61	304	85	78	59	65	50	49
7	55	73	75	142	61	230	84	79	57	63	50	48
8	55	73	74	96	62	178	83	78	57	62	50	48
9	55	73	73	80	68	151	83	77	57	62	50	49
10	55	73	74	73	e170	135	84	75	57	61	50	49
11	55	73	74	69	e530	120	85	74	57	60	50	49
12	55	73	74	66	e1040	116	317	74	63	60	50	49
13	54	73	74	65	563	110	266	73	64	60	49	49
14	54	73	74	64	644	167	165	72	64	60	50	49
15	54	73	74	63	463	511	141	72	66	59	50	49
16	54	73	74	63	389	547	148	71	68	59	50	49
17	53	80	75	62	293	350	225	70	64	58	49	49
18	53	75	82	61	365	241	168	69	66	58	48	48
19	53	74	77	61	954	193	146	70	67	59	48	49
20	53	78	75	61	653	165	133	73	66	62	48	49
21	53	76	75	60	648	150	122	70	67	63	46	49
22	53	75	75	60	390	142	114	68	68	65	52	49
23	53	75	75	60	242	133	108	67	70	64	48	49
24	54	74	75	60	184	123	104	65	73	62	48	49
25	61	74	75	60	151	117	101	65	84	62	48	49
26	64	74	75	60	131	111	98	65	78	63	48	49
27	57	74	75	60	117	107	95	64	81	63	48	49
28	55	73	103	64	112	103	93	63	81	63	48	49
29	55	73	e174	61	107	101	92	63	76	63	48	49
30	54	73	96	61	---	101	91	62	250	63	48	49
31	55	---	85	61	---	97	---	63	---	58	48	---
TOTAL	1700	2206	2479	2249	8711	5611	3683	2239	2163	2055	1518	1462
MEAN	54.8	73.5	80.0	72.5	300	181	123	72.2	72.1	66.3	49.0	48.7
MAX	64	80	174	142	1040	547	317	88	250	164	52	49
MIN	53	64	73	60	61	97	83	62	57	58	46	48
AC-FT	3370	4380	4920	4460	17280	11130	7310	4440	4290	4080	3010	2900

e Estimated.

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
LOWEST ANNUAL MEAN	128
HIGHEST DAILY MEAN	15100
LOWEST DAILY MEAN	9.0
ANNUAL SEVEN-DAY MINIMUM	9.5
INSTANTANEOUS PEAK FLOW	24500
INSTANTANEOUS PEAK STAGE	13.75
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.1	136	189	247	265	335	153	89.0	59.4	55.7	51.0	51.0
MAX	69.2	299	625	1358	1509	3437	668	419	87.0	117	68.4	64.5
(WY)	1990	1974	1965	1970	1983	1983	1974	1982	1967	1982	1990	1967
MIN	38.8	70.7	80.0	54.3	49.7	51.3	50.7	48.6	42.9	39.2	37.9	37.9
(WY)	1978	1969	1992	1977	1977	1977	1977	1966	1966	1966	1966	1977

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1965 - 1992

ANNUAL TOTAL	26832	36076	
ANNUAL MEAN	73.5	98.6	140
HIGHEST ANNUAL MEAN			570
LOWEST ANNUAL MEAN			57.9
HIGHEST DAILY MEAN	590	Mar 23	1040
LOWEST DAILY MEAN	51	Sep 2	46
ANNUAL SEVEN-DAY MINIMUM	53	Oct 17	48
INSTANTANEOUS PEAK FLOW			e2500
INSTANTANEOUS PEAK STAGE			Feb 12
ANNUAL RUNOFF (AC-FT)	53220	71560	12.73
10 PERCENT EXCEEDS	86	151	202
50 PERCENT EXCEEDS	58	69	66
90 PERCENT EXCEEDS	54	49	49

e Estimated on basis of peak flows recorded at nearby streams.

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirements are 2.0 ft³/s during dry years and 4.0 ft³/s during normal years. Flow is computed to 6.2 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	3.2	3.2	3.3	3.3	3.2	3.3	3.3	3.3	3.4	3.3	3.3
2	2.8	3.2	3.2	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.3	3.3
3	2.8	3.2	3.2	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.3	3.3
4	2.8	3.2	3.2	3.5	3.2	3.1	3.3	3.3	3.3	3.4	3.3	3.4
5	2.8	3.2	3.2	4.2	3.2	5.1	3.3	3.3	3.3	3.4	3.3	3.4
6	2.8	3.2	3.2	3.3	3.2	5.1	3.3	3.3	3.3	3.4	3.3	3.4
7	2.8	3.2	3.2	3.6	3.2	4.6	3.3	3.4	3.3	3.4	3.3	3.3
8	2.8	3.2	3.2	3.3	3.2	3.7	3.3	3.4	3.3	3.4	3.3	3.4
9	3.1	3.2	3.2	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.3	3.4
10	3.2	3.2	3.2	3.2	3.8	3.2	3.3	3.3	3.3	3.4	3.3	3.4
11	3.2	3.2	3.2	3.2	4.9	3.2	3.3	3.3	3.3	3.4	3.3	3.4
12	3.2	3.2	3.2	3.2	4.7	3.3	5.5	3.3	3.3	3.4	3.3	3.4
13	3.2	3.1	3.2	3.2	4.6	3.3	5.3	3.4	3.3	3.4	3.3	3.4
14	3.2	---	3.3	3.2	4.2	3.3	3.9	3.4	3.2	3.4	3.3	3.4
15	3.2	---	3.3	3.2	4.5	4.5	3.3	3.4	---	3.4	3.3	3.4
16	3.2	3.2	3.3	3.2	4.6	5.1	3.5	3.4	---	3.4	3.3	3.4
17	3.2	e3.2	3.3	3.2	4.8	4.7	5.6	3.4	---	3.4	3.3	3.4
18	3.2	e3.3	3.7	3.2	4.7	4.6	4.4	3.4	3.2	3.4	3.3	3.4
19	3.2	e3.2	3.3	3.2	5.2	4.0	3.3	3.3	3.2	3.4	3.3	3.4
20	3.2	3.2	3.3	3.2	4.9	3.3	3.3	3.4	3.3	3.4	3.3	3.4
21	3.2	3.2	3.3	3.2	4.8	3.3	3.3	3.4	3.3	3.4	3.3	3.4
22	3.2	3.2	3.3	3.2	4.7	3.3	3.3	3.4	3.3	3.4	3.3	3.4
23	3.2	3.2	3.3	3.2	4.6	3.3	3.3	3.4	3.3	3.4	3.3	3.4
24	3.2	3.2	3.3	3.2	4.6	3.3	3.3	3.4	3.4	3.4	3.3	3.4
25	3.2	3.2	3.3	3.2	4.5	3.3	3.3	3.4	3.4	3.4	3.3	3.4
26	3.7	3.2	3.3	3.2	4.0	3.3	3.3	3.4	3.3	3.4	3.3	3.4
27	3.2	3.2	3.3	3.2	3.2	3.3	3.3	3.4	3.3	3.4	3.3	3.4
28	3.2	3.2	3.3	3.2	3.2	3.3	3.3	3.4	3.3	3.3	3.3	3.4
29	3.2	3.2	4.2	3.2	3.2	3.3	3.3	3.4	3.4	3.3	3.3	3.4
30	3.2	3.2	3.3	3.2	---	3.3	3.3	3.3	3.4	3.2	3.3	3.3
31	3.2	---	3.3	3.2	---	3.3	---	3.3	---	3.3	3.3	---
TOTAL	96.4	---	102.3	101.5	116.7	113.2	107.4	104.1	---	104.9	102.3	101.5
MEAN	3.11	---	3.30	3.27	4.02	3.65	3.58	3.36	---	3.38	3.30	3.38
MAX	3.7	---	4.2	4.2	5.2	5.1	5.6	3.4	---	3.4	3.3	3.4
MIN	2.8	---	3.2	3.2	3.2	3.1	3.3	3.3	---	3.2	3.3	3.3
AC-FT	191	---	203	201	231	225	213	206	---	208	203	201

e Estimated.

NOTE: Canal was out of service June 15-17 and all flow remained in natural channel. Discharges were above 6.2 ft³/s, Nov. 14, 15. Discharges from water system operator log, Nov. 17-19.

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 Cipoletti weir. Elevation of gage is 3,840 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 2.0 ft³/s during dry or normal years. Flow is computed to 5.0 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.2	3.5	3.1	3.4	3.6	3.4	3.0	3.0	3.7	3.2	3.1
2	3.1	3.2	3.5	3.1	3.3	3.2	3.3	3.0	3.0	3.1	3.2	3.1
3	3.1	3.2	3.5	3.1	3.2	3.3	3.2	2.9	2.9	3.3	e3.1	3.1
4	3.1	3.2	3.5	3.7	3.0	3.2	3.3	2.8	2.9	3.2	e3.1	3.1
5	3.1	3.1	3.2	4.0	3.1	3.6	3.1	3.0	2.9	3.1	e3.2	3.1
6	3.1	3.1	3.2	3.5	3.3	3.3	3.0	3.1	2.9	3.1	e3.2	3.1
7	3.1	3.1	3.4	3.4	3.3	3.1	3.0	3.0	2.9	3.0	e3.1	3.1
8	3.1	e3.1	3.1	3.2	3.5	3.1	3.0	2.9	2.9	3.0	e3.2	3.1
9	3.1	e4.1	3.1	3.2	3.2	3.0	3.2	2.9	3.1	3.0	e3.0	3.1
10	3.1	3.5	3.0	3.2	3.6	3.0	4.1	3.0	3.2	2.9	e3.1	3.0
11	3.1	3.4	3.0	3.1	3.9	3.1	3.6	2.9	3.2	3.0	e3.0	3.0
12	3.1	3.2	3.1	3.2	4.0	3.1	4.3	3.0	3.5	3.0	e3.1	3.1
13	3.1	3.1	3.2	3.3	3.2	3.1	4.2	3.0	3.4	---	e3.0	3.1
14	3.0	3.1	3.2	3.4	3.1	3.2	3.7	3.0	3.4	---	e3.2	3.1
15	3.1	3.1	3.2	3.4	3.0	3.4	3.4	3.0	3.4	---	e3.0	3.1
16	3.1	3.1	3.2	3.2	3.1	3.7	3.5	3.1	3.2	---	e3.0	3.1
17	3.1	e4.2	3.3	3.1	3.3	3.6	4.1	3.2	3.1	---	e3.0	3.1
18	3.1	e3.3	3.9	3.1	3.3	3.2	3.8	3.1	3.1	---	e3.2	3.1
19	3.1	e3.0	3.0	3.2	4.4	3.1	3.5	3.2	3.0	---	e3.2	3.1
20	3.0	3.6	3.0	3.3	4.7	3.1	3.4	3.3	3.1	---	3.0	3.1
21	3.1	3.2	3.2	3.3	4.3	3.0	3.3	3.1	3.2	---	3.0	3.1
22	3.3	3.1	3.3	3.6	4.4	3.0	3.2	3.0	3.1	---	3.1	3.1
23	3.3	3.2	3.2	3.7	3.6	3.2	3.1	3.2	3.0	---	3.1	3.1
24	3.2	3.1	3.2	3.4	3.4	3.1	3.0	3.2	3.0	---	3.1	3.0
25	e4.1	3.1	3.2	3.4	3.7	3.1	3.0	3.2	3.0	---	3.1	3.2
26	e3.2	3.1	3.2	3.3	3.5	3.2	3.0	3.2	3.1	---	3.0	3.3
27	1.8	4.2	3.2	3.3	3.2	3.2	2.9	3.1	3.3	---	3.1	3.4
28	1.6	3.5	3.4	3.6	3.1	3.2	3.0	3.1	3.2	---	3.1	3.2
29	3.0	3.3	3.3	3.3	3.1	3.3	3.0	3.1	4.0	---	3.1	2.9
30	3.3	3.3	3.3	3.2	---	3.6	3.0	3.1	4.5	3.4	3.1	3.1
31	3.2	---	3.2	3.2	---	3.4	---	3.0	---	3.5	3.1	---
TOTAL	94.9	99.0	100.8	103.1	101.2	100.3	100.6	94.7	95.5	---	96.0	93.2
MEAN	3.06	3.30	3.25	3.33	3.49	3.24	3.35	3.05	3.18	---	3.10	3.11
MAX	4.1	4.2	3.9	4.0	4.7	3.7	4.3	3.3	4.5	---	3.2	3.4
MIN	1.6	3.0	3.0	3.1	3.0	3.0	2.9	2.8	2.9	---	3.0	2.9
AC-FT	188	196	200	204	201	199	200	188	189	---	190	185

e Estimated.

NOTE: Canal was out of service July 13-29, all flow remained in natural channel. Discharges from water system operator log, Nov. 8, 9, 17-19 and Aug. 3-19.

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 mi².

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 National Geodetic Vertical Datum of 1929. 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 ft³/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 ft³/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 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0615	*11,900	*13.40				

Minimum daily, 0.17 ft³/s, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	42	61	160	614	357	221	134	7.3	32	3.4	.77
2	5.3	42	61	123	473	347	216	128	14	38	1.9	.47
3	4.8	44	59	106	252	301	206	115	13	25	1.2	.23
4	5.5	44	56	674	192	281	203	103	15	18	.71	.17
5	5.3	44	57	1790	164	664	206	79	8.3	16	1.4	.34
6	5.3	43	61	496	149	1310	189	68	7.6	15	2.8	1.1
7	4.8	45	81	1100	143	840	176	76	5.5	13	4.4	1.3
8	4.1	46	81	507	141	543	169	77	12	12	2.3	1.2
9	4.4	55	67	291	150	420	168	58	14	12	1.3	4.8
10	3.8	59	64	217	562	351	193	54	7.7	11	1.2	4.5
11	3.4	49	63	179	1560	314	205	50	6.0	9.0	1.2	2.5
12	4.3	47	62	158	4840	285	696	50	14	7.4	1.2	4.4
13	3.0	48	62	141	1710	263	827	46	17	5.6	1.2	2.3
14	4.2	47	61	134	2440	298	475	49	23	13	1.1	1.3
15	4.8	45	60	129	2990	1190	364	44	24	13	1.2	5.6
16	8.7	48	60	121	1670	4370	341	40	21	10	1.1	4.1
17	9.2	61	60	117	3930	2190	991	37	26	5.7	1.2	4.1
18	11	119	246	114	2080	1020	629	50	17	3.0	1.2	3.7
19	11	84	221	108	5190	681	443	53	19	2.7	1.4	3.5
20	12	74	113	104	3880	528	364	46	16	7.5	2.2	3.2
21	7.4	83	86	101	3080	434	315	55	6.4	4.5	1.9	3.2
22	7.0	73	78	101	3040	392	286	45	7.3	9.1	1.7	3.3
23	8.0	65	73	98	1370	405	240	27	9.0	5.9	2.4	3.2
24	13	62	70	97	875	344	213	33	14	4.8	3.2	3.4
25	24	61	68	98	648	311	205	25	15	3.7	1.2	6.5
26	109	59	67	99	524	283	185	33	7.5	1.4	1.4	4.4
27	117	62	66	96	438	262	174	32	9.1	.82	2.9	4.0
28	55	73	215	113	377	243	160	21	4.9	1.2	2.0	3.5
29	49	64	1860	137	342	233	145	19	16	5.7	.56	4.6
30	46	60	620	116	---	228	145	17	28	6.1	.75	9.9
31	44	---	250	105	---	235	---	13	---	3.8	.92	---
TOTAL	600.5	1748	5109	7930	43824	19923	9350	1677	404.6	315.92	52.54	95.58
MEAN	19.4	58.3	165	256	1511	643	312	54.1	13.5	10.2	1.69	3.19
MAX	117	119	1860	1790	5190	4370	991	134	28	38	4.4	9.9
MIN	3.0	42	56	96	141	228	145	13	4.9	.82	.56	.17
AC-FT	1190	3470	10130	15730	86920	39520	18550	3330	803	627	104	190

11374000 COW CREEK NEAR MILLVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	130	511	1156	1608	1569	1329	832	493	194	56.3	34.5	46.3
MAX	1057	2539	3929	5593	4634	5275	3012	1795	676	218	115	130
(WY)	1963	1982	1984	1970	1986	1983	1963	1967	1967	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1950 - 1992	
ANNUAL TOTAL	66255.80		91030.14			
ANNUAL MEAN	182		249		659	
HIGHEST ANNUAL MEAN					1505	
LOWEST ANNUAL MEAN					66.8	
HIGHEST DAILY MEAN	4360	Mar 4	5190	Feb 19	32500	Dec 27 1951
LOWEST DAILY MEAN	.03	Aug 15	.17	Sep 4	.02	Jul 29 1977
ANNUAL SEVEN-DAY MINIMUM	.90	Aug 11	.52	Aug 30	.09	Jul 23 1977
INSTANTANEOUS PEAK FLOW			11900	Feb 12	48700	Nov 16 1981
INSTANTANEOUS PEAK STAGE			13.40	Feb 12	24.55	Dec 27 1951
ANNUAL RUNOFF (AC-FT)	131400		180600		477600	
10 PERCENT EXCEEDS	339		525		1540	
50 PERCENT EXCEEDS	66		51		185	
90 PERCENT EXCEEDS	3.2		2.3		23	

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 fair. 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 ft³/s, Mar. 1, 1983, gage height, 21.59 ft from rating curve, extended above 34,000 ft³/s on basis of runoff comparisons with upstream stations then in use; minimum, 15 ft³/s several days during September 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0715	*18,000	*13.80	Mar. 15	1945	15,000	13.18

Minimum daily, 38 ft³/s, Nov. 15-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	67	43	198	187	1080	813	573	179	247	57	54
2	71	67	41	151	185	1060	782	539	178	209	56	49
3	79	65	40	126	161	892	760	506	171	188	55	45
4	58	65	40	120	145	801	741	484	160	154	58	52
5	52	65	40	549	134	1110	652	466	143	134	65	49
6	45	65	40	723	130	2550	554	447	133	145	72	46
7	55	66	40	1380	127	2340	523	439	127	132	58	44
8	64	67	41	823	123	1580	477	438	114	120	50	46
9	61	66	49	454	126	1250	459	419	111	111	50	43
10	68	57	50	329	920	1050	448	400	119	111	48	49
11	54	48	49	257	3150	926	468	391	133	101	47	50
12	41	43	48	223	8560	846	604	365	149	93	46	51
13	45	40	48	219	3440	783	1610	344	152	101	46	47
14	61	40	48	207	3430	1380	1290	328	152	92	47	55
15	72	38	48	185	3460	6160	1040	315	172	73	45	47
16	54	38	47	172	2430	5720	932	306	169	70	43	45
17	52	38	47	170	2240	3590	1210	273	145	66	47	49
18	59	50	51	170	2010	2570	1180	269	132	64	51	58
19	77	64	59	168	4480	2050	1010	269	117	64	56	54
20	61	65	69	158	4510	1700	903	296	108	65	55	46
21	77	65	75	145	3990	1460	825	294	103	65	54	50
22	47	65	73	144	3900	1350	796	275	93	65	54	51
23	50	64	65	136	2880	1550	724	234	93	73	46	46
24	56	58	62	128	2280	1340	674	220	108	83	52	48
25	56	53	59	123	1930	1210	649	203	115	67	61	49
26	113	50	59	119	1700	1110	620	196	110	63	42	58
27	103	47	57	114	1510	1030	607	183	99	63	45	57
28	89	44	68	114	1360	964	590	183	103	61	44	51
29	72	43	893	138	1180	902	580	187	105	57	42	50
30	71	43	700	186	---	871	586	189	203	57	42	48
31	68	---	306	171	---	868	---	189	---	53	44	---
TOTAL	1990	1646	3355	8300	60678	52093	23107	10220	3996	3047	1578	1487
MEAN	64.2	54.9	108	268	2092	1680	770	330	133	98.3	50.9	49.6
MAX	113	67	893	1380	8560	6160	1610	573	203	247	72	58
MIN	41	38	40	114	123	783	448	183	93	53	42	43
AC-FT	3950	3260	6650	16460	120400	103300	45830	20270	7930	6040	3130	2950

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	134	371	1271	1978	2242	1822	1170	608	282	111	69.0	77.8
MAX	805	1828	5428	7596	10800	10770	4270	2447	856	365	169	164
(WY)	1958	1985	1984	1970	1958	1983	1941	1983	1983	1983	1983	1983
MIN	50.8	52.2	49.8	60.3	76.3	146	136	165	74.5	39.6	26.4	30.8
(WY)	1950	1991	1991	1991	1977	1977	1977	1977	1977	1987	1945	1945

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1941 - 1992	
ANNUAL TOTAL	108763		171497			
ANNUAL MEAN	298		469		838	
HIGHEST ANNUAL MEAN					2714	
LOWEST ANNUAL MEAN					94.4	
HIGHEST DAILY MEAN	4960	Mar 18	8560	Feb 12	54300	Jan 16 1974
LOWEST DAILY MEAN	34	Aug 18	38	Nov 15	15	Sep 7 1945
ANNUAL SEVEN-DAY MINIMUM	39	Aug 25	40	Dec 2	16	Sep 4 1945
INSTANTANEOUS PEAK FLOW			18000	Feb 12	86000	Mar 1 1983
INSTANTANEOUS PEAK STAGE			13.80	Feb 12	21.59	Mar 1 1983
ANNUAL RUNOFF (AC-FT)	215700		340200		607200	
10 PERCENT EXCEEDS	671		1220		1970	
50 PERCENT EXCEEDS	67		113		220	
90 PERCENT EXCEEDS	42		46		57	

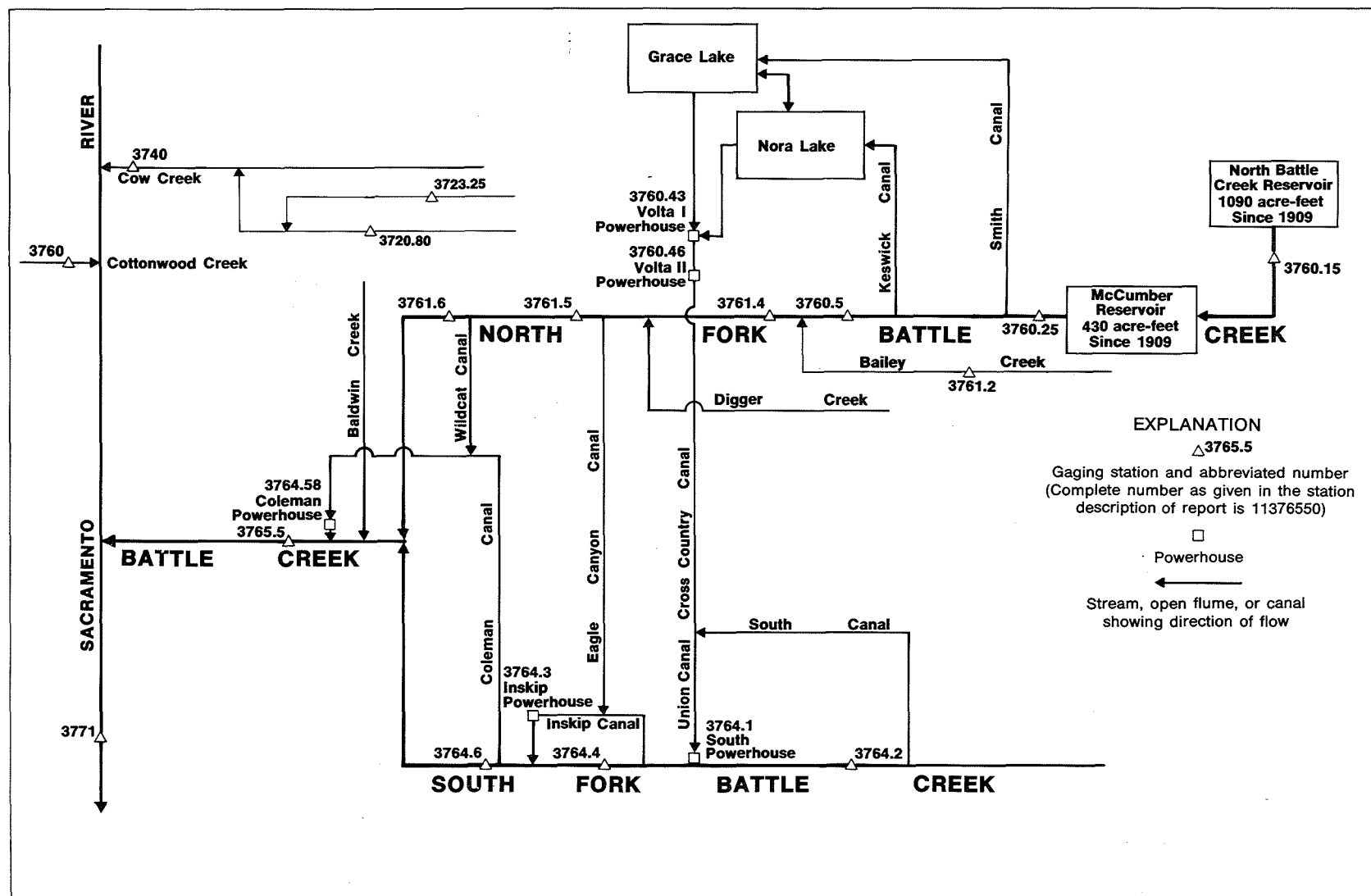


Figure 30. Diversions and storage in Battle Creek basin.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 0.30 ft³/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 32 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	---	---	---	---	---	1.1	1.0	1.1	.84	.98	.90
2	15	---	---	---	---	---	1.0	.95	1.0	.80	.91	.99
3	.91	---	---	---	---	---	.76	.87	1.0	.82	.79	.99
4	.85	---	---	---	---	---	.59	.80	.99	.80	1.2	.72
5	.78	---	---	---	---	---	.58	1.1	.98	.83	1.4	.68
6	.67	---	---	---	---	---	.50	1.3	.95	.81	1.2	.61
7	.64	---	---	---	---	---	.54	1.2	.98	1.0	.90	.62
8	.59	---	---	---	---	---	.72	1.2	.98	1.3	1.0	.80
9	.74	---	---	---	---	---	.82	1.2	.98	1.3	1.1	.72
10	.81	---	---	---	---	---	.79	2.1	.98	1.3	1.0	1.8
11	.74	---	---	---	---	---	.70	2.9	.98	1.3	1.2	2.4
12	.66	---	---	---	---	---	.74	1.7	.95	1.2	1.0	2.4
13	.66	---	---	---	---	---	.72	1.0	.95	1.2	1.0	2.4
14	.64	---	---	---	---	---	.65	.98	.91	1.2	.83	1.6
15	.57	---	---	---	---	---	.35	.91	.91	1.2	.82	.76
16	.77	---	---	---	---	---	.33	.91	.89	1.3	.82	.91
17	.98	---	---	---	---	---	.40	.88	.89	1.2	.74	1.1
18	1.0	---	---	---	---	---	.30	.86	.88	1.2	1.2	1.1
19	1.0	---	---	---	---	---	.26	1.1	.88	1.2	1.1	1.0
20	.99	---	---	---	---	---	.25	1.1	.87	1.0	1.1	.91
21	.99	---	---	---	---	---	.57	1.1	.78	.95	1.2	2.1
22	1.0	---	---	---	---	---	.73	1.1	.74	.97	1.1	3.4
23	3.4	---	---	---	---	---	.70	1.1	.72	.98	1.1	3.4
24	4.8	---	---	---	---	---	.69	1.1	.95	.85	1.3	3.0
25	4.7	---	---	---	---	---	.59	1.1	1.1	.85	1.4	3.0
26	4.8	---	---	---	---	---	.55	1.1	1.1	.84	1.2	3.0
27	4.8	---	---	---	---	---	.50	1.1	.98	.83	1.1	3.0
28	4.7	---	---	---	---	---	.73	1.1	.90	3.3	.94	3.0
29	4.6	---	---	---	---	---	.98	1.1	.83	6.6	.88	3.0
30	4.5	---	---	---	---	---	1.0	1.1	.86	3.5	.83	3.0
31	4.4	---	---	---	---	---	---	1.1	---	1.2	.81	---
TOTAL	95.69	---	---	---	---	---	19.14	36.16	28.01	42.67	32.15	53.31
MEAN	3.09	---	---	---	---	---	.64	1.17	.93	1.38	1.04	1.78
MAX	24	---	---	---	---	---	1.1	2.9	1.1	6.6	1.4	3.4
MIN	.57	---	---	---	---	---	.25	.80	.72	.80	.74	.61
AC-FT	190	---	---	---	---	---	38	72	56	85	64	106

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 0.30 ft³/s at all times; flow is computed to 211 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	5.3	2.1	1.7	1.5	15	1.1	.99	.43	.92	.78	.98
2	13	4.2	2.7	2.0	1.4	7.4	1.1	1.1	.55	.93	.77	.77
3	11	4.1	2.8	1.8	1.4	2.1	1.1	1.1	.73	.93	.77	.55
4	3.0	3.7	3.8	3.5	1.4	1.8	1.1	1.1	.90	.86	.77	.53
5	1.1	3.6	4.5	4.9	1.4	1.8	1.1	1.2	.90	.93	.77	.48
6	.90	3.2	4.8	4.9	1.4	2.0	1.1	1.2	1.0	.92	.66	.73
7	.93	3.4	5.8	4.9	1.4	1.8	1.1	1.1	.58	.76	.67	.85
8	.78	4.7	6.3	3.8	1.4	1.6	1.1	.81	.59	.77	.65	.77
9	.77	6.8	6.3	3.1	1.4	1.8	1.1	.91	.68	.77	.53	.77
10	.77	7.4	5.7	3.1	1.4	2.0	1.1	1.3	.62	.82	.53	.63
11	.75	5.5	4.9	2.9	1.4	2.0	1.1	1.2	.58	.72	.53	.59
12	.47	4.2	4.5	2.8	1.4	2.0	2.7	1.1	.81	.66	.53	.52
13	.77	3.8	3.9	3.0	1.5	1.8	2.9	.90	.76	.53	.53	.36
14	.77	3.1	3.4	3.1	1.6	1.5	1.7	.85	.63	.53	.67	.36
15	.77	3.3	3.4	3.1	1.6	1.4	1.4	.76	.90	.53	.80	.74
16	.77	3.0	2.5	2.9	1.6	1.4	1.5	.69	.84	.56	.82	.93
17	.77	4.1	1.5	2.8	1.6	1.4	8.4	.44	.74	.60	.77	.93
18	.63	8.1	1.6	3.0	1.6	1.4	4.4	.36	.76	.71	.77	.93
19	.71	8.4	2.1	2.9	1.6	1.4	1.7	.36	.90	.86	1.0	.90
20	.93	6.7	3.3	2.8	1.6	1.4	1.4	.45	.92	.70	1.2	.93
21	.85	6.7	4.1	2.8	1.8	1.4	1.4	.53	.93	.76	.93	.84
22	.63	4.4	4.1	2.1	2.0	1.4	1.4	.44	.93	.93	.86	.77
23	.73	3.2	3.4	1.6	2.1	1.1	1.4	.35	.92	.78	.77	.87
24	1.4	3.4	2.8	1.5	12	.93	1.4	.32	.93	.77	.77	.93
25	1.4	3.2	2.5	1.4	16	.93	1.2	.36	.93	.77	.77	.93
26	4.3	3.1	1.6	1.4	16	.93	1.1	.36	.93	.77	1.0	.48
27	5.6	2.9	1.4	1.4	16	.93	1.1	.36	.93	.77	1.1	.72
28	11	2.8	1.4	1.4	16	1.0	1.1	.36	.90	.77	.59	1.0
29	16	2.2	1.4	1.4	16	1.1	1.1	.36	.99	.60	.77	1.1
30	14	2.0	1.4	1.4	---	1.1	1.0	.36	.95	.86	.77	1.2
31	9.0	---	1.4	1.5	---	1.3	---	.46	---	.98	.93	---
TOTAL	115.50	130.5	101.4	80.9	127.5	65.12	50.4	22.18	24.16	23.77	23.78	23.09
MEAN	3.73	4.35	3.27	2.61	4.40	2.10	1.68	.72	.81	.77	.77	.77
MAX	16	8.4	6.3	4.9	16	15	8.4	1.3	1.0	.98	1.2	1.2
MIN	.47	2.0	1.4	1.4	1.4	.93	1.0	.32	.43	.53	.53	.36
AC-FT	229	259	201	160	253	129	100	44	48	47	47	46
a	110	103	103	134	299	403	411	327	229	143	60	63

CAL YR 1991 TOTAL 902.90 MEAN 2.47 MAX 16 MIN .30 AC-FT 1790

WTR YR 1992 TOTAL 788.30 MEAN 2.15 MAX 16 MIN .32 AC-FT 1560

a Contents, in acre-feet, at end of month for McCumber Reservoir (station 11376020), provided by Pacific Gas & Electric Co.

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 1991 TO SEPTEMBER 1992

Date	Volta No. 1	Volta No. 2	South	Inskip	Coleman
Oct.	2,280	2,270	4,610	8,170	10,910
Nov.	2,240	2,240	6,530	8,990	11,540
Dec.	2,230	2,230	6,910	9,550	12,490
Jan.	2,220	2,250	7,170	9,950	13,130
Feb.	2,770	2,950	9,770	13,100	17,540
Mar.	3,580	3,830	11,360	14,860	19,290
Apr.	3,700	3,930	11,450	14,800	18,970
May	3,320	3,460	9,990	12,690	15,690
June	2,490	2,040	6,370	9,460	11,960
July	2,140	1,310	5,140	8,290	10,860
Aug.	1,670	1,640	5,080	7,420	4,980
Sept.	1,510	1,500	4,760	6,830	799

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.

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 3.0 ft³/s at all times; flow is computed to 4.3 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.4	3.6	3.4	3.4	3.4	e3.4	3.4	3.3	3.5	3.4	e3.4
2	3.5	3.5	3.6	3.4	3.3	3.3	e3.3	3.4	3.3	3.4	3.4	e3.3
3	3.5	3.5	3.6	3.4	3.3	3.3	3.2	3.4	3.4	3.4	3.4	e3.3
4	3.2	3.4	3.6	3.4	3.3	3.5	3.2	3.4	3.4	3.4	3.4	e3.4
5	3.4	3.4	3.7	3.6	3.5	3.6	3.3	3.4	3.4	3.4	3.4	e3.4
6	3.5	3.5	3.7	3.5	3.4	3.6	3.3	3.3	3.4	3.4	3.4	e3.5
7	3.5	3.6	3.6	3.5	3.4	3.4	3.3	3.3	3.3	3.4	3.4	e3.4
8	3.6	3.6	3.6	3.4	3.4	3.3	3.3	3.3	3.3	3.3	3.4	e3.4
9	3.7	3.7	3.6	3.4	3.4	3.3	3.3	3.3	3.3	3.3	3.4	e3.4
10	3.6	3.7	3.5	3.4	3.4	3.2	3.4	3.3	3.3	3.3	3.4	e3.4
11	3.6	3.6	3.5	3.4	3.4	3.2	3.4	3.3	3.3	3.3	3.4	e3.4
12	3.6	3.5	3.5	3.4	3.5	3.2	3.6	3.3	3.4	3.4	3.4	e3.4
13	3.6	3.5	3.4	3.4	3.4	3.2	3.5	3.3	3.4	3.4	3.4	e3.4
14	3.6	3.5	3.4	3.4	3.4	3.3	3.4	3.3	3.4	3.5	3.4	e3.4
15	3.6	3.5	3.4	3.4	3.4	3.3	3.4	3.3	3.4	3.5	3.4	e3.4
16	3.6	3.6	3.4	3.4	3.4	3.3	3.4	3.3	3.4	3.4	3.4	e3.4
17	3.5	3.7	3.4	3.4	3.5	3.3	3.7	3.3	3.4	3.3	3.4	e3.4
18	3.5	3.7	3.6	3.3	3.4	3.2	3.5	3.3	3.4	3.3	3.4	e3.4
19	3.5	3.8	3.4	3.3	3.4	3.2	3.3	3.3	3.5	3.3	3.4	e3.4
20	3.6	3.7	3.5	3.4	e3.4	3.3	3.3	3.3	3.4	3.3	3.4	e3.5
21	3.7	3.6	3.5	3.3	3.3	3.4	3.3	3.4	3.4	3.3	3.4	e3.3
22	3.7	3.6	3.5	3.3	3.3	3.4	3.3	3.4	---	3.4	3.4	e3.5
23	3.6	3.6	3.5	3.3	3.3	e3.4	3.3	3.4	---	3.4	3.4	e3.6
24	3.5	3.7	3.5	3.3	3.4	e3.5	3.3	3.4	---	3.4	e3.4	3.6
25	3.5	3.7	3.5	3.4	3.5	e3.5	3.3	3.4	---	3.4	e3.4	3.5
26	3.7	3.7	3.4	3.4	3.4	e3.5	3.4	3.4	3.4	3.4	e3.4	3.4
27	3.4	3.6	3.4	3.4	3.4	e3.5	3.4	3.4	3.3	3.4	e3.5	3.4
28	3.7	3.5	3.4	3.5	3.4	e3.5	3.4	3.4	3.3	3.4	e3.4	3.4
29	3.9	3.5	3.4	3.4	3.4	e3.5	3.4	3.3	3.4	3.4	e3.4	3.4
30	3.8	3.5	3.4	3.4	---	e3.4	3.4	3.3	3.4	3.4	e3.4	3.4
31	3.5	---	3.4	3.4	---	e3.4	---	3.3	---	3.4	e3.4	---
TOTAL	110.6	107.4	108.5	105.3	98.4	104.4	101.0	103.6	---	104.8	105.5	102.5
MEAN	3.57	3.58	3.50	3.40	3.39	3.37	3.37	3.34	---	3.38	3.40	3.42
MAX	3.9	3.8	3.7	3.6	3.5	3.6	3.7	3.4	---	3.5	3.5	3.6
MIN	3.2	3.4	3.4	3.3	3.3	3.2	3.2	3.3	---	3.3	3.4	3.3
AC-FT	219	213	215	209	195	207	200	205	---	208	209	203

e Estimated.

NOTE: Canal was out of service June 22-25 and all flow remained in natural channel. Discharges from Water System Operator's log Aug. 24 to Sept. 23.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. During times of powerplant operation the minimum release requirement is 17 ft³/s; flow is computed to 29 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	17	18	17	19	19	17	17	20	15	15
2	16	17	17	18	18	19	19	21	17	17	16	15
3	16	17	17	18	17	18	18	20	17	17	15	15
4	16	17	17	20	17	18	18	21	17	16	15	15
5	16	17	17	23	18	20	18	20	17	16	15	15
6	16	17	17	21	18	21	18	17	17	16	15	15
7	16	17	17	21	19	21	17	17	17	16	15	15
8	16	17	17	20	20	19	17	21	18	16	15	15
9	16	17	17	19	20	19	17	17	23	16	15	15
10	16	17	17	18	21	18	18	17	21	16	15	15
11	16	17	17	18	23	18	22	17	20	16	15	15
12	17	17	17	17	21	18	21	17	20	16	15	15
13	16	17	17	17	22	18	17	17	20	16	15	15
14	16	17	17	17	22	18	21	17	20	16	15	15
15	16	17	17	17	22	19	23	17	21	16	15	15
16	17	17	17	18	23	19	22	17	19	16	15	15
17	16	17	17	17	23	19	20	17	17	16	15	15
18	16	17	18	17	24	18	17	17	17	16	15	15
19	16	17	17	17	23	18	18	17	18	16	15	15
20	16	17	17	17	18	18	21	17	17	16	15	15
21	16	17	18	17	18	18	17	17	16	16	15	15
22	17	17	18	17	18	18	17	17	16	16	15	15
23	16	17	18	17	18	18	20	17	16	16	15	15
24	16	17	18	17	20	17	23	17	16	16	15	15
25	17	17	18	17	24	17	24	17	16	16	15	15
26	18	17	18	17	20	17	21	17	16	16	15	15
27	17	17	18	17	19	17	21	17	16	16	15	15
28	17	17	19	18	19	17	19	17	16	16	15	15
29	17	17	19	17	19	17	20	17	16	16	15	15
30	17	17	19	17	---	18	17	17	18	16	15	15
31	17	---	19	17	---	18	---	17	---	16	15	---
TOTAL	507	510	543	556	581	567	580	545	532	502	466	450
MEAN	16.4	17.0	17.5	17.9	20.0	18.3	19.3	17.6	17.7	16.2	15.0	15.0
MAX	18	17	19	23	24	21	24	21	23	20	16	15
MIN	16	17	17	17	17	17	17	17	16	16	15	15
AC-FT	1010	1010	1080	1100	1150	1120	1150	1080	1060	996	924	893
a	0	0	0	0	143	0	254	915	280	0	0	0

CAL YR 1991 TOTAL 6593 MEAN 18.1 MAX 26 MIN 16 AC-FT 13080
WTR YR 1992 TOTAL 6339 MEAN 17.3 MAX 24 MIN 15 AC-FT 12570

a Discharge, in acre-feet, for Ponderosa-Bailey Creek powerplant (station 11376110), provided by Highland Hydro Constructors.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 3.0 ft³/s at all times; flow is computed to 6.8 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	3.6	3.7	3.7	3.7	---	4.3	5.9	4.2	4.4	4.4	4.3
2	3.9	3.6	3.7	3.7	3.7	---	4.4	6.7	4.5	4.3	4.3	4.3
3	4.2	3.6	3.8	3.7	3.7	4.8	4.5	5.3	4.8	4.3	4.4	4.3
4	4.1	3.7	3.8	3.7	3.7	3.7	4.5	4.4	4.7	4.4	4.3	4.3
5	4.2	3.7	3.7	3.7	3.7	3.8	4.7	4.3	4.5	4.4	e4.7	4.3
6	4.2	3.7	3.8	3.7	3.7	3.8	4.6	4.4	4.2	4.4	e4.6	4.3
7	---	3.6	3.7	3.7	3.7	3.7	4.6	5.1	4.2	4.3	e4.6	4.3
8	---	3.7	3.7	3.7	3.7	3.7	4.6	---	4.1	4.2	e4.6	4.3
9	---	3.6	3.7	3.7	3.7	3.7	4.7	---	4.2	4.2	e4.6	4.3
10	---	3.6	3.8	3.7	3.8	3.7	4.6	---	4.2	4.2	e4.6	4.3
11	---	3.7	3.8	3.7	3.7	3.7	4.8	5.7	4.3	4.2	e4.5	4.4
12	---	3.6	3.8	3.7	5.2	3.7	---	4.4	4.3	4.2	e4.5	4.3
13	---	3.7	3.8	3.8	3.7	3.7	---	4.2	4.3	4.2	e4.6	4.3
14	---	3.7	3.7	3.7	4.0	3.7	---	4.3	4.3	4.2	4.5	4.4
15	3.8	3.6	3.7	3.7	3.9	3.7	---	4.3	4.3	4.1	4.4	4.4
16	3.9	3.6	3.7	3.7	3.6	3.7	---	4.3	4.3	4.2	4.4	4.3
17	3.8	3.7	3.8	3.7	3.5	3.7	---	4.3	4.3	4.2	4.4	4.3
18	3.8	3.7	3.8	3.7	3.5	3.7	---	4.3	4.3	4.2	4.4	4.3
19	3.6	3.7	3.7	3.7	4.7	3.7	---	4.3	4.2	4.2	4.5	4.3
20	3.5	3.7	3.7	3.7	---	3.7	---	4.5	4.1	4.2	4.4	4.3
21	3.6	3.7	3.8	3.7	---	3.7	---	4.3	4.2	4.3	4.5	4.3
22	3.7	3.7	3.7	3.7	---	3.7	---	4.2	5.0	4.4	4.6	4.3
23	3.8	3.7	3.7	3.8	4.9	3.7	---	4.2	5.7	4.4	4.5	4.3
24	3.7	3.7	3.7	3.8	5.6	3.9	---	4.2	6.0	4.4	4.5	4.3
25	3.7	3.7	3.7	3.7	---	4.1	4.2	4.2	5.2	4.4	4.5	4.3
26	3.9	3.7	3.7	3.7	---	4.1	4.2	4.4	4.1	4.4	4.5	4.3
27	3.6	3.8	3.7	3.7	---	4.1	4.2	4.6	4.1	4.4	4.3	4.3
28	3.6	3.7	3.7	3.7	---	4.2	4.1	4.2	4.2	4.4	4.3	4.3
29	3.7	3.8	3.7	3.6	---	4.2	4.2	4.2	4.2	4.3	4.2	4.3
30	3.7	3.7	3.7	3.6	---	4.3	4.2	4.2	4.3	4.4	4.3	4.3
31	3.7	---	3.7	3.7	---	4.2	---	4.2	---	4.4	4.3	---
TOTAL	---	110.3	115.7	114.8	---	---	---	---	133.3	133.2	138.2	129.3
MEAN	---	3.68	3.73	3.70	---	---	---	---	4.44	4.30	4.46	4.31
MAX	---	3.8	3.8	3.8	---	---	---	---	6.0	4.4	4.7	4.4
MIN	---	3.6	3.7	3.6	---	---	---	---	4.1	4.1	4.2	4.3
AC-FT	---	219	229	228	---	---	---	---	264	264	274	256

e Estimated.

NOTE: Canal was out of service Oct. 7-14, and all flow remained in natural channel. Discharges from Water System Operator's log Aug. 5-13. Discharges above 6.8 ft³/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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 3.0 ft³/s at all times; flow is computed to 5.0 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.4	4.4	4.1	4.1	4.2	4.5	4.6	4.6	---	4.6	4.9
2	4.4	4.4	4.4	4.1	4.1	4.1	4.6	4.6	4.6	---	4.6	4.7
3	4.4	4.4	4.4	4.1	4.2	4.1	4.5	4.6	4.6	---	4.6	4.6
4	4.4	4.4	4.4	4.2	4.2	4.1	4.5	4.6	4.6	---	4.6	4.5
5	4.4	4.4	4.4	4.2	4.2	4.1	4.5	4.6	4.6	---	4.5	4.5
6	4.4	4.4	4.4	4.1	4.1	4.1	4.5	4.6	4.6	---	4.5	4.5
7	---	4.4	4.3	4.1	4.2	4.1	4.5	4.6	4.6	---	4.6	4.5
8	---	4.4	4.3	4.1	4.1	4.2	4.6	4.6	4.6	---	4.6	4.5
9	---	4.4	4.4	4.1	4.2	4.2	4.6	4.6	4.6	---	4.6	4.5
10	---	4.4	4.3	4.1	4.2	4.1	4.6	4.6	4.6	4.6	4.6	4.6
11	---	4.4	4.3	4.2	4.1	4.1	4.6	4.6	4.5	4.6	4.6	4.5
12	---	4.5	4.3	4.1	---	4.2	4.6	4.6	4.5	4.6	4.6	4.5
13	---	4.4	4.3	4.1	4.1	4.1	4.5	4.5	4.5	4.6	4.6	4.5
14	---	4.4	4.3	4.1	---	4.2	4.5	4.6	4.5	4.6	4.6	4.5
15	4.4	4.4	4.3	4.1	---	4.1	4.6	4.6	4.5	4.6	4.6	4.5
16	4.4	4.4	4.3	4.1	4.1	4.2	4.6	4.6	4.5	4.6	4.6	4.5
17	4.4	4.4	4.4	4.1	4.1	4.1	4.7	4.6	4.6	4.6	4.5	4.5
18	4.4	4.4	4.2	4.1	4.1	4.1	4.5	4.6	4.5	4.6	4.5	4.5
19	4.5	4.4	4.1	4.2	4.2	4.2	4.5	4.6	4.5	4.6	4.5	4.6
20	4.4	4.4	4.1	4.1	---	4.1	4.6	4.6	4.6	4.6	4.5	4.5
21	4.4	4.4	4.2	4.1	4.2	4.1	4.6	4.6	4.6	4.6	4.5	4.6
22	4.4	4.4	4.2	4.1	4.1	4.1	4.5	4.6	4.6	4.6	4.5	4.6
23	4.4	4.4	4.2	4.1	4.1	4.1	4.6	4.6	4.6	4.6	4.5	4.5
24	4.4	4.4	4.2	4.1	4.2	4.3	4.6	4.6	4.6	4.6	4.5	4.5
25	4.4	4.4	4.2	4.1	4.2	4.6	4.6	4.6	---	4.6	4.5	4.5
26	4.7	4.4	4.0	4.1	4.2	4.6	4.6	4.6	---	4.6	4.8	4.5
27	4.4	4.4	4.0	4.2	4.2	4.5	4.6	4.6	---	4.6	4.9	4.5
28	4.4	4.4	---	4.1	4.2	4.5	4.6	4.6	---	4.6	4.9	4.5
29	4.4	4.4	4.2	4.1	4.1	4.5	4.6	4.6	---	4.6	4.9	4.5
30	4.4	4.4	4.2	4.1	---	4.5	4.6	4.6	---	4.6	4.9	---
31	4.4	---	4.1	4.1	---	4.5	---	4.6	---	4.6	4.9	---
TOTAL	---	132.1	---	127.6	---	131.0	137.0	142.5	---	---	143.2	---
MEAN	---	4.40	---	4.12	---	4.23	4.57	4.60	---	---	4.62	---
MAX	---	4.5	---	4.2	---	4.6	4.7	4.6	---	---	4.9	---
MIN	---	4.4	---	4.1	---	4.1	4.5	4.5	---	---	4.5	---
AC-FT	---	262	---	253	---	260	272	283	---	---	284	---

NOTE: Canal was out of service Sept. 30, and all flow remained in natural channel. Discharges above 5.0 ft³/s for many days during the year.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 3.0 ft³/s at all times; flow is computed to 24 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	4.2	3.9	3.9	4.2	4.3	4.4	4.3	4.4	6.7	4.3	7.4
2	4.3	4.2	3.8	4.0	4.2	4.3	4.3	4.3	4.4	4.4	4.3	7.3
3	4.1	4.2	3.7	4.1	4.1	4.4	4.3	4.2	4.4	4.3	4.3	7.1
4	4.3	4.2	3.7	4.2	4.3	4.4	4.3	4.2	4.3	4.3	4.3	7.2
5	4.2	4.2	4.0	4.3	4.2	4.4	4.2	4.2	4.4	4.3	4.4	7.0
6	4.1	4.0	3.9	4.2	4.2	4.3	4.2	4.2	4.2	4.3	4.2	7.0
7	9.5	4.0	3.8	4.1	4.2	4.4	4.4	4.3	4.4	4.4	4.4	7.0
8	14	4.0	3.8	4.2	4.2	4.4	4.2	4.2	4.3	4.3	4.3	7.0
9	14	4.0	3.9	4.1	4.2	4.4	4.2	4.3	4.4	4.2	4.3	7.0
10	13	4.1	4.0	4.2	4.8	4.4	4.4	4.3	4.2	4.2	4.4	7.2
11	13	4.2	4.0	4.2	---	4.4	4.4	4.1	4.3	4.2	4.2	7.2
12	14	4.1	4.0	4.2	---	4.3	4.3	4.4	4.2	4.2	4.3	7.1
13	13	4.2	4.0	4.2	4.2	4.4	4.3	4.2	4.2	4.2	4.3	7.0
14	9.5	4.0	4.0	4.2	---	4.3	4.4	4.3	4.2	4.3	4.3	7.0
15	5.1	3.7	4.0	4.2	4.6	4.4	4.4	4.2	4.2	4.3	4.4	7.1
16	4.0	3.8	3.9	4.2	4.2	4.3	4.4	4.2	4.2	4.3	5.3	7.0
17	4.3	3.7	3.8	4.2	4.1	4.4	4.2	4.2	4.2	4.3	6.8	7.0
18	4.4	3.7	3.7	4.4	4.2	4.3	4.4	4.3	4.2	4.3	6.7	7.0
19	3.7	3.8	3.7	4.3	4.3	4.4	4.2	4.2	4.2	4.2	6.7	7.0
20	3.6	3.8	3.8	4.2	4.2	4.4	4.2	4.2	4.4	4.2	6.7	7.0
21	4.6	3.7	4.0	4.2	4.3	4.2	4.3	4.3	4.3	4.4	6.7	7.0
22	4.4	3.8	4.0	4.1	4.2	4.3	4.3	4.3	4.3	4.2	6.8	6.9
23	4.1	3.8	3.9	4.1	4.2	4.2	4.2	4.2	4.3	4.2	6.9	6.1
24	4.2	3.8	4.0	4.2	4.2	4.3	4.2	4.2	4.4	4.3	6.8	6.9
25	4.1	3.7	4.0	4.2	4.1	4.4	4.3	4.2	4.5	4.4	6.8	6.9
26	4.3	3.8	4.1	4.2	4.2	4.3	4.4	4.2	4.4	4.3	6.8	6.9
27	4.0	3.7	4.1	4.2	4.4	4.4	4.3	4.3	4.3	4.4	7.0	6.8
28	4.1	3.7	6.3	4.3	4.4	4.4	4.3	4.4	4.3	4.3	7.2	6.9
29	4.2	3.7	4.0	4.1	4.4	4.4	4.2	4.3	4.7	4.3	7.2	7.0
30	4.2	3.8	4.2	4.2	---	4.5	4.2	4.3	7.6	4.3	7.3	12
31	4.1	---	4.0	4.2	---	4.4	---	4.3	---	4.3	7.3	---
TOTAL	196.6	117.6	124.0	129.6	---	135.1	128.8	131.8	132.8	135.3	173.7	215.0
MEAN	6.34	3.92	4.00	4.18	---	4.36	4.29	4.25	4.43	4.36	5.60	7.17
MAX	14	4.2	6.3	4.4	---	4.5	4.4	4.4	7.6	6.7	7.3	12
MIN	3.6	3.7	3.7	3.9	---	4.2	4.2	4.1	4.2	4.2	4.2	6.1
AC-FT	390	233	246	257	---	268	255	261	263	268	345	426

NOTE: Discharges were above 24 ft³/s Feb. 11, 12, 14.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 5.0 ft³/s at all times; flow is computed to 8.9 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	6.9	7.3	5.9	5.7	---	---	---	6.2	6.6	6.4	6.7
2	6.9	6.7	7.2	5.9	5.7	---	---	6.5	6.2	6.5	6.4	6.7
3	6.9	6.8	7.2	5.9	5.6	---	---	6.4	6.2	6.4	6.5	6.7
4	6.8	6.9	7.2	5.9	5.6	---	---	6.6	6.2	6.6	6.4	6.7
5	6.9	7.3	7.2	---	5.9	---	---	6.5	6.2	6.6	6.4	6.7
6	7.0	7.2	7.2	5.9	6.2	---	---	6.1	6.3	6.5	6.5	6.7
7	---	7.2	7.3	5.9	6.3	---	---	6.4	6.3	6.5	6.5	6.6
8	---	7.5	7.3	5.9	6.3	---	---	6.3	6.3	6.5	6.6	6.6
9	---	7.5	7.2	6.0	6.3	6.7	---	6.2	6.3	6.5	6.5	6.6
10	---	7.4	7.3	5.9	6.4	6.6	---	6.3	6.4	6.5	6.4	6.7
11	---	7.4	7.2	6.0	6.9	6.7	---	6.2	6.5	6.5	6.4	6.7
12	---	7.0	7.3	6.0	---	---	---	6.3	6.7	6.5	6.4	6.7
13	---	6.8	7.2	6.0	---	---	---	6.3	6.6	6.4	6.4	6.7
14	---	6.9	7.3	5.9	---	---	---	6.2	6.5	6.4	6.4	6.7
15	---	7.0	7.2	5.9	---	---	---	6.2	6.6	6.5	6.4	6.8
16	---	7.0	7.2	5.9	6.4	---	---	6.2	6.5	6.5	6.5	6.7
17	---	7.1	6.9	5.9	6.3	---	---	6.2	6.5	6.5	6.5	6.7
18	6.9	7.0	---	5.8	6.3	6.0	---	6.3	6.5	6.5	6.6	6.9
19	6.7	6.9	6.6	5.8	---	5.9	---	6.3	6.4	6.7	6.7	7.2
20	6.5	7.0	6.6	5.9	---	5.9	---	6.4	6.3	6.9	6.6	7.2
21	6.5	7.0	6.6	5.8	---	6.0	---	6.3	6.2	6.5	6.8	7.2
22	6.8	6.9	6.5	5.7	---	6.2	---	6.2	6.3	6.5	---	7.2
23	6.8	7.0	6.5	5.8	---	6.1	---	6.2	6.4	6.4	6.8	7.3
24	6.9	7.2	6.5	5.8	---	6.2	---	6.2	6.4	6.3	6.8	6.9
25	6.9	7.2	6.5	5.8	---	6.4	---	6.3	6.4	6.4	6.7	6.8
26	7.0	7.2	6.5	5.7	---	6.5	---	6.2	6.4	6.4	6.6	6.7
27	6.9	7.4	6.5	5.8	---	6.6	---	6.3	6.5	6.4	6.5	6.7
28	6.9	7.3	6.2	5.8	---	6.9	---	6.3	6.6	6.4	6.6	6.7
29	6.9	7.3	6.0	5.7	---	6.7	---	6.2	6.7	6.3	6.6	6.7
30	6.9	7.4	5.9	5.7	---	---	---	6.2	6.7	6.4	6.7	6.8
31	6.8	---	6.0	5.8	---	---	---	6.2	---	6.5	6.7	---
TOTAL	---	213.4	---	---	---	---	---	---	192.3	201.1	---	204.0
MEAN	---	7.11	---	---	---	---	---	---	6.41	6.49	---	6.80
MAX	---	7.5	---	---	---	---	---	---	6.7	6.9	---	7.3
MIN	---	6.7	---	---	---	---	---	---	6.2	6.3	---	6.6
AC-FT	---	423	---	---	---	---	---	---	381	399	---	405

NOTE: Canal was out of service Oct. 7-17, and all flow remained in the natural channel. Discharges above 8.9 ft³/s for many days during the year.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 5.0 ft³/s at all times; flow is computed to 10 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	6.7	6.7	6.4	6.4	---	---	9.0	6.8	6.3	6.6	6.4
2	6.7	6.7	e6.7	6.4	6.4	---	---	7.2	6.8	6.3	6.6	6.3
3	6.7	6.7	e6.7	6.4	6.4	---	---	7.1	6.8	6.3	6.6	6.3
4	6.7	6.7	e6.7	6.4	6.4	---	---	7.1	6.8	6.3	6.6	6.3
5	6.7	6.7	e6.8	---	6.4	---	---	7.6	6.8	6.3	6.7	6.2
6	6.8	6.7	e6.8	6.4	6.4	---	6.8	7.5	6.8	6.3	6.6	6.3
7	6.6	6.7	e6.8	6.4	6.4	---	6.8	9.0	6.8	6.3	6.6	6.2
8	6.6	6.8	e6.7	6.3	6.5	---	6.8	9.2	6.8	6.3	6.6	6.3
9	6.7	6.8	e6.7	6.4	6.4	7.6	6.8	7.6	6.8	6.4	6.6	6.2
10	6.7	6.8	e6.8	6.3	6.9	6.6	---	6.8	6.8	6.4	6.6	6.3
11	6.7	6.8	e6.8	6.4	---	6.7	---	6.9	6.8	6.4	6.6	6.2
12	6.6	6.8	e6.7	6.4	---	6.5	---	6.8	6.9	6.4	6.7	6.2
13	6.7	6.8	e6.8	6.4	---	7.2	---	6.8	6.8	6.4	5.2	6.2
14	6.9	6.8	e6.7	6.4	---	---	---	6.8	6.9	6.5	3.8	6.2
15	6.8	6.8	e6.7	6.4	---	---	---	6.8	6.6	6.6	3.8	6.3
16	6.7	6.8	e6.8	6.4	---	---	---	6.8	6.4	6.6	3.8	6.4
17	6.7	6.9	e6.8	6.4	7.8	---	---	6.8	6.4	6.7	3.8	6.5
18	6.8	6.7	---	6.4	6.5	7.2	---	6.8	6.4	6.7	3.8	6.5
19	6.7	6.6	6.3	6.4	---	6.2	---	6.8	6.4	6.7	3.8	6.5
20	6.7	6.7	6.3	6.4	---	6.2	---	6.8	6.3	6.6	6.5	6.5
21	6.7	6.6	6.3	6.4	---	6.2	---	6.8	6.3	6.7	7.3	6.5
22	6.8	6.7	6.3	6.4	---	6.4	---	6.8	6.3	6.6	6.5	6.5
23	6.8	6.8	6.4	6.4	---	6.4	---	6.9	6.4	6.6	6.5	6.5
24	6.7	7.0	6.4	6.4	---	6.5	---	6.9	6.3	6.6	6.5	6.6
25	6.8	7.0	6.4	6.4	---	6.8	---	6.9	6.3	6.6	6.5	6.5
26	7.0	6.9	6.4	6.4	---	6.8	---	6.9	6.3	6.6	6.5	6.5
27	6.6	6.8	6.4	6.4	---	6.7	---	6.9	6.3	6.7	6.5	6.5
28	6.7	6.7	6.5	6.4	---	6.8	---	6.9	6.4	6.6	6.5	6.5
29	6.7	6.7	6.3	6.4	---	6.7	---	6.9	6.4	6.7	6.5	6.4
30	6.7	6.7	6.4	6.3	---	8.0	---	6.9	6.3	6.6	6.5	---
31	6.7	---	6.3	6.4	---	---	---	6.9	---	6.6	6.5	---
TOTAL	208.3	202.9	---	---	---	---	---	221.9	197.2	201.7	186.2	---
MEAN	6.72	6.76	---	---	---	---	---	7.16	6.57	6.51	6.01	---
MAX	7.0	7.0	---	---	---	---	---	9.2	6.9	6.7	7.3	---
MIN	6.6	6.6	---	---	---	---	---	6.8	6.3	6.3	3.8	---
AC-FT	413	402	---	---	---	---	---	440	391	400	369	---

e Estimated.

NOTE: Canal was out of service Sept. 30, and all flow remained in natural channel. Discharges from Water System Operator's log Dec. 2-17. Discharges were above 10 ft³/s for many days during the year.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. This station records fishwater release only. The minimum release requirement is 5.0 ft³/s at all times; flow is computed to 10 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	6.6	6.9	6.1	6.1	6.2	6.4	6.8	6.9	6.9	5.9	---
2	6.5	6.6	7.0	6.1	6.1	6.1	6.5	6.7	6.8	6.8	5.9	---
3	6.5	6.6	7.0	6.1	6.0	6.2	6.5	6.7	6.8	6.8	5.8	---
4	6.6	6.6	6.6	6.1	6.0	6.2	6.5	6.7	6.8	6.9	5.8	---
5	6.6	6.6	6.2	---	6.0	---	6.6	6.7	6.8	6.8	5.8	---
6	6.6	6.5	6.2	6.1	6.0	---	6.7	6.7	6.8	6.8	5.8	---
7	6.7	6.6	6.3	6.2	5.9	6.8	6.6	6.8	6.8	6.7	5.8	---
8	6.7	6.6	6.3	6.2	5.9	6.2	6.5	6.7	6.8	6.0	5.9	---
9	6.7	6.7	6.3	6.3	5.9	6.2	6.6	6.8	6.9	5.6	5.8	---
10	6.6	6.9	6.3	6.3	6.8	6.2	6.5	6.8	6.8	5.9	5.8	---
11	6.6	6.7	6.3	7.0	---	6.3	6.6	6.8	7.0	6.0	5.8	---
12	6.6	6.8	6.3	6.5	---	6.2	---	6.9	7.1	6.0	5.7	---
13	6.6	6.7	6.3	6.4	---	6.2	---	6.9	7.0	6.0	5.8	---
14	6.6	6.9	6.3	6.3	---	6.3	7.7	6.9	6.9	5.9	5.7	---
15	6.7	6.9	6.3	6.3	---	7.5	6.5	6.8	6.9	5.8	5.7	---
16	6.7	6.9	6.3	6.1	---	7.0	6.5	6.8	6.8	5.8	---	---
17	6.7	6.9	6.3	6.1	6.3	---	---	6.9	6.9	5.8	---	---
18	6.8	6.9	6.7	6.2	6.0	6.2	---	6.9	6.9	5.8	---	---
19	6.8	6.9	6.3	6.3	---	6.2	6.9	7.0	6.7	5.9	---	---
20	6.8	6.9	6.3	6.2	---	6.2	6.6	7.0	6.7	6.0	---	---
21	6.9	7.0	6.3	6.1	---	6.3	6.9	6.9	6.7	6.0	---	---
22	6.9	7.0	6.2	6.2	---	6.3	6.9	6.9	6.8	5.9	---	---
23	6.9	7.0	6.3	6.2	---	6.3	6.9	6.8	6.8	5.9	---	---
24	6.8	6.9	6.3	6.2	6.5	6.2	6.9	6.9	6.8	5.8	---	---
25	6.7	6.9	6.2	6.1	6.0	6.4	6.9	6.8	6.7	5.9	---	6.9
26	6.7	6.9	6.2	6.1	6.1	6.5	6.8	6.8	6.8	5.8	---	5.9
27	6.7	6.9	6.2	6.1	5.9	6.5	6.8	6.9	6.9	5.8	---	5.9
28	6.7	7.0	6.3	6.1	5.9	6.6	6.7	6.9	6.9	5.8	---	5.9
29	6.7	7.0	6.2	6.0	6.1	6.6	6.8	6.9	7.0	5.9	---	5.9
30	6.7	7.0	6.2	6.0	---	6.6	6.8	6.8	6.9	5.9	---	5.6
31	6.7	---	6.0	6.1	---	6.5	---	6.9	---	5.9	---	---
TOTAL	207.3	204.4	196.9	---	---	---	---	211.8	205.4	188.8	---	---
MEAN	6.69	6.81	6.35	---	---	---	---	6.83	6.85	6.09	---	---
MAX	6.9	7.0	7.0	---	---	---	---	7.0	7.1	6.9	---	---
MIN	6.5	6.5	6.0	---	---	---	---	6.7	6.7	5.6	---	---
AC-FT	411	405	391	---	---	---	---	420	407	374	---	---

NOTE: Canal was out of service Aug. 16 to Sept. 23, and all flow remained in natural channel. Discharges above 10 ft³/s for several days during the year.

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 mi².

PERIOD OF RECORD.--October 1961 to current year. October 1940 to September 1961 at site 0.6 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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Some regulation at low flows by five small powerplants, several small reservoirs, and Coleman Fish Hatchery. Coleman Fish Hatchery diverts from 50 to 90 ft³/s and pumps ground water for temperature control, which is returned above the station. At times, 10 ft³/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 ft³/s, Jan. 24, 1970, gage height, 14.75 ft, from rating curve extended above 4,200 ft³/s on basis of slope-area measurement of peak flow; minimum, 52 ft³/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 ft³/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0545	*2,870	*4.87				

Minimum daily, 135 ft³/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216	204	207	227	416	370	305	320	230	228	171	150
2	219	211	206	232	286	378	312	311	231	200	168	150
3	219	208	202	232	243	350	324	299	233	189	168	148
4	216	205	199	372	240	342	321	295	234	180	170	150
5	210	205	198	573	241	398	313	297	229	176	176	151
6	210	212	201	361	235	581	297	303	225	170	178	149
7	192	201	223	548	240	436	284	311	219	171	170	148
8	208	206	211	320	248	345	281	319	215	167	174	150
9	188	227	205	270	258	319	282	312	207	163	174	151
10	179	218	206	258	442	301	310	291	201	156	172	149
11	181	211	203	247	1060	294	327	280	195	158	171	151
12	194	211	201	243	1480	290	437	277	206	163	176	152
13	204	208	200	239	628	292	533	271	219	163	166	154
14	219	204	198	239	960	307	406	265	207	165	164	151
15	234	209	198	235	884	403	351	265	214	167	164	151
16	206	209	198	236	580	478	338	264	217	167	135	154
17	215	228	197	235	441	501	435	261	207	163	161	153
18	227	239	316	235	436	362	462	260	204	158	153	157
19	225	232	255	233	498	325	388	254	206	161	145	157
20	227	227	216	233	706	306	358	277	199	161	147	157
21	257	233	209	232	704	297	354	255	188	164	144	157
22	243	217	204	230	689	298	345	246	181	164	140	154
23	255	213	198	232	511	317	319	237	181	160	149	160
24	211	203	196	233	434	307	308	232	187	165	148	154
25	215	202	198	237	399	294	307	234	190	164	145	157
26	356	208	200	230	395	287	310	237	185	166	149	140
27	330	218	199	229	381	289	312	240	182	164	167	162
28	235	223	339	251	369	286	311	239	179	156	164	175
29	229	213	453	247	357	286	325	232	192	152	160	162
30	230	210	273	229	---	288	335	229	236	168	150	153
31	206	---	231	240	---	310	---	229	---	166	153	---
TOTAL	6956	6415	6940	8358	14761	10637	10290	8342	6199	5215	4972	4607
MEAN	224	214	224	270	509	343	343	269	207	168	160	154
MAX	356	239	453	573	1480	581	533	320	236	228	178	175
MIN	179	201	196	227	235	286	281	229	179	152	135	140
AC-FT	13800	12720	13770	16580	29280	21100	20410	16550	12300	10340	9860	9140

11376550 BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	302	432	573	732	694	716	628	577	453	319	258	258
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	196	214	224	234	260	266	231	266	207	168	160	154
(WY)	1991	1992	1992	1991	1977	1977	1977	1977	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1962 - 1992		
ANNUAL TOTAL	102407			93692					
ANNUAL MEAN	281			256			494		
HIGHEST ANNUAL MEAN							869		
LOWEST ANNUAL MEAN							238		
HIGHEST DAILY MEAN	1470			Mar 4			1480		
LOWEST DAILY MEAN	142			Sep 9			Feb 12		
ANNUAL SEVEN-DAY MINIMUM	156			Sep 7			Aug 16		
INSTANTANEOUS PEAK FLOW							135		
INSTANTANEOUS PEAK STAGE							Aug 19		
ANNUAL RUNOFF (AC-FT)	203100			4.87			Feb 12		
10 PERCENT EXCEEDS	392			185800			24300		
50 PERCENT EXCEEDS	229						14.75		
90 PERCENT EXCEEDS	186						358000		
							858		
							365		
							223		

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 mi², 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 1955-63.

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 National Geodetic Vertical Datum of 1929. 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 ft³/s, Feb. 28, 1940, gage height, 38.9 ft, site and datum then in use, from rating curve extended above 170,000 ft³/s on basis of velocity-area studies; minimum (water years 1892-1992), 2,000 ft³/s, Mar. 29, 1944. Since regulation by Shasta Lake in 1943, maximum discharge, 157,000 ft³/s, Jan. 24, 1970, gage height, 36.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,700 ft³/s, Feb. 12, gage height, 16.97 ft; minimum daily, 3,790 ft³/s, Feb. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5080	4690	4970	4500	5160	5520	4910	7760	6810	7950	7800	7200
2	5100	4820	4870	4320	4650	5560	4860	7760	6780	7680	7640	7160
3	5220	4930	4660	4260	4070	5260	4800	7440	6930	7610	7610	6750
4	5200	4910	4560	4930	3920	5270	4760	6880	7030	7580	7500	6700
5	5190	4900	4440	9000	3860	6010	4680	6660	7220	7530	7550	6670
6	5200	4720	4310	6320	3800	10600	4570	7110	7510	7460	7500	7220
7	5220	4770	4310	8610	3790	9930	4550	7480	7500	7480	7540	7230
8	5090	4820	4240	6380	3820	7170	4480	8030	7470	7410	7530	7230
9	5010	5010	4230	4910	3840	6020	4470	8130	7520	7440	7530	7170
10	5150	5020	4240	4510	5630	5580	4500	8090	7530	7460	7830	7220
11	5240	5090	4230	4320	12300	5370	4550	8110	7500	7960	8180	7240
12	5200	5000	4230	4200	26200	5210	5660	8050	7610	8030	8310	7230
13	5250	5010	4240	4140	13300	5070	7400	7880	7620	8030	8370	7130
14	5270	4960	4240	4070	13400	5480	6210	7690	7580	7860	9130	7550
15	5260	4910	4230	4060	18600	12200	5500	7700	7740	7610	8140	6920
16	5160	4910	4220	4020	11200	31200	5290	7560	7670	7460	8150	6470
17	4990	5040	4230	4020	13700	27100	6920	7450	7470	7670	8140	6330
18	5100	5160	4520	3980	10300	14200	6490	7460	7240	7600	8030	6570
19	5050	5140	4580	3960	20000	10200	5780	7250	7110	8050	8040	6750
20	5010	5160	4360	3970	25400	7970	5390	7100	7110	8030	8080	6590
21	5210	5110	4320	3950	15300	6530	5090	6950	7160	8070	8080	6520
22	5100	4920	4290	3930	17800	6010	4910	6900	7640	8060	8030	6480
23	5040	4850	4280	3930	11600	6160	4760	6880	7640	8010	8040	6460
24	4630	4830	4320	3910	9510	5830	4580	6860	7660	8090	7870	6490
25	5000	4830	4410	3890	8630	5610	4430	6870	7600	7990	7880	6490
26	5950	4820	4320	3900	7810	5440	4490	6860	7500	8060	7860	6460
27	5350	4810	4190	3910	6340	5300	4860	6830	7490	8050	7820	6480
28	4920	4830	4630	3960	5770	5110	5270	6830	7520	8050	8260	6490
29	4730	4830	8660	3980	5530	5020	5800	6770	7650	7970	8560	6450
30	4700	4840	6580	3980	---	4950	6870	6810	8120	7970	8530	6200
31	4720	---	4810	3950	---	4970	---	6830	---	7920	8410	---
TOTAL	158340	147640	142720	141770	295230	251850	156830	226980	222930	242140	247940	203850
MEAN	5108	4921	4604	4573	10180	8124	5228	7322	7431	7811	7998	6795
MAX	5950	5160	8660	9000	26200	31200	7400	8130	8120	8090	9130	7550
MIN	4630	4690	4190	3890	3790	4950	4430	6660	6780	7410	7500	6200
AC-FT	314100	292800	283100	281200	585600	499500	311100	450200	442200	480300	491800	404300

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
LOWEST ANNUAL MEAN	4096
HIGHEST DAILY MEAN	261000
LOWEST DAILY MEAN	2400
ANNUAL SEVEN-DAY MINIMUM	2470
INSTANTANEOUS PEAK FLOW	291000
INSTANTANEOUS PEAK STAGE	38.9
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
LOWEST ANNUAL MEAN	6690
HIGHEST DAILY MEAN	125000
LOWEST DAILY MEAN	3640
ANNUAL SEVEN-DAY MINIMUM	3830
INSTANTANEOUS PEAK FLOW	139000
INSTANTANEOUS PEAK STAGE	24.98
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6968	9804	14800	17820	18700	16200	12130	11910	11730	12570	11440	8223
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	4355	4296	4573	4700	5519	4804	7322	7431	7811	7998	5323
(WY)	1978	1988	1977	1992	1990	1990	1991	1992	1992	1992	1992	1977

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1964 - 1992

ANNUAL TOTAL	2368410	2438220	
ANNUAL MEAN	6489	6662	12670
HIGHEST ANNUAL MEAN			25450
LOWEST ANNUAL MEAN			6494
HIGHEST DAILY MEAN	17300	Mar 4	31200
LOWEST DAILY MEAN	3920	Apr 17	3790
ANNUAL SEVEN-DAY MINIMUM	4030	Apr 12	3870
INSTANTANEOUS PEAK FLOW			44700
INSTANTANEOUS PEAK STAGE			16.97
ANNUAL RUNOFF (AC-FT)	4698000	4836000	9180000
10 PERCENT EXCEEDS	9050	8130	19100
50 PERCENT EXCEEDS	5380	6460	9940
90 PERCENT EXCEEDS	4420	4240	5470

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 mi².

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.

GAGE.--Water-stage recorder. Datum of gage is 718.1 ft above National Geodetic Vertical Datum of 1929. 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, except those below 1.0 ft³/s, which are poor. 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 ft³/s, Feb. 28, 1983, gage height, 12.10 ft, from rating curve extended above 5,200 ft³/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 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0230	*4,930	*8.46	Mar. 15	1300	4,390	8.15

Minimum daily, 0.11 ft³/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	2.0	4.9	18	19	169	190	78	17	40	2.0	.80
2	.17	2.2	5.0	15	17	144	186	69	17	21	1.8	.91
3	.11	2.4	5.1	13	15	124	184	64	16	17	1.7	.97
4	.13	2.4	5.1	40	13	114	174	61	15	15	1.8	1.1
5	.15	2.2	5.2	347	13	468	153	59	14	16	1.5	1.1
6	.20	2.4	5.3	127	12	566	137	56	14	14	1.4	.91
7	.23	2.4	5.7	183	12	321	123	54	14	12	1.7	.88
8	.23	2.5	5.8	80	13	223	116	51	14	11	1.8	.79
9	.19	2.9	5.5	45	20	179	113	47	13	10	1.7	.82
10	.17	3.2	5.3	33	1140	153	118	45	13	9.3	1.7	.78
11	.17	2.9	5.3	26	698	137	129	43	13	8.9	1.5	.78
12	.15	2.9	5.2	22	1930	127	237	42	23	9.3	1.2	.84
13	.13	2.7	5.3	19	540	119	258	40	19	9.4	1.1	.83
14	.12	2.4	5.3	17	729	446	199	37	19	9.0	.97	.77
15	.12	2.2	5.3	16	492	2210	172	36	22	8.3	.78	.75
16	.15	2.7	5.3	17	290	688	165	34	19	7.6	.68	.74
17	.17	7.7	5.5	18	198	411	198	33	16	6.9	.68	.73
18	.21	16	8.2	18	331	324	173	31	14	6.3	.66	.73
19	.23	10	9.1	16	684	270	151	32	13	5.5	.63	.66
20	.17	7.4	7.2	14	583	237	140	38	12	5.3	.52	.63
21	.13	7.9	6.5	13	400	218	132	31	10	5.2	.43	.56
22	.25	7.3	6.1	12	348	442	118	28	9.2	5.0	.50	.51
23	.40	6.4	6.1	12	254	411	107	26	9.2	4.9	.59	.56
24	.47	5.9	5.9	11	209	315	99	25	11	4.4	.54	.58
25	.93	5.8	5.8	11	193	270	96	24	19	3.9	.60	.51
26	2.5	5.5	5.8	12	181	239	94	23	14	3.4	.61	.49
27	3.2	5.4	6.1	12	170	221	89	22	12	3.1	.54	.49
28	2.9	5.3	35	25	157	203	87	21	11	3.0	.52	.49
29	2.4	5.1	249	28	144	197	86	20	17	2.7	.56	.52
30	2.0	5.0	47	21	---	195	82	19	41	2.3	.62	.55
31	1.9	---	24	19	---	195	---	18	---	2.1	.71	---
TOTAL	20.45	141.1	511.9	1260	9805	10336	4306	1207	470.4	281.8	32.04	21.78
MEAN	.66	4.70	16.5	40.6	338	333	144	38.9	15.7	9.09	1.03	.73
MAX	3.2	16	249	347	1930	2210	258	78	41	40	2.0	1.1
MIN	.11	2.0	4.9	11	12	114	82	18	9.2	2.1	.43	.49
AC-FT	41	280	1020	2500	19450	20500	8540	2390	933	559	64	43

11379500 ELDER CREEK NEAR PASKENTA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.90	52.2	137	228	273	220	147	73.6	25.3	7.80	3.05	3.03
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	.005	.14
(WY)	1992	1991	1991	1991	1977	1964	1977	1977	1977	1977	1977	1991

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1949 - 1992

ANNUAL TOTAL	14482.44	28393.47	97.5
ANNUAL MEAN	39.7	77.6	303
HIGHEST ANNUAL MEAN			1983
LOWEST ANNUAL MEAN			1977
HIGHEST DAILY MEAN	838 Mar 4	2210 Mar 15	7650 Dec 22 1964
LOWEST DAILY MEAN	.04 Sep 24	.11 Oct 3	.00 Aug 6 1950
ANNUAL SEVEN-DAY MINIMUM	.08 Sep 20	.14 Oct 10	.00 Aug 14 1950
INSTANTANEOUS PEAK FLOW		4930 Feb 12	17700 Feb 28 1983
INSTANTANEOUS PEAK STAGE		8.46 Feb 12	12.10 Feb 28 1983
ANNUAL RUNOFF (AC-FT)	28730	56320	70630
10 PERCENT EXCEEDS	110	205	226
50 PERCENT EXCEEDS	5.7	12	18
90 PERCENT EXCEEDS	.17	.55	1.5

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 1929-92).--Maximum discharge, 36,400 ft³/s, Dec. 11, 1937, gage height, 23.4 ft, from floodmarks, from rating curve extended above 14,000 ft³/s on basis of step-backwater computation and slope-area measurement of peak flow; minimum, 49 ft³/s, Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0530	2,490	7.07	Feb. 14	1930	*4,020	*8.45

Minimum daily, 63 ft³/s, several days in August.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	93	102	119	124	273	253	243	131	143	69	66
2	74	93	102	114	121	262	267	237	129	120	68	65
3	74	93	102	112	113	242	268	238	127	108	67	65
4	74	93	101	133	112	240	278	250	123	100	67	67
5	74	93	101	503	112	443	255	257	119	97	66	67
6	75	93	102	201	112	586	223	263	115	95	66	66
7	75	93	122	348	113	481	206	286	113	92	66	66
8	75	93	112	198	123	361	202	308	112	90	66	66
9	74	109	103	149	141	291	195	287	110	88	67	67
10	74	108	102	134	365	252	228	244	108	86	67	68
11	74	99	101	126	1190	235	263	232	106	86	67	69
12	74	98	101	119	1320	227	357	225	105	87	66	69
13	75	98	101	114	611	224	429	212	108	86	66	68
14	75	97	101	113	1130	261	322	203	111	86	66	68
15	75	96	100	112	944	355	283	193	119	84	66	67
16	76	96	100	112	841	376	258	189	123	83	66	66
17	76	111	101	112	463	376	492	184	111	83	66	67
18	77	135	139	111	424	299	431	181	109	83	64	69
19	77	114	146	110	577	257	336	173	108	78	63	69
20	77	112	118	108	1230	232	311	174	104	77	63	69
21	77	123	114	108	738	226	305	171	96	76	63	69
22	78	113	112	106	601	228	286	159	93	75	63	68
23	92	110	111	105	448	230	251	153	92	75	65	68
24	85	110	110	104	352	218	235	151	91	75	64	67
25	85	107	106	106	304	209	239	151	91	73	64	67
26	172	107	103	106	299	217	251	153	92	73	63	66
27	141	119	103	106	292	223	263	151	92	72	63	65
28	102	125	152	113	281	223	271	147	90	72	63	66
29	97	113	301	113	264	226	293	140	101	71	63	66
30	97	108	171	112	---	225	271	137	162	70	63	66
31	93	---	133	112	---	233	---	133	---	69	65	---
TOTAL	2618	3152	3673	4339	13745	8731	8522	6225	3291	2653	2021	2012
MEAN	84.5	105	118	140	474	282	284	201	110	85.6	65.2	67.1
MAX	172	135	301	503	1320	586	492	308	162	143	69	69
MIN	74	93	100	104	112	209	195	133	90	69	63	65
AC-FT	5190	6250	7290	8610	27260	17320	16900	12350	6530	5260	4010	3990

11381500 MILL CREEK NEAR LOS MOLINOS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	126	205	348	420	465	439	430	433	321	172	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1929 - 1992	
ANNUAL TOTAL	60494		60982			
ANNUAL MEAN	166		167		297	
HIGHEST ANNUAL MEAN					576	
LOWEST ANNUAL MEAN					93.6	
HIGHEST DAILY MEAN	1880		Mar 4		12800	
LOWEST DAILY MEAN	74		Sep 30		52	
ANNUAL SEVEN-DAY MINIMUM	74		Sep 29		60	
INSTANTANEOUS PEAK FLOW			4020		36400	
INSTANTANEOUS PEAK STAGE			8.45		23.40	
ANNUAL RUNOFF (AC-FT)	120000		121000		215400	
10 PERCENT EXCEEDS	272		299		567	
50 PERCENT EXCEEDS	110		110		175	
90 PERCENT EXCEEDS	77		67		91	

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 mi².

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 1962-79, 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 National Geodetic Vertical Datum of 1929, 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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. 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 ft³/s, Dec. 22, 1964, gage height, 12.7 ft, from floodmarks, present site and datum, from rating curve extended above 6,000 ft³/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 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 15	1230	*3,260	*6.53				

No flow, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	9.8	27	48	118	565	523	262	47	114	4.8	.44
2	.19	8.7	24	46	105	520	526	210	44	79	4.3	.46
3	.18	8.5	20	45	89	475	524	195	39	59	3.6	.61
4	.09	8.9	19	51	80	421	490	191	37	49	3.5	.37
5	.05	8.6	18	212	76	812	418	196	34	45	3.0	.80
6	.03	7.8	17	134	71	780	366	192	34	42	2.9	.67
7	.01	7.0	21	159	67	539	329	188	32	39	2.9	.58
8	.03	8.2	41	88	68	484	331	174	29	33	2.9	.54
9	.00	9.8	29	67	88	427	330	154	29	30	3.1	.24
10	.00	8.8	25	62	711	374	400	144	28	29	2.6	.24
11	.00	7.4	24	61	638	359	449	129	27	27	2.4	.32
12	.00	8.0	20	58	1680	374	951	125	28	27	2.1	.37
13	.00	8.0	19	52	780	374	1000	122	31	26	1.9	.54
14	.00	7.4	17	49	682	617	661	113	31	25	1.8	.63
15	.00	8.1	16	54	505	1710	538	102	37	22	1.8	1.2
16	.00	8.1	15	79	379	860	497	107	46	19	1.8	.23
17	.00	45	15	94	305	739	962	98	41	17	1.3	.24
18	.00	167	22	93	490	618	710	92	35	16	1.0	.26
19	.00	62	58	82	682	540	561	91	56	15	.95	.26
20	.00	50	36	73	1560	508	482	97	49	15	.78	.25
21	.00	146	28	66	1170	494	448	84	35	13	.16	.23
22	.00	70	27	61	1330	835	367	75	30	11	.33	.22
23	.00	46	27	57	785	827	321	72	27	9.3	.34	.16
24	.00	38	24	55	668	647	299	70	30	8.9	.32	.00
25	.06	35	23	54	793	568	287	67	45	8.8	.29	.03
26	21	32	23	81	826	510	285	64	40	8.1	.11	.15
27	73	34	24	76	795	498	261	62	33	6.9	.11	.19
28	31	54	75	189	696	493	271	60	28	7.2	.11	.20
29	19	37	200	231	600	472	293	58	30	6.1	.22	.08
30	13	30	79	151	---	488	289	55	92	5.8	.27	.12
31	11	---	57	128	---	477	---	52	---	5.2	.38	---
TOTAL	168.70	979.1	1070	2756	16837	18405	14169	3701	1124	818.3	52.07	10.63
MEAN	5.44	32.6	34.5	88.9	581	594	472	119	37.5	26.4	1.68	.35
MAX	73	167	200	231	1680	1710	1000	262	92	114	4.8	1.2
MIN	.00	7.0	15	45	67	359	261	52	27	5.2	.11	.00
AC-FT	335	1940	2120	5470	33400	36510	28100	7340	2230	1620	103	21

11382000 THOMES CREEK AT PASKENTA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.6	167	405	562	691	585	549	344	111	22.8	6.09	5.11
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1921 - 1992

ANNUAL TOTAL	42318.90	60090.80	287	
ANNUAL MEAN	116	164	772	1983
HIGHEST ANNUAL MEAN			21.5	1977
LOWEST ANNUAL MEAN			29800	Dec 22 1964
HIGHEST DAILY MEAN	3730	Mar 4		
LOWEST DAILY MEAN	.00	Sep 29	.00	Sep 1 1921
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 9	.00	Sep 1 1921
INSTANTANEOUS PEAK FLOW			3260	Mar 15
INSTANTANEOUS PEAK STAGE			6.53	Mar 15
ANNUAL RUNOFF (AC-FT)	83940	119200	12.70	Dec 22 1964
10 PERCENT EXCEEDS	345	538	208200	
50 PERCENT EXCEEDS	28	39	748	
90 PERCENT EXCEEDS	.19	.20	73	
			2.3	

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 mi².

PERIOD OF RECORD.--October 1911 to September 1915, March 1920 to December 1937, January 1939 to current year. 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 National Geodetic Vertical Datum of 1929, 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.--No estimated daily discharges. Records fair. 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 ft³/s, Dec. 10, 1937, gage height, 19.2 ft, present datum, from floodmarks, from rating curve extended above 9,200 ft³/s on basis of velocity-area studies; minimum, 43 ft³/s, Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0530	3,360	7.76	Feb. 14	1900	*4,500	*8.65

Minimum daily, 57 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	64	70	104	126	322	290	171	100	113	71	68
2	63	64	70	96	123	316	290	162	100	101	71	68
3	63	64	71	91	114	298	282	153	100	94	69	68
4	62	64	70	104	111	301	277	149	98	89	69	68
5	62	63	70	624	110	626	261	142	98	88	69	68
6	62	64	71	257	111	644	238	140	97	86	70	67
7	62	66	100	301	116	518	221	138	97	86	70	67
8	62	66	88	220	131	434	210	137	97	85	70	66
9	62	72	76	169	157	377	206	131	96	83	70	66
10	61	77	74	150	473	342	251	128	94	83	70	66
11	61	68	72	138	1460	319	259	126	93	83	69	66
12	62	66	71	130	1900	306	349	125	93	84	69	65
13	63	66	71	124	775	296	452	125	94	83	68	64
14	62	66	70	121	1450	326	345	123	96	82	67	64
15	62	66	70	118	1200	435	306	123	101	81	67	64
16	62	66	70	116	1050	504	287	121	109	79	69	63
17	63	77	71	113	741	445	384	118	101	79	68	63
18	63	111	108	112	608	385	350	115	104	79	67	63
19	63	97	138	109	718	347	305	113	101	77	66	62
20	62	85	98	108	1310	321	282	116	97	76	66	61
21	62	100	87	107	818	310	267	115	90	77	66	61
22	63	88	83	106	663	305	250	112	89	77	66	60
23	69	76	79	105	526	303	230	107	88	76	68	60
24	75	74	77	104	428	288	216	107	86	75	67	59
25	74	73	76	106	373	277	206	106	88	75	66	60
26	117	73	75	106	359	290	197	106	88	74	66	59
27	120	75	76	106	345	290	187	104	89	73	66	58
28	78	103	131	114	327	286	181	103	86	72	66	58
29	70	80	325	119	309	283	178	103	89	72	66	58
30	70	74	168	114	---	277	175	101	110	72	68	57
31	64	---	120	111	---	288	---	100	---	71	68	---
TOTAL	2107	2248	2896	4503	16932	11059	7932	3820	2869	2525	2108	1897
MEAN	68.0	74.9	93.4	145	584	357	264	123	95.6	81.5	68.0	63.2
MAX	120	111	325	624	1900	644	452	171	110	113	71	68
MIN	61	63	70	91	110	277	175	100	86	71	66	57
AC-FT	4180	4460	5740	8930	33580	21940	15730	7580	5690	5010	4180	3760

11383500 DEER CREEK NEAR VINA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	114	200	376	506	617	564	530	380	196	116	97.0	94.4
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1912 - 1992	
ANNUAL TOTAL	56153		60896			
ANNUAL MEAN	154		166		315	
HIGHEST ANNUAL MEAN					700	1983
LOWEST ANNUAL MEAN					86.2	1977
HIGHEST DAILY MEAN	2570	Mar 4	1900	Feb 12	14300	Dec 22 1964
LOWEST DAILY MEAN	58	Sep 22	57	Sep 30	52	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	59	Sep 22	58	Sep 24	53	Aug 21 1931
INSTANTANEOUS PEAK FLOW			4500	Feb 14	23800	Dec 10 1937
INSTANTANEOUS PEAK STAGE			8.65	Feb 14	19.20	Dec 10 1937
ANNUAL RUNOFF (AC-FT)	111400		120800		228000	
10 PERCENT EXCEEDS	298		326		668	
50 PERCENT EXCEEDS	85		96		144	
90 PERCENT EXCEEDS	62		63		79	

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 mi². PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 51,220 acre-ft, Apr. 26-28, elevation, 1,199.86 ft; minimum, 36,310 acre-ft, Sept. 30, elevation, 1,190.84 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 mi². PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 52,100 acre-ft, Mar. 17, elevation, 842.31 ft; minimum, 13,590 acre-ft, Aug. 19, elevation, 802.09 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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.....	1,193.06	39,700	-2,460	813.52	21,580	520
Oct. 31.....	1,191.72	37,630	-2,070	814.40	22,290	710
Nov. 30.....	1,192.10	38,210	580	810.14	18,990	-3,300
Dec. 31.....	1,193.24	39,980	1770	811.19	19,770	780
CAL YR 1991	--	--	13,670	--	--	8,680
Jan. 31.....	1,195.52	43,670	3,690	813.46	21,540	1,770
Feb. 28.....	1,198.32	48,460	4,790	836.11	44,250	22,710
Mar. 31.....	1,198.34	48,500	40	839.54	48,510	4,260
Apr. 30.....	1,199.82	51,150	2,650	840.54	49,790	1,280
May 31.....	1,199.00	49,660	-1,490	837.30	45,710	-4,080
June 30.....	1,198.24	48,320	-1,340	823.47	30,420	-15,290
July 31.....	1,195.94	44,370	-3,950	806.02	16,090	-14,330
Aug. 31.....	1,192.40	38,680	-5,690	804.09	14,830	-1,260
Sept. 30.....	1,190.84	36,310	-2,370	805.46	15,720	890
WTR YR 1992	--	--	-3,390	--	--	-5,860

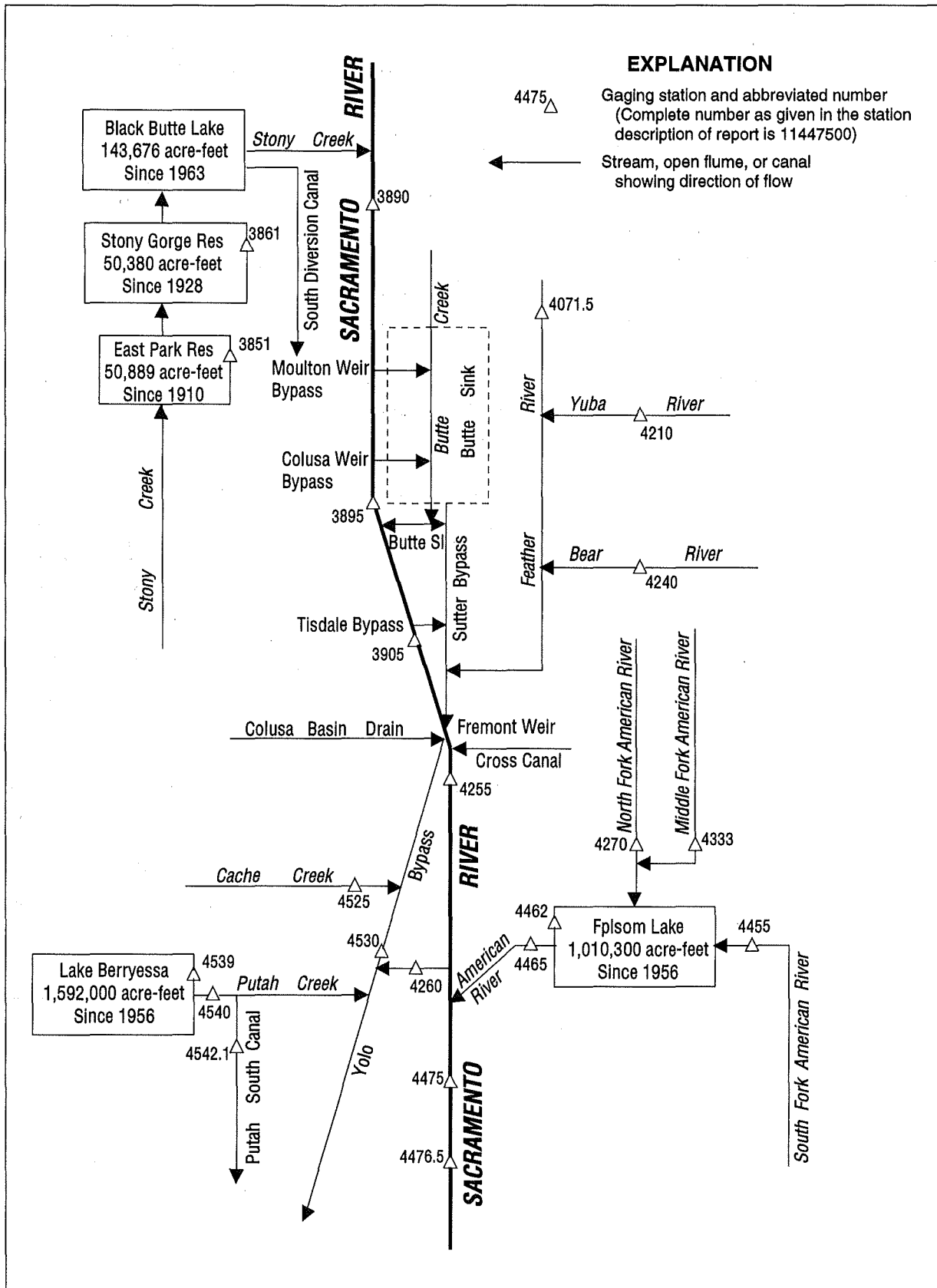


Figure 31. Diversions and storage in lower Sacramento River basin.

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 mi².

PERIOD OF RECORD.--Water years 1958 to current year.

DISCHARGE DATA: Water years 1955-90.

CHEMICAL DATA: Water years 1958-79. Published as "at damsite" 1959-64.

WATER TEMPERATURE: Water years 1969 to current year.

SEDIMENT DATA: Water years 1958-59, 1961-62.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1969 to current year.

INSTRUMENTATION.--Water-temperature recorder since June 1969.

REMARKS.--Water temperature can be affected by releases from Black Butte Dam. No flow Dec. 11-23.

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, 25.5°C, Aug. 28, 31, Sept. 1, 4; minimum recorded, 5.5°C, Dec. 24.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	22.0	15.0	13.0	10.0	8.0	9.0	7.0	10.0	8.5	13.0	11.0
2	24.0	22.0	14.5	12.5	10.5	8.5	8.0	6.0	9.5	7.5	13.0	11.0
3	24.0	22.0	15.5	13.0	10.0	9.0	7.0	6.0	10.0	7.5	13.5	11.0
4	24.5	22.0	15.0	12.5	10.0	8.0	7.5	7.0	10.5	7.5	13.0	11.5
5	24.5	22.5	15.0	13.0	10.0	8.0	8.5	7.5	11.0	7.5	12.0	11.5
6	24.0	22.5	15.5	14.0	10.0	9.0	8.5	8.0	11.0	8.0	12.0	11.0
7	24.0	22.0	15.5	14.0	10.0	9.5	8.5	7.5	12.0	9.5	13.5	10.5
8	23.5	22.0	14.5	14.0	9.5	8.0	8.5	6.5	11.5	10.0	14.0	10.5
9	23.5	22.0	15.5	14.0	9.5	7.5	8.5	6.5	11.0	10.0	13.5	11.0
10	23.5	21.5	15.5	14.0	9.0	7.5	8.5	6.5	10.5	10.0	14.5	11.0
11	23.0	21.5	15.5	13.5	---	---	7.5	6.5	11.0	9.5	14.0	11.0
12	23.0	21.5	15.5	13.5	---	---	7.0	6.0	11.5	10.5	14.5	11.5
13	23.0	21.0	15.5	13.5	---	---	7.5	6.0	11.5	10.5	15.0	12.0
14	23.0	21.0	13.0	11.5	---	---	8.5	6.0	11.0	9.5	12.5	12.0
15	23.0	21.0	12.5	10.5	---	---	8.5	7.0	10.0	9.5	12.5	11.5
16	23.0	21.0	13.0	11.0	---	---	8.0	7.0	11.5	9.5	13.0	11.5
17	23.0	20.5	13.5	11.5	---	---	9.0	7.0	12.0	10.0	12.5	12.5
18	22.5	20.5	13.5	11.5	---	---	8.5	7.0	10.5	10.0	12.5	12.0
19	22.0	20.5	13.0	11.5	---	---	8.5	7.0	10.5	10.0	12.5	12.0
20	21.5	20.0	12.5	12.0	---	---	8.5	7.0	10.5	10.0	12.5	12.0
21	22.0	20.0	12.5	11.0	---	---	9.0	7.0	10.5	10.5	12.5	12.0
22	21.0	19.5	12.0	10.0	---	---	8.5	7.0	11.0	10.5	12.0	12.0
23	20.0	19.0	12.0	10.5	---	---	7.5	7.0	11.0	10.5	12.5	12.0
24	19.0	18.5	12.5	10.5	7.0	5.5	8.5	6.5	11.0	10.5	12.5	12.0
25	18.0	17.0	12.0	10.5	7.0	6.0	8.0	6.5	11.5	11.0	12.5	12.0
26	18.0	16.0	12.0	10.5	7.5	6.5	8.5	7.0	11.5	10.5	13.0	12.0
27	17.0	15.0	11.5	10.0	7.0	6.5	8.5	7.5	11.5	11.0	13.0	12.0
28	16.5	14.0	10.5	9.0	8.0	7.0	8.0	7.5	11.5	10.5	13.0	12.0
29	16.5	15.0	10.0	9.0	8.0	8.0	10.0	7.0	12.5	10.5	13.0	12.0
30	14.5	12.5	9.5	7.5	8.5	7.5	9.5	8.0	---	---	14.0	12.5
31	15.0	12.0	---	---	9.5	8.0	9.0	8.5	---	---	17.0	12.0
MONTH	24.5	12.0	15.5	7.5	---	---	10.0	6.0	12.5	7.5	17.0	10.5

11388000 STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CA

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17.5	12.5	16.0	13.5	18.5	16.0	20.0	17.0	22.0	21.0	25.5	24.5
2	17.0	13.0	16.5	13.5	18.5	16.0	20.0	17.5	22.0	21.0	25.0	24.0
3	16.5	13.5	17.5	14.0	18.5	16.0	20.0	17.5	22.0	21.0	25.0	23.5
4	16.5	12.5	17.0	14.0	18.0	16.0	19.5	17.5	22.0	21.0	25.5	23.5
5	15.5	11.5	17.0	14.0	18.5	16.0	20.5	17.5	22.0	21.0	25.0	23.0
6	15.0	11.5	17.0	14.5	19.5	16.5	20.0	17.5	22.0	21.0	24.5	22.0
7	15.5	11.5	17.0	14.5	19.5	16.5	20.0	17.5	22.5	21.5	25.0	22.5
8	15.5	12.0	16.5	14.5	19.5	16.5	20.5	18.0	22.5	21.5	25.0	23.0
9	14.5	12.0	16.5	14.5	19.5	16.5	21.0	18.0	22.5	21.5	25.0	23.0
10	15.5	12.5	17.0	14.5	19.0	16.5	21.5	18.0	22.5	21.5	25.0	23.0
11	13.5	12.5	17.0	15.0	19.0	16.5	20.5	18.0	22.5	21.5	25.0	23.0
12	13.0	12.5	17.0	15.0	19.0	17.0	21.0	18.5	23.0	21.5	24.5	22.5
13	16.5	12.0	17.5	15.0	19.0	17.0	21.5	18.5	22.5	21.5	23.0	21.5
14	18.5	13.0	17.5	15.0	19.0	16.5	21.5	19.0	23.0	21.5	24.0	22.5
15	16.0	13.5	17.5	15.0	19.5	17.0	22.0	19.0	23.0	22.0	23.5	22.0
16	15.0	13.5	18.0	15.0	20.5	17.5	22.0	19.0	23.0	22.0	23.5	21.5
17	17.0	13.5	18.5	15.0	20.5	17.5	22.5	19.5	23.0	22.0	23.5	21.5
18	16.5	12.0	18.0	15.0	19.5	17.5	22.0	19.0	23.5	22.5	23.0	21.5
19	16.5	12.0	17.5	15.0	19.5	17.5	22.0	19.5	23.5	22.5	23.5	21.0
20	16.0	13.0	17.5	15.0	19.5	17.5	22.0	19.0	23.5	22.5	23.0	21.0
21	17.0	13.0	17.5	15.0	19.5	17.5	22.5	19.5	24.0	22.5	23.5	21.0
22	15.5	12.0	18.0	15.5	20.0	17.5	22.5	19.5	24.0	23.0	23.5	21.5
23	15.0	12.5	18.0	15.5	19.0	17.5	22.0	19.0	24.0	23.0	23.5	21.5
24	15.5	13.0	18.0	15.5	20.0	17.5	22.0	20.0	24.5	23.5	23.0	21.0
25	15.5	13.5	18.0	15.5	20.0	17.5	22.5	20.0	25.0	23.5	22.0	20.0
26	15.5	13.0	18.0	15.5	20.0	17.5	21.5	20.0	25.0	24.0	22.5	20.0
27	15.5	13.0	18.0	15.5	20.0	17.5	21.5	20.5	25.0	24.0	22.0	20.0
28	15.5	13.5	18.5	16.0	19.0	17.0	21.5	20.5	25.5	24.5	22.0	20.0
29	15.0	13.5	18.5	16.0	18.5	17.0	21.5	20.5	25.0	24.5	21.5	20.0
30	15.5	13.5	19.0	16.0	19.5	17.0	21.5	20.5	25.0	24.5	22.5	20.0
31	---	---	19.0	16.0	---	---	22.0	20.5	25.5	24.5	---	---
MONTH	18.5	11.5	19.0	13.5	20.5	16.0	22.5	17.0	25.5	21.0	25.5	20.0

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929. Prior to December 1930, at site 0.5 mi upstream at same datum.

REMARKS.--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 ft³/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 1941-92), 170,000 ft³/s, Feb. 7, 1942, gage height, 96.87 ft, from rating curve extended above 101,000 ft³/s; minimum daily, 1,350 ft³/s, August 24, 1939. EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49,700 ft³/s, Feb. 13, gage height, 83.41 ft; minimum daily, 3,600 ft³/s, Apr. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4090	3960	4300	6730	4570	9020	6860	e5400	4560	e5710	5320	6000
2	4100	3980	4450	5960	5850	8690	6730	e4700	4620	e6090	5260	5630
3	4120	4030	5030	5580	5620	8050	6670	e5200	e4480	e5840	5170	5480
4	4260	4120	4690	5400	4870	e7620	6580	e4940	e4410	e5730	5050	5150
5	4190	4110	4540	6680	4600	e7610	6490	4540	e4450	e5650	4980	5080
6	4190	4080	4400	12300	4440	e11900	6280	4240	e4550	e5590	5050	5070
7	4240	3910	4310	9690	4350	e17300	6020	4480	e4780	e5530	5040	5530
8	4240	3890	4280	14700	4320	e13800	5710	4930	e4900	e5420	5100	5610
9	4130	3990	4310	9910	4420	e10800	5510	5370	e5030	e5220	5150	5730
10	4070	4120	4220	7630	4690	e9240	5450	5520	e4950	e5140	5330	5540
11	4180	4160	4140	e6460	18300	e8310	5590	5520	e4840	e5080	5590	5630
12	4260	4220	4100	e5630	31900	e7750	5980	5480	e4830	e5340	5950	5660
13	4200	4220	4090	e5220	43600	e7340	7690	5380	e5010	e5600	6050	5690
14	4280	4180	4040	e4950	23800	e7100	9480	5190	e5120	e5570	6130	5710
15	4270	4100	4020	e4880	34000	e9200	8250	5040	e5230	e5480	6760	6200
16	4230	4090	4060	4860	29900	20000	7350	5170	e5430	e5120	6090	5870
17	4160	4150	4430	4820	22600	e29600	6900	5230	e5380	e4960	6060	5490
18	4000	4260	4500	4780	20200	e31600	8530	5360	5490	e4940	6020	5270
19	4070	4390	4710	4750	21600	e23100	8200	5420	5360	e4900	5880	5460
20	4040	4390	4940	4720	34400	e18100	e7080	5250	5140	e5130	5820	5680
21	3920	4390	4640	4670	34500	e12600	e7080	5150	5110	e5250	5830	5490
22	4040	4350	4600	4620	25200	e10800	e6410	4990	5050	e5270	5910	5490
23	4010	4230	4590	4610	24400	e9820	e5550	4860	5230	e5260	5880	5450
24	3920	4140	4630	4520	18200	e9790	e4850	4830	5290	e5160	5910	5490
25	3790	4150	4480	4460	15200	e9240	e4320	4770	5330	e5170	5760	5430
26	4190	4130	4560	4430	13600	e8590	e3910	4840	5220	e5070	5870	5440
27	4990	4140	4530	4460	12400	8000	e3600	4780	5120	e5120	5830	5450
28	4720	4240	4890	4510	10700	8090	e3690	4620	5080	e5160	5920	5470
29	4260	4340	6130	4550	10000	8000	e3770	4680	e5320	e5200	6380	5460
30	4040	4330	11300	4660	---	7600	e4370	4540	e5710	5280	6690	5480
31	3980	---	8960	4570	---	7190	---	4500	---	5300	6760	---
TOTAL	129180	124790	150870	185710	492230	365850	184900	154920	151020	165280	178540	166130
MEAN	4167	4160	4867	5991	16970	11800	6163	4997	5034	5332	5759	5538
MAX	4990	4390	11300	14700	43600	31600	9480	5520	5710	6090	6760	6200
MIN	3790	3890	4020	4430	4320	7100	3600	4240	4410	4900	4980	5070
AC-FT	256200	247500	299300	368400	976300	725700	366700	307300	299500	327800	354100	329500

e Estimated.

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6701	9496	16700	22430	25100	19330	13640	10540	8771	8724	8319	7005
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	4160	4241	5124	4994	5578	5743	4997	5034	5332	5325	4378
(WY)	1978	1992	1977	1991	1991	1977	1991	1992	1992	1992	1947	1977

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1946 - 1992

ANNUAL TOTAL	2186850		2449420									
ANNUAL MEAN	5991		6692							13010		
HIGHEST ANNUAL MEAN										29950		1983
LOWEST ANNUAL MEAN										5789		1977
HIGHEST DAILY MEAN		30900		Mar 5		43600		Feb 13		158000		Feb 20 1958
LOWEST DAILY MEAN		3790		Oct 25		3600		Apr 27		2720		Oct 15 1977
ANNUAL SEVEN-DAY MINIMUM		3970		Oct 19		3970		Oct 19		2790		Oct 11 1977
INSTANTANEOUS PEAK FLOW						49700		Feb 13		160000		Feb 20 1958
INSTANTANEOUS PEAK STAGE						83.41		Feb 13		96.70		Feb 20 1958
ANNUAL RUNOFF (AC-FT)	4338000					4858000				9424000		
10 PERCENT EXCEEDS		7260				9720				23600		
50 PERCENT EXCEEDS		5260				5190				8310		
90 PERCENT EXCEEDS		4120				4130				5300		

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 mi².

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 National Geodetic Vertical Datum of 1929. Prior to December 1930, water-stage recorder in center fender pier 50 ft upstream from bridge at same datum.

REMARKS.--No estimated daily discharges. 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 ft³/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 1941-92), 51,800 ft³/s, Mar. 4, 1983, gage height, 68.50 ft; maximum gage height, 69.20 ft, Feb. 18, 1942; minimum recorded, 820 ft³/s, July 25, 26, 1931, gage height, 34.79 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,500 ft³/s, Feb. 13, gage height, 62.25 ft; minimum daily, 3,830 ft³/s, Dec. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4290	4120	4270	6840	4840	10000	8110	4970	4460	5360	5140	6550
2	4350	4120	4390	5700	5460	9410	7900	5540	4510	5710	5110	5970
3	4330	4110	4830	5160	6260	9170	7720	4870	4390	5480	5020	5510
4	4500	4220	4680	4990	5350	8870	7590	5390	4330	5390	4950	5280
5	4430	4090	4460	5090	4960	8460	7450	4870	4370	5320	4830	5120
6	4500	4070	4400	9780	4790	8500	7260	4440	4470	5270	4840	5130
7	4490	4020	4270	9210	4670	12700	7000	4470	4680	5220	4810	5380
8	4520	3900	4220	11500	4630	17900	6700	4770	4790	5120	4830	5600
9	4490	3960	4080	10800	4640	14500	6450	5330	4920	4940	4920	5720
10	4330	4060	3980	7870	4870	11700	6320	5490	4850	4870	5090	5640
11	4340	4200	3950	6760	9410	10200	6180	5640	4750	4820	5180	5680
12	4480	4250	3890	6160	23200	9330	6230	5610	4750	5060	5540	5720
13	4460	4200	3850	5780	33900	8820	6590	5600	4920	5300	5690	5790
14	4500	4140	3840	5530	29100	8450	8260	5410	5020	5280	5720	5760
15	4520	4090	3830	5380	26000	8250	9160	5160	5130	5200	6170	6020
16	4500	4060	3830	5220	31800	10300	8280	5170	5320	4880	6040	6110
17	4500	4070	4030	5130	25600	20700	7700	5170	5450	4740	5730	5690
18	4290	4180	4210	5100	21000	30000	7510	5210	5380	4720	5780	5410
19	4330	4350	4390	5060	19000	31900	8740	5290	5210	4690	5690	5430
20	4320	4400	4720	4960	23900	23800	8080	5220	4990	4900	5610	5740
21	4220	4400	4570	4920	33200	17300	7510	5090	4860	5020	5620	5680
22	4260	4390	4460	4880	27900	13700	6880	4930	4830	5040	5620	5540
23	4310	4280	4390	4850	25500	11900	6050	4840	4900	5030	5680	5530
24	4240	4150	4330	4800	21800	11100	5390	4790	5000	4950	5680	5570
25	4000	4140	4340	4740	17100	11100	4880	4720	4980	4960	5600	5480
26	4080	4110	4420	4720	14600	10600	4500	4750	4960	4870	5550	5520
27	4780	4120	4470	4710	13200	10000	4060	4770	4800	4920	5570	5520
28	5050	4210	4430	4730	12000	9460	4030	4720	4750	4960	5600	5560
29	4620	4340	4930	4760	10800	8980	4180	4650	4780	5060	5850	5510
30	4250	4330	8580	4830	---	8580	4390	4590	5000	5080	6300	5500
31	4120	---	9420	4830	---	8370	---	4560	---	5100	6510	---
TOTAL	136400	125080	142460	184890	469480	394050	201100	156030	145550	157260	170270	168660
MEAN	4400	4169	4595	5964	16190	12710	6703	5033	4852	5073	5493	5622
MAX	5050	4400	9420	11500	33900	31900	9160	5640	5450	5710	6510	6550
MIN	4000	3900	3830	4710	4630	8250	4030	4440	4330	4690	4810	5120
AC-FT	270500	248100	282600	366700	931200	781600	398900	309500	288700	311900	337700	334500

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6675	9146	13900	16980	18820	16510	12300	10260	8473	8341	8035	6979
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	4082	4141	5193	5147	5852	5767	5015	4852	5073	5081	4322
(WY)	1978	1988	1977	1991	1991	1977	1977	1947	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1946 - 1992		
ANNUAL TOTAL	2211610			2451230					
ANNUAL MEAN	6059			6697			11340		
HIGHEST ANNUAL MEAN							21790		
LOWEST ANNUAL MEAN							5671		
HIGHEST DAILY MEAN	25900	Mar 27		33900	Feb 13		51300	Mar 4	1983
LOWEST DAILY MEAN	3830	Dec 15		3830	Dec 15		2620	Oct 16	1977
ANNUAL SEVEN-DAY MINIMUM	3880	Dec 10		3880	Dec 10		2690	Oct 12	1977
INSTANTANEOUS PEAK FLOW				35500	Feb 13		51800	Mar 4	1983
INSTANTANEOUS PEAK STAGE				62.25	Feb 13		68.50	Mar 4	1983
ANNUAL RUNOFF (AC-FT)	4387000			4862000			8212000		
10 PERCENT EXCEEDS	7890			10100			23300		
50 PERCENT EXCEEDS	5370			5070			8160		
90 PERCENT EXCEEDS	4220			4210			5320		

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 40 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	19	18	18	18	---	---	---	9.9	10	9.8	39
2	---	19	18	18	18	---	---	---	9.8	10	9.8	38
3	---	19	18	18	18	---	---	---	9.8	10	9.8	38
4	---	19	---	19	18	---	---	---	9.8	9.9	9.9	21
5	---	19	29	---	18	---	---	---	9.8	9.8	10	11
6	---	19	17	20	18	---	---	---	9.8	9.8	10	11
7	---	19	18	18	18	---	---	---	9.8	9.8	10	11
8	---	18	17	18	19	---	---	---	9.8	9.8	10	11
9	---	18	17	18	19	---	---	---	9.8	9.8	10	10
10	---	18	17	18	---	---	---	37	9.8	9.8	10	10
11	---	18	17	18	---	---	---	32	9.7	9.8	10	10
12	---	18	17	18	---	---	---	28	9.6	9.8	10	10
13	---	18	17	18	---	---	---	23	9.7	9.8	10	10
14	---	18	18	18	---	---	---	21	9.7	9.8	10	10
15	---	18	18	18	---	---	---	18	10	9.7	10	10
16	---	18	18	18	---	---	---	14	9.9	10	10	10
17	35	19	18	18	---	---	---	12	9.8	10	10	10
18	17	19	27	18	---	---	---	12	9.8	10	10	10
19	18	18	18	17	---	---	---	12	9.8	10	10	10
20	20	19	18	17	---	---	---	15	9.8	10	10	10
21	19	19	18	17	---	---	---	11	9.7	10	10	---
22	19	18	18	17	---	---	---	17	9.6	10	10	40
23	19	18	18	18	---	---	---	19	9.6	10	10	---
24	19	18	18	18	---	---	---	11	9.7	10	10	---
25	20	18	18	18	---	---	---	11	9.8	10	10	---
26	33	18	18	18	---	---	---	11	9.8	9.9	22	---
27	19	18	18	18	---	---	---	10	9.8	9.9	28	---
28	18	18	19	18	---	---	---	10	9.8	10	28	---
29	18	18	21	18	---	---	---	10	16	10	28	40
30	18	18	19	18	---	---	---	10	15	9.8	28	40
31	19	---	18	18	---	---	---	10	---	9.8	35	---
TOTAL	---	551	---	---	---	---	---	---	304.7	307.0	418.3	---
MEAN	---	18.4	---	---	---	---	---	---	10.2	9.90	13.5	---
MAX	---	19	---	---	---	---	---	---	16	10	35	---
MIN	---	18	---	---	---	---	---	---	9.6	9.7	9.8	---
AC-FT	---	1090	---	---	---	---	---	---	604	609	830	---

11389740 BUTTE CREEK BELOW FORKS OF BUTTE DIVERSION DAM NEAR DE SABLA, CA

LOCATION.--Lat 39°54'05", long 121°37'20", 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 mi².

PERIOD OF RECORD.--April to September 1992 (low-flow records only).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 1,900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No records computed above 60 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	47	50	26	24	17	39
2	---	---	---	---	---	---	47	50	26	e22	17	38
3	---	---	---	---	---	---	47	50	25	22	17	38
4	---	---	---	---	---	---	47	50	25	21	16	29
5	---	---	---	---	---	---	47	49	25	21	17	14
6	---	---	---	---	---	---	47	48	24	20	17	14
7	---	---	---	---	---	---	47	60	24	20	17	14
8	---	---	---	---	---	---	47	48	24	20	17	14
9	---	---	---	---	---	---	47	48	24	20	17	e13
10	---	---	---	---	---	---	60	48	23	e19	17	13
11	---	---	---	---	---	---	47	58	22	20	17	14
12	---	---	---	---	---	---	---	54	22	e20	17	13
13	---	---	---	---	---	---	---	49	23	20	17	13
14	---	---	---	---	---	---	48	45	23	e20	16	13
15	---	---	---	---	---	---	49	42	27	e20	16	13
16	---	---	---	---	---	---	48	38	26	e20	17	13
17	---	---	---	---	---	---	---	35	24	20	16	13
18	---	---	---	---	---	---	59	34	24	e20	16	13
19	---	---	---	---	---	---	---	34	23	e19	16	13
20	---	---	---	---	---	---	---	39	23	19	16	13
21	---	---	---	---	---	---	52	33	22	e19	16	e40
22	---	---	---	---	---	---	56	34	21	20	16	e44
23	---	---	---	---	---	---	50	40	21	19	16	e45
24	---	---	---	---	---	---	50	30	22	19	16	e44
25	---	---	---	---	---	---	50	30	22	e19	15	e44
26	---	---	---	---	---	---	50	29	21	e19	20	e44
27	---	---	---	---	---	---	50	28	e21	18	30	e44
28	---	---	---	---	---	---	50	28	21	e18	29	e44
29	---	---	---	---	---	---	50	28	36	18	29	e43
30	---	---	---	---	---	---	50	27	46	18	30	e43
31	---	---	---	---	---	---	---	27	---	18	34	---
TOTAL	---	---	---	---	---	---	---	1263	736	612	584	792
MEAN	---	---	---	---	---	---	---	40.7	24.5	19.7	18.8	26.4
MAX	---	---	---	---	---	---	---	60	46	24	34	45
MIN	---	---	---	---	---	---	---	27	21	18	15	13
AC-FT	---	---	---	---	---	---	---	2510	1460	1210	1160	1570
a	---	---	---	---	---	---	6510	754	0	0	0	0

e Estimated.

a Diversion, in acre-feet, to Forks of Butte powerplant, provided by Energy Growth Partnership I.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 60 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	---	32	44	43	---	---	---	46	44	42	41
2	43	---	32	44	43	---	---	---	49	45	42	42
3	44	---	32	44	44	---	---	---	46	45	42	42
4	43	---	33	49	44	---	---	---	46	45	42	41
5	43	---	32	---	44	---	---	---	45	45	42	43
6	43	---	32	---	44	---	---	---	45	45	43	44
7	43	50	36	43	44	---	---	---	47	45	43	42
8	43	32	33	43	44	---	---	---	47	45	45	43
9	43	32	32	43	43	---	---	---	45	45	44	42
10	43	32	32	44	---	---	---	---	47	45	43	43
11	43	33	32	43	---	---	---	---	45	45	43	43
12	44	32	32	43	---	---	---	---	46	44	42	42
13	42	32	32	43	---	---	---	---	46	45	43	43
14	41	32	39	43	---	---	---	---	46	44	42	44
15	41	32	44	44	---	---	---	---	45	45	43	35
16	41	32	44	43	---	---	---	---	46	45	42	30
17	42	32	44	44	---	---	---	---	45	45	41	30
18	42	32	59	44	---	---	---	60	44	44	41	30
19	42	32	51	44	---	---	---	58	43	44	41	30
20	42	33	46	44	---	---	---	---	43	44	41	30
21	54	33	44	44	---	---	---	51	43	44	41	30
22	59	32	43	43	---	---	---	29	43	43	41	30
23	---	32	44	43	---	---	---	24	43	43	41	30
24	---	32	46	43	---	---	---	17	42	43	41	30
25	---	32	45	44	---	---	---	15	43	43	41	30
26	---	32	45	44	---	---	---	15	43	42	41	30
27	---	33	44	43	---	---	---	15	43	42	41	30
28	---	33	55	44	---	---	---	15	43	42	42	30
29	---	33	---	43	---	---	---	15	50	42	43	30
30	---	33	42	44	---	---	---	15	---	42	43	30
31	---	---	43	43	---	---	---	37	---	42	43	---
TOTAL	---	---	---	---	---	---	---	---	---	1362	1305	1080
MEAN	---	---	---	---	---	---	---	---	---	43.9	42.1	36.0
MAX	---	---	---	---	---	---	---	---	---	45	45	44
MIN	---	---	---	---	---	---	---	---	---	42	41	30
AC-FT	---	---	---	---	---	---	---	---	---	2700	2590	2140
a	167	2010	3190	4250	7800	10960	10480	10420	4230	4570	1870	0

CAL YR 1991 AC-FT a 65820

WTR YR 1992 AC-FT a 59960

a Diversion, in acre-feet, to Centerville powerplant, provided by Pacific Gas & Electric Co.

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 500 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 National Geodetic Vertical Datum of 1929, 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, 122 ft³/s, Feb. 26, 1992, no flow at times in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	14	16	23	27	108	119	118	61	64	68	.00
2	9.5	14	16	20	24	110	122	116	60	56	61	.00
3	8.5	13	16	20	23	111	119	116	58	51	26	.00
4	3.7	13	15	46	22	113	118	117	55	47	24	.00
5	3.5	13	15	79	20	101	120	117	52	45	24	.00
6	3.4	13	16	46	22	110	120	117	50	42	30	.00
7	3.8	13	27	39	24	117	120	117	49	43	83	.00
8	3.8	13	18	32	44	117	120	118	49	56	82	.00
9	3.6	13	16	28	49	115	121	118	47	56	80	.00
10	3.2	13	16	25	89	110	121	117	45	55	78	.00
11	2.9	12	16	24	115	107	121	118	44	55	78	.00
12	2.4	12	15	22	105	108	114	118	44	56	77	.00
13	2.5	11	15	22	117	108	117	119	45	56	76	.00
14	5.0	12	14	21	105	109	120	119	45	54	71	.00
15	8.8	12	13	21	107	106	121	120	60	52	68	.00
16	6.1	12	13	21	99	104	116	121	53	51	59	.00
17	3.2	33	4.8	22	87	107	121	119	48	53	7.8	2.0
18	8.6	36	30	23	88	109	120	119	47	62	.00	7.7
19	8.6	21	35	21	118	110	120	118	46	62	.00	7.7
20	8.9	25	24	20	99	115	120	122	43	63	.00	6.8
21	9.0	27	21	20	110	117	118	115	40	63	.00	6.1
22	9.4	20	19	19	109	113	119	106	39	66	.00	4.9
23	10	18	18	19	114	115	121	100	38	75	.00	4.7
24	10	17	17	19	117	119	122	96	39	74	.00	4.2
25	20	17	16	21	115	121	121	92	38	74	.00	4.0
26	86	17	16	20	122	120	119	87	37	72	.00	3.7
27	33	24	16	20	121	120	118	74	36	72	.00	3.2
28	18	22	33	26	115	121	118	73	36	71	.00	3.7
29	18	18	42	25	108	121	118	70	78	71	.00	3.8
30	16	15	32	23	---	121	118	68	100	70	.00	4.6
31	14	---	26	23	---	117	---	66	---	69	.00	---
TOTAL	353.4	513	606.8	810	2415	3500	3582	3311	1482	1856	992.80	67.10
MEAN	11.4	17.1	19.6	26.1	83.3	113	119	107	49.4	59.9	32.0	2.24
MAX	86	36	42	79	122	121	122	122	100	75	83	7.7
MIN	2.4	11	4.8	19	20	101	114	66	36	42	.00	.00
AC-FT	701	1020	1200	1610	4790	6940	7100	6570	2940	3680	1970	133
a	1540	2770	3520	4390	6990	11720	11330	10720	5800	6290	3990	1260

a Discharge, in acre-feet, at De Sabla powerplant, provided by Pacific Gas & Electric Co.

11389800 TOADTOWN CANAL ABOVE BUTTE CANAL, NEAR STIRLING CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.8	32.6	39.0	56.5	67.3	104	112	101	63.3	56.0	36.4	11.3
MAX	57.8	51.0	91.5	95.5	94.4	113	119	112	88.3	73.1	47.0	38.8
(WY)	1987	1990	1988	1988	1988	1992	1992	1991	1990	1990	1990	1991
MIN	7.72	17.1	18.9	22.1	32.8	86.5	104	79.5	39.2	46.4	12.0	2.24
(WY)	1989	1992	1991	1991	1991	1991	1990	1990	1987	1989	1991	1992

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1987 - 1992

ANNUAL TOTAL	18214.73	19489.10	
ANNUAL TOTAL ^a	63090	70340	
ANNUAL MEAN	49.9	53.2	58.6
HIGHEST ANNUAL MEAN			68.1
LOWEST ANNUAL MEAN			50.7
HIGHEST DAILY MEAN	116	Apr 7	122
LOWEST DAILY MEAN	.00	Aug 23	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 23	.00
ANNUAL RUNOFF (AC-FT)	36130	38660	42470
10 PERCENT EXCEEDS	112	119	113
50 PERCENT EXCEEDS	33	42	52
90 PERCENT EXCEEDS	4.6	3.2	8.0

^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 mi².

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 National Geodetic Vertical Datum of 1929, 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.--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 ft³/s, Feb. 17, 1986, gage height, 17.52 ft, present datum, from rating curve extended above 6,100 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 10 ft³/s, Nov. 29, 1952.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft³/s and maximum (*) from rating curve extended above 5,100 ft³/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. 20	0200	*3,780	*5.90				

Minimum daily, 45 ft³/s, Aug. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	68	74	128	127	425	e380	324	157	157	124	51
2	57	66	73	116	120	410	383	310	158	135	124	50
3	58	67	72	110	111	392	379	302	168	123	82	50
4	54	71	79	187	107	386	380	295	164	115	76	60
5	53	68	89	537	104	718	367	293	172	110	76	51
6	53	67	76	310	105	870	349	289	161	104	75	48
7	53	69	122	281	107	729	339	286	135	103	132	48
8	53	67	93	220	137	612	336	282	146	117	142	49
9	52	70	85	173	173	526	337	274	155	117	140	48
10	51	70	83	149	459	469	378	264	136	116	140	49
11	51	69	82	136	1150	440	387	258	131	122	139	51
12	52	68	81	125	1460	419	567	255	136	125	136	51
13	52	69	80	119	973	401	618	250	141	124	133	49
14	52	70	78	114	1020	415	491	246	138	121	129	49
15	58	70	76	111	1080	505	444	244	167	118	122	50
16	53	70	73	111	879	895	420	241	171	118	123	49
17	55	106	74	110	726	860	561	238	141	112	70	49
18	57	125	145	111	696	681	524	239	128	125	50	54
19	53	88	167	106	1240	576	455	259	121	125	48	56
20	52	88	109	104	2310	516	428	268	115	127	48	57
21	55	96	98	103	1150	481	422	260	108	131	48	54
22	57	84	93	101	878	459	400	238	105	131	49	54
23	65	80	89	100	694	448	377	229	102	146	52	53
24	59	78	88	100	584	e440	358	223	105	143	48	54
25	68	78	86	103	531	e380	348	201	105	142	45	54
26	240	79	85	102	521	376	345	194	102	140	46	53
27	121	84	85	101	477	376	334	180	98	137	49	53
28	80	86	167	117	436	369	333	174	98	135	49	54
29	75	80	319	116	415	370	339	173	163	130	50	57
30	74	83	224	110	---	366	342	177	256	129	52	53
31	68	---	154	107	---	e370	---	166	---	127	51	---
TOTAL	2039	2334	3299	4518	18770	15680	12121	7632	4183	3905	2648	1558
MEAN	65.8	77.8	106	146	647	506	404	246	139	126	85.4	51.9
MAX	240	125	319	537	2310	895	618	324	256	157	142	60
MIN	51	66	72	100	104	366	333	166	98	103	45	48
AC-FT	4040	4630	6540	8960	37230	31100	24040	15140	8300	7750	5250	3090

e Estimated.

11390000 BUTTE CREEK NEAR CHICO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	139	232	453	638	782	737	674	485	274	161	131	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 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1931 - 1992		
ANNUAL TOTAL	76594			78687					
ANNUAL MEAN	210			215			400		
HIGHEST ANNUAL MEAN							824		
LOWEST ANNUAL MEAN							94.0		
HIGHEST DAILY MEAN	3030			Mar 4			2310		
LOWEST DAILY MEAN	51			Oct 10			Feb 20		
ANNUAL SEVEN-DAY MINIMUM	52			Oct 8			Aug 25		
INSTANTANEOUS PEAK FLOW							44		
INSTANTANEOUS PEAK STAGE							44		
ANNUAL RUNOFF (AC-FT)	151900			156100			22000		
10 PERCENT EXCEEDS	460			462			17.52		
50 PERCENT EXCEEDS	106			122			17.52		
90 PERCENT EXCEEDS	63			52			100		

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 mi².

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 National Geodetic Vertical Datum of 1929.

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 ft³/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 1939-92), 32,700 ft³/s, Feb. 20, 1986, gage height, 52.50 ft; maximum gage height, 52.75 ft, Mar. 1, 1940; minimum daily, 645 ft³/s, Aug. 9, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,700 ft³/s, Mar. 18, gage height, 47.80 ft; minimum daily, 2,720 ft³/s, May 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4170	3840	4150	8300	4930	11700	8490	3240	3190	3870	3790	5920
2	4190	3860	4130	6510	5080	10900	8240	3960	3160	4360	3830	5830
3	4190	3870	4330	5570	6160	10400	7920	3510	3010	4400	3790	5220
4	4230	3940	4670	5300	5790	9790	7750	3710	2900	4280	3670	5020
5	4330	3950	4420	5270	5200	9350	7610	3510	2920	4240	3550	4760
6	4310	3850	4250	7760	4910	9960	7240	2890	2940	4190	3470	4740
7	4300	3830	4200	10300	4770	15800	6840	2720	3150	4050	3470	4850
8	4360	3730	4110	10600	4680	18700	6460	2920	3400	3940	3480	5200
9	4360	3730	3970	12300	4690	15700	6200	3330	3440	3730	3630	5350
10	4230	3820	3850	9620	4930	13100	6070	3710	3390	3570	3720	5500
11	4150	3910	3790	7750	6530	11600	6020	3660	3260	3470	3860	5460
12	4250	4000	3730	6850	18800	10600	6200	3580	3170	3610	4090	5560
13	4310	4010	3690	6350	e26800	9880	6680	3660	3310	4000	4350	5640
14	4310	3970	3710	6000	e26900	9380	8620	3630	3490	4020	4420	5670
15	4350	3960	3710	5780	24900	9720	9390	3460	3710	3930	4600	5750
16	4370	3840	3670	5600	27000	15600	8460	3340	3900	3710	4990	6130
17	4350	3880	3780	5380	25900	25200	7630	3550	4080	3450	4690	5940
18	4240	3910	4040	5400	23800	27400	7390	3610	4090	3380	4610	5630
19	4100	4040	4190	5340	21700	25700	8660	3660	3960	3420	4580	5480
20	4130	4160	4530	5180	24200	21200	8110	3740	3770	3450	4550	5700
21	4080	4210	4720	5080	28200	17000	7230	3660	3590	3650	4540	5830
22	3980	4180	4570	5050	27100	14500	6470	3510	3540	3650	4530	5690
23	4090	4160	4430	5010	26400	13000	5700	3180	3460	3680	4630	5690
24	4070	4040	4340	4940	24100	12700	4890	3140	3610	3630	4680	5660
25	4050	3970	4410	4840	20100	12300	4230	3180	3610	3570	4660	5600
26	3990	3920	4450	4830	17300	11600	3700	3230	3640	3580	4600	5590
27	4150	3920	4540	4810	15700	10900	3190	3210	3470	3640	4690	5600
28	4840	3960	4560	4790	14300	10100	2860	3250	3350	3660	4740	5570
29	4650	4070	4880	4800	12900	9380	2860	3160	3420	3660	4940	5590
30	4300	4160	6970	4800	---	9050	2910	3230	3610	3740	5360	5590
31	3920	---	10100	4880	---	8790	---	3160	---	3770	5760	---
TOTAL	131350	118690	138890	194990	463770	421000	194020	105300	103540	117300	134270	165760
MEAN	4237	3956	4480	6290	15990	13580	6467	3397	3451	3784	4331	5525
MAX	4840	4210	10100	12300	28200	27400	9390	3960	4090	4400	5760	6130
MIN	3920	3730	3670	4790	4680	8790	2860	2720	2900	3380	3470	4740
AC-FT	260500	235400	275500	386800	919900	835100	384800	208900	205400	232700	266300	328800

e Estimated.

SACRAMENTO RIVER BASIN

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6718	8874	12470	14560	16160	15120	11190	9124	7359	7139	7091	7026
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	3956	4103	5281	5012	5152	4419	3397	3451	3784	4086	4065
(WY)	1978	1992	1977	1991	1991	1977	1977	1992	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1946 - 1992	
ANNUAL TOTAL	2029680		2288880			
ANNUAL MEAN	5561		6254		10210	
HIGHEST ANNUAL MEAN					17980	
LOWEST ANNUAL MEAN					5109	
HIGHEST DAILY MEAN	23800	Mar 27	28200	Feb 21	32600	Feb 20 1986
LOWEST DAILY MEAN	3380	May 2	2720	May 7	2720	May 7 1992
ANNUAL SEVEN-DAY MINIMUM	3730	Dec 11	3040	Jun 1	2880	Oct 12 1977
INSTANTANEOUS PEAK FLOW			28700	Mar 18	32700	Feb 20 1986
INSTANTANEOUS PEAK STAGE			47.80	Mar 18	52.50	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	4026000		4540000		7397000	
10 PERCENT EXCEEDS	8140		11100		21600	
50 PERCENT EXCEEDS	4570		4350		7860	
90 PERCENT EXCEEDS	3990		3450		5020	

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum record, 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, 25.5°C, June 3-5; minimum recorded, 7.5°C, several days in January.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	20.5	12.5	11.5	9.5	9.0	9.5	9.5	10.0	9.5	14.0	14.0
2	21.5	21.0	13.0	12.0	9.5	8.5	9.5	9.0	10.5	10.0	14.0	14.0
3	21.5	20.5	13.5	12.5	9.5	8.5	9.0	8.5	10.5	10.0	14.5	14.0
4	21.0	20.5	13.5	12.5	9.5	9.0	9.0	9.0	10.0	10.0	14.0	14.0
5	21.0	20.5	14.0	13.0	10.0	9.0	9.5	9.0	10.5	10.0	14.0	13.5
6	20.5	20.0	14.5	13.5	10.5	9.5	9.5	9.0	10.5	10.5	13.5	13.0
7	20.0	19.5	15.5	14.0	10.5	10.5	9.5	9.0	11.0	10.5	13.0	12.0
8	20.0	19.5	16.0	15.0	10.5	10.0	9.0	8.5	12.0	11.0	12.5	12.0
9	19.5	19.0	16.5	15.5	10.0	9.0	9.0	8.5	12.5	12.0	13.0	12.0
10	19.5	19.0	16.5	15.5	10.0	9.0	8.5	8.0	12.5	12.0	13.5	12.5
11	19.5	19.0	16.0	15.0	10.0	8.5	8.0	8.0	12.5	12.0	14.0	13.5
12	19.5	19.0	15.5	15.0	9.5	9.0	8.0	7.5	12.0	11.0	14.5	14.0
13	19.5	19.0	15.5	14.5	9.5	9.0	8.0	7.5	11.0	11.0	15.0	14.5
14	19.5	19.0	14.5	13.5	9.5	9.0	8.0	7.5	11.0	11.0	14.5	14.0
15	19.5	19.0	13.5	12.0	9.5	8.5	8.0	7.5	11.0	10.5	14.0	13.0
16	19.5	18.5	12.0	11.0	9.0	8.5	8.0	7.5	10.5	10.0	13.0	12.0
17	19.0	18.5	12.0	11.5	9.0	8.0	8.0	8.0	10.0	10.0	12.0	11.5
18	19.0	18.5	12.5	11.0	9.5	9.0	8.5	8.0	10.0	10.0	11.5	11.0
19	19.0	18.0	12.0	11.0	9.5	8.5	8.5	8.5	10.5	10.0	12.0	11.5
20	19.0	18.0	12.5	12.0	9.0	8.5	8.5	8.5	11.0	10.5	12.5	12.0
21	18.0	17.5	12.5	12.0	8.5	8.0	8.5	8.0	12.0	11.0	13.5	12.0
22	17.5	16.5	12.0	11.0	8.5	8.0	8.0	8.0	12.5	12.0	13.5	13.0
23	16.5	15.5	11.5	10.5	8.0	8.0	8.0	8.0	12.5	12.5	13.5	13.0
24	15.5	15.0	11.5	10.5	8.5	8.0	8.0	7.5	12.5	12.0	13.5	13.5
25	15.0	14.5	12.0	11.0	8.5	8.0	8.0	7.5	13.0	12.0	14.0	13.5
26	15.0	14.0	12.0	11.0	9.0	8.5	8.0	7.5	13.5	12.5	14.5	13.5
27	14.5	13.5	12.0	11.5	9.0	8.5	8.5	8.0	14.0	13.0	15.5	14.5
28	14.0	13.0	11.5	10.5	9.5	9.0	9.0	8.5	14.5	13.5	16.0	15.5
29	13.5	13.0	10.5	10.0	10.0	9.5	9.0	9.0	14.0	13.5	16.0	15.5
30	13.0	12.0	10.0	9.5	10.0	10.0	9.5	9.0	---	---	16.0	16.0
31	12.5	11.5	---	---	10.0	9.5	10.0	9.5	---	---	16.0	15.5
MONTH	21.5	11.5	16.5	9.5	10.5	8.0	10.0	7.5	14.5	9.5	16.0	11.0

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	15.5	20.5	18.5	24.5	23.0	21.0	19.0	23.0	21.0	20.5	19.5
2	17.5	16.5	21.0	19.5	25.0	23.5	21.5	19.5	23.0	21.5	20.5	19.5
3	17.5	17.0	20.5	19.5	25.5	24.0	21.5	20.5	23.0	21.5	20.5	20.0
4	17.5	17.0	21.5	20.0	25.5	23.5	21.5	20.5	22.5	21.5	20.5	20.0
5	17.5	17.0	22.0	20.5	25.5	23.5	21.5	20.5	22.5	21.0	21.0	20.0
6	17.0	16.5	21.5	20.0	24.0	22.5	22.0	20.5	22.5	21.5	21.0	20.0
7	16.5	16.0	22.0	19.0	23.5	21.5	22.5	20.5	22.5	21.5	21.0	20.0
8	17.0	16.0	22.5	20.5	23.5	22.0	22.5	21.5	22.5	21.0	21.0	20.0
9	17.0	16.0	22.5	21.0	23.0	21.5	23.5	21.5	23.0	21.5	21.0	20.0
10	17.5	16.5	21.5	20.5	23.0	21.5	23.5	22.5	23.0	22.0	21.0	20.0
11	17.5	16.5	21.0	20.0	22.0	20.0	23.0	22.0	23.5	22.5	20.5	20.0
12	16.5	15.5	21.0	20.0	21.0	19.5	23.0	21.5	23.5	23.0	20.5	20.0
13	15.5	15.0	21.0	19.5	21.0	19.0	23.0	22.0	23.5	22.5	20.5	19.5
14	16.0	15.0	21.0	19.5	20.5	18.5	23.5	22.5	23.0	22.5	20.0	19.0
15	16.0	15.5	21.0	19.0	20.5	18.5	24.0	23.0	23.0	22.5	19.0	18.5
16	16.5	16.0	21.0	19.5	20.5	19.0	24.0	23.0	23.0	22.5	19.0	18.5
17	17.5	16.5	21.5	19.5	21.5	19.5	24.5	23.5	22.5	22.0	19.5	18.5
18	17.5	16.5	21.5	20.0	22.5	21.0	24.0	23.0	22.5	21.5	20.0	19.0
19	17.5	16.5	21.0	19.5	23.0	21.5	24.0	23.0	22.5	22.0	20.0	19.0
20	18.0	17.0	21.0	19.5	24.0	22.5	23.5	22.0	22.5	22.0	20.5	19.5
21	18.5	18.0	21.0	19.5	24.5	23.0	23.5	22.5	22.5	21.5	20.5	19.5
22	19.0	18.5	21.0	19.5	24.0	23.0	23.5	21.5	22.0	21.0	20.5	20.0
23	19.0	18.0	21.5	20.0	24.5	23.5	23.0	21.5	21.0	20.5	20.5	20.0
24	18.5	17.5	22.5	20.5	25.0	23.0	23.0	21.5	20.5	19.5	20.5	20.0
25	19.0	18.0	22.5	21.0	25.0	23.0	22.5	21.5	20.5	19.0	20.5	19.0
26	19.0	17.5	23.5	22.0	24.0	22.5	23.0	21.5	20.5	19.5	19.0	18.5
27	19.5	18.0	24.0	22.5	23.0	22.0	23.0	22.0	21.0	19.5	19.0	18.0
28	21.0	18.5	24.0	22.5	22.5	21.5	23.5	22.5	21.0	20.5	19.5	18.5
29	21.0	19.5	23.5	22.0	21.5	20.0	23.5	22.5	21.0	20.0	20.0	19.0
30	21.0	19.0	24.0	22.0	20.5	19.0	23.0	21.5	21.0	20.0	20.0	19.0
31	---	---	24.5	22.5	---	---	22.5	21.0	20.5	19.0	---	---
MONTH	21.0	15.0	24.5	18.5	25.5	18.5	24.5	19.0	23.5	19.0	21.0	18.0

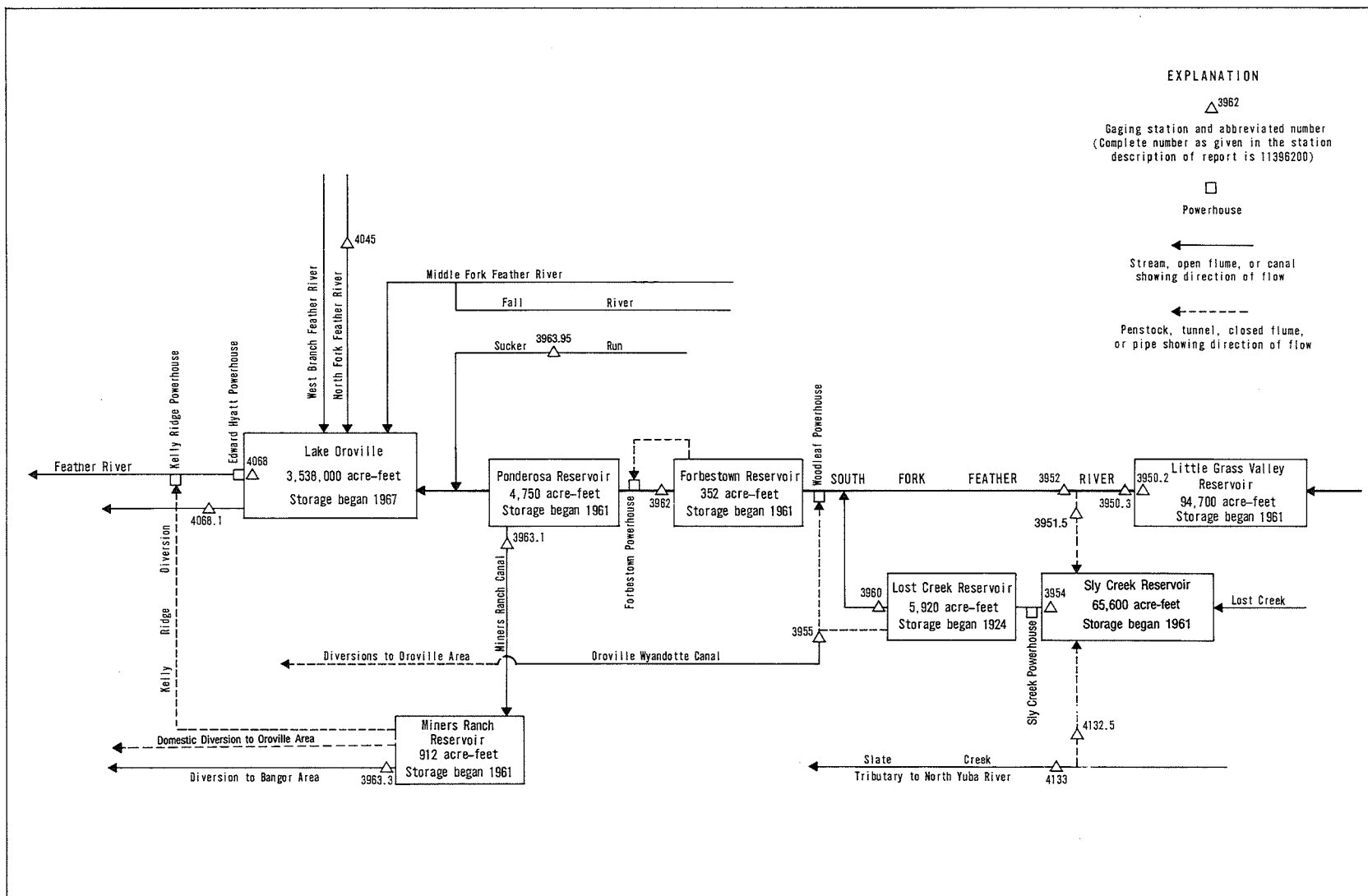


Figure 32. Diversions and storage in South Fork Feather River basin.

SACRAMENTO 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 mi².

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 National Geodetic Vertical Datum of 1929 (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, 72,800 acre-ft, several days during May, elevation, 5,032.7 ft; minimum, 44,100 acre-ft, Dec. 16, 17, elevation, 5,009.7 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57400	50600	44400	44600	44400	49900	57800	71400	72700	68600	64300	59500
2	57400	50300	44400	44600	44400	50200	58400	71500	72500	68500	64200	59400
3	57300	50000	44400	44400	44400	50300	58900	71800	72400	68500	64100	59100
4	57200	49800	44400	44600	44300	50500	59300	72000	72200	68400	63900	59000
5	57100	49600	44400	44800	44300	51100	59800	72100	72100	68100	63700	58900
6	56900	49200	44400	44800	44300	51300	60200	72200	72000	68000	63600	58700
7	56800	49000	44400	44800	44300	51600	60400	72400	71800	68000	63400	58600
8	56700	48700	44400	44800	44400	51900	60800	72500	71700	67800	63300	58500
9	56300	48400	44300	44800	44400	52000	61200	72500	71500	67700	63200	58200
10	56000	48200	44300	44800	44800	52200	61600	72500	71400	67500	62900	58200
11	55800	47900	44300	44700	44900	52300	62000	72700	71100	67300	62800	58100
12	55400	47600	44200	44700	45100	52600	63000	72700	70900	67200	62600	58100
13	55200	47400	44200	44700	45400	52800	63900	72700	70800	67100	62500	58000
14	55000	47100	44200	44700	45700	53000	64600	72700	70600	66900	62400	58000
15	54600	46700	44200	44700	45800	53400	65100	72800	70600	66800	62300	58000
16	54400	46500	44100	44700	45900	53600	65800	72800	70600	66700	62100	57800
17	54200	46500	44200	44600	46000	53800	66500	72800	70500	66500	62000	57800
18	53800	46200	44400	44600	46200	54000	67200	72800	70300	66400	61700	57800
19	53600	45900	44400	44600	46600	54300	67600	72700	70200	66300	61600	57700
20	53200	45700	44400	44600	47300	54400	68100	72800	70100	66200	61500	57700
21	53000	45500	44400	44600	47800	54500	68400	72800	69900	66000	61200	57700
22	52700	45200	44400	44400	48100	54700	68800	72800	69800	65800	61100	57600
23	52400	45000	44400	44400	48400	55000	69200	72800	69600	65600	61000	57600
24	52100	44700	44400	44400	48700	55200	69500	72800	69500	65500	60800	57400
25	52100	44600	44300	44400	48800	55400	69800	72800	69300	65400	60600	57400
26	52200	44600	44300	44400	49000	55700	70100	72800	69200	65200	60400	57400
27	51900	44700	44300	44400	49200	55900	70300	72700	69000	65100	60300	57300
28	51600	44600	44400	44400	49500	56100	70600	72700	68800	65000	60200	57300
29	51400	44600	44600	44400	49700	56500	70900	72700	68900	64900	60000	57300
30	51100	44400	44600	44400	---	56900	71200	72700	68800	64700	59800	57200
31	50800	---	44600	44400	---	57300	---	72700	---	64500	59700	---
MAX	57400	50600	44600	44800	49700	57300	71200	72800	72700	68600	64300	59500
MIN	50800	44400	44100	44400	44300	49900	57800	71400	68800	64500	59700	57200
a	5015.6	5010.0	5010.1	5010.0	5014.6	5021.1	5031.6	5032.6	5029.9	5028.6	5022.9	5021.0
b	-6800	-6400	+200	-200	+5300	+7600	+13900	+1500	-3900	-4300	-4800	-2500

CAL YR 1991 b +4800

WTR YR 1992 b -400

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 National Geodetic Vertical Datum of 1929. 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 National Geodetic Vertical Datum of 1929.

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 ft³/s, Feb. 18, 1986, gage height, 14.78 ft; minimum, 0.2 ft³/s, Oct. 28-31, Nov. 2, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 129 ft³/s, several days during October, gage height, 8.41 ft; minimum daily, 13 ft³/s, Sept. 11-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	125	15	15	15	16	18	17	16	61	61	60
2	41	125	15	15	15	15	18	17	29	60	61	60
3	41	125	15	15	15	15	18	17	54	60	61	60
4	40	125	15	15	15	15	17	17	59	60	61	60
5	40	125	15	15	15	16	17	17	59	60	61	60
6	40	125	15	15	15	15	17	17	59	61	61	60
7	40	125	15	15	15	15	16	17	59	61	61	60
8	85	125	15	15	15	15	16	17	59	61	61	60
9	129	125	15	15	15	15	17	17	59	61	61	60
10	128	125	15	15	15	15	17	16	59	61	61	33
11	128	125	15	15	15	15	17	16	59	61	61	13
12	128	125	15	15	15	15	21	16	59	61	61	13
13	127	125	15	15	15	15	20	16	59	61	61	13
14	127	124	15	15	15	15	19	16	59	61	61	13
15	127	124	15	15	15	15	18	16	60	61	60	13
16	127	124	15	15	15	15	18	16	60	61	61	13
17	127	125	15	15	15	15	21	16	60	61	60	13
18	127	124	16	15	15	15	19	16	60	61	60	13
19	127	124	15	15	16	15	18	16	60	61	60	13
20	127	125	15	15	21	15	18	16	60	61	60	13
21	127	124	15	15	17	15	18	16	60	61	60	13
22	127	124	15	15	17	15	18	16	60	61	60	13
23	127	124	15	15	17	15	17	16	60	61	60	13
24	126	124	15	15	16	15	17	16	60	61	60	13
25	126	59	15	15	16	16	18	16	60	61	60	13
26	127	15	15	15	16	16	18	16	60	61	60	13
27	127	15	15	15	16	16	18	16	60	61	60	13
28	125	15	15	15	16	16	18	16	60	61	60	13
29	125	15	15	15	16	16	18	16	60	61	60	13
30	125	15	15	15	---	17	18	16	61	61	60	13
31	125	---	15	15	---	17	---	16	---	61	60	---
TOTAL	3284	3125	466	465	454	476	538	505	1709	1887	1875	833
MEAN	106	104	15.0	15.0	15.7	15.4	17.9	16.3	57.0	60.9	60.5	27.8
MAX	129	125	16	15	21	17	21	17	61	61	61	60
MIN	40	15	15	15	15	15	16	16	16	60	60	13
AC-FT	6510	6200	924	922	901	944	1070	1000	3390	3740	3720	1650

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
LOWEST ANNUAL MEAN	28.0
HIGHEST DAILY MEAN	1800
LOWEST DAILY MEAN	.90
ANNUAL SEVEN-DAY MINIMUM	.90
INSTANTANEOUS PEAK FLOW	2600
INSTANTANEOUS PEAK STAGE	7.00
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	97.2	67.0	74.5	96.7	101	90.8	78.1	117	80.8	115	148	178
MAX	305	404	420	626	694	377	317	425	396	350	344	389
(WY)	1970	1982	1982	1970	1986	1986	1989	1969	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1963 - 1992

ANNUAL TOTAL	15557.5	15617	
ANNUAL MEAN	42.6	42.7	104
HIGHEST ANNUAL MEAN			250
LOWEST ANNUAL MEAN			29.5
HIGHEST DAILY MEAN	129	Oct 9	5200
LOWEST DAILY MEAN	7.9	Mar 17	1.4
ANNUAL SEVEN-DAY MINIMUM	7.9	Mar 17	1.4
INSTANTANEOUS PEAK FLOW			5780
INSTANTANEOUS PEAK STAGE			14.78
ANNUAL RUNOFF (AC-FT)	30860	30980	75100
10 PERCENT EXCEEDS	125	125	253
50 PERCENT EXCEEDS	16	17	24
90 PERCENT EXCEEDS	8.6	15	5.0

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 National Geodetic Vertical Datum of 1929.

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 ft³/s, Mar. 13, May 25-29, June 3, 1983; no flow many days in 1980-82.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	115	15	18	22	123	90	32	14	58	53	54
2	32	115	14	17	20	113	89	30	16	58	53	54
3	32	115	14	17	20	107	88	29	49	57	54	54
4	32	115	14	22	19	100	82	27	56	57	54	54
5	32	117	14	34	19	161	74	26	56	57	54	54
6	32	118	14	24	20	155	65	25	57	56	54	54
7	32	119	18	23	22	133	60	24	56	56	54	53
8	55	119	15	20	35	114	57	23	56	56	54	53
9	115	119	15	20	39	99	55	22	56	56	54	53
10	117	118	14	19	53	88	59	21	56	56	54	42
11	117	118	15	19	62	84	58	21	55	56	54	7.5
12	116	117	14	18	116	84	116	20	55	56	54	7.0
13	116	117	14	18	99	84	134	20	56	56	54	7.0
14	116	115	14	18	97	86	99	19	56	56	54	7.0
15	115	116	14	18	74	94	85	19	57	55	54	6.8
16	115	116	14	18	59	110	77	18	56	55	54	6.8
17	115	132	14	18	51	100	105	18	56	55	54	6.8
18	114	128	43	19	50	91	88	17	56	55	54	6.8
19	115	122	24	18	130	83	75	17	56	55	54	6.8
20	116	130	19	18	392	78	68	17	55	55	54	6.8
21	116	125	18	18	231	76	64	17	55	55	54	6.8
22	117	122	17	18	207	77	60	17	55	55	54	6.7
23	116	120	16	18	162	76	56	16	55	55	54	6.7
24	115	120	16	18	131	73	52	16	56	55	54	6.7
25	130	89	16	18	127	73	49	16	56	55	54	6.7
26	156	17	15	18	133	74	47	15	56	55	54	6.5
27	120	23	15	18	132	75	45	15	56	55	54	6.6
28	116	17	20	21	127	78	43	15	57	52	54	6.6
29	116	16	21	20	121	81	42	15	65	55	54	6.6
30	115	15	20	20	---	85	37	14	62	54	54	6.6
31	114	---	19	20	---	86	---	14	---	53	54	---
TOTAL	2997	3045	525	603	2770	2941	2119	615	1603	1720	1672	660.8
MEAN	96.7	101	16.9	19.5	95.5	94.9	70.6	19.8	53.4	55.5	53.9	22.0
MAX	156	132	43	34	392	161	134	32	65	58	54	54
MIN	32	15	14	17	19	73	37	14	14	52	53	6.5
AC-FT	5940	6040	1040	1200	5490	5830	4200	1220	3180	3410	3320	1310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1992, BY WATER YEAR (WY)

	MEAN	79.6	94.6	113	117	117	164	134	153	87.1	114	128	161
MAX	176	377	462	381	358	454	429	438	421	363	327	390	
(WY)	1975	1982	1982	1974	1983	1983	1989	1983	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1974 - 1992

ANNUAL TOTAL	20550.8	21270.8	
ANNUAL MEAN	56.3	58.1	122
HIGHEST ANNUAL MEAN			294
LOWEST ANNUAL MEAN			35.0
HIGHEST DAILY MEAN	492	392	570
LOWEST DAILY MEAN	7.9	6.5	.00
ANNUAL SEVEN-DAY MINIMUM	8.1	6.6	.00
ANNUAL RUNOFF (AC-FT)	40760	42190	88330
10 PERCENT EXCEEDS	116	117	314
50 PERCENT EXCEEDS	43	54	68
90 PERCENT EXCEEDS	9.7	15	7.5

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 ft³/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 ft³/s, Feb. 17, 1986, gage height, 14.92 ft, from rating curve extended above 40 ft³/s on basis of computation of peak flow over diversion dam from floodmark; minimum daily, 0.3 ft³/s, Dec. 25, 1962, to Jan. 2, 1963, Mar. 1-3, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 339 ft³/s, July 28, gage height, 7.12 ft; minimum daily, 5.4 ft³/s, Nov. 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	5.6	5.6	5.6	5.8	5.8	11	10	10	11	11
2	11	11	5.6	5.6	5.6	5.8	5.8	11	10	10	11	11
3	11	11	5.6	5.6	5.6	5.8	5.8	11	11	10	11	11
4	11	11	5.6	5.7	5.6	5.8	5.8	11	11	10	11	11
5	11	7.5	5.6	5.8	5.6	6.0	5.8	11	11	10	11	11
6	11	5.5	5.6	5.8	5.6	6.0	5.8	11	11	10	11	11
7	11	5.5	5.7	5.7	5.6	5.8	5.8	11	11	10	11	11
8	11	5.5	5.6	5.6	5.6	5.8	5.8	11	11	10	11	11
9	11	5.5	5.6	5.6	5.6	5.8	5.8	10	11	10	11	11
10	11	5.5	5.6	5.6	5.8	5.8	5.8	10	11	10	11	11
11	11	5.5	5.6	5.6	5.8	5.8	5.8	10	11	10	11	10
12	11	5.5	5.6	5.6	6.1	5.8	5.9	10	11	10	11	10
13	11	5.5	5.6	5.6	5.9	5.8	5.8	10	10	10	11	10
14	11	5.5	5.6	5.6	6.0	5.8	5.8	10	10	10	11	10
15	11	5.5	5.6	5.6	5.9	5.9	5.8	10	10	10	11	10
16	11	5.5	5.6	5.6	5.8	5.8	5.8	10	10	10	11	10
17	11	5.5	5.6	5.6	5.8	5.8	5.8	10	10	10	11	10
18	11	5.5	5.8	5.6	5.8	5.8	5.8	10	10	10	11	10
19	11	5.5	5.6	5.6	6.0	5.8	5.8	10	10	10	11	10
20	11	5.5	5.6	5.6	6.4	5.8	5.8	10	10	10	11	10
21	11	5.5	5.6	5.6	6.2	5.8	5.8	10	10	10	11	10
22	11	5.5	5.6	5.6	6.0	5.8	5.8	10	10	10	11	10
23	11	5.5	5.6	5.6	6.0	5.8	5.8	10	10	10	11	10
24	11	5.5	5.6	5.6	5.8	5.8	5.8	10	10	10	11	10
25	11	5.4	5.6	5.6	5.8	5.8	5.8	10	10	10	11	10
26	12	5.4	5.6	5.6	5.8	5.8	5.8	10	10	10	11	10
27	11	5.6	5.6	5.6	5.8	5.8	5.8	10	10	10	11	10
28	11	5.6	5.7	5.6	5.8	5.8	5.7	10	10	16	11	10
29	11	5.6	5.8	5.6	5.8	5.8	5.6	10	10	10	11	10
30	11	5.6	5.6	5.6	---	5.8	9.0	10	10	11	11	10
31	11	---	5.6	5.6	---	5.8	---	10	---	11	11	---
TOTAL	342	189.2	174.2	174.2	168.7	180.3	177.0	318	310	318	341	310
MEAN	11.0	6.31	5.62	5.62	5.82	5.82	5.90	10.3	10.3	10.3	11.0	10.3
MAX	12	11	5.8	5.8	6.4	6.0	9.0	11	11	16	11	11
MIN	11	5.4	5.6	5.6	5.6	5.8	5.6	10	10	10	11	10
AC-FT	678	375	346	346	335	358	351	631	615	631	676	615

11395200 SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.97	15.1	42.2	69.1	60.0	34.0	29.4	24.4	14.5	9.28	9.99	10.4
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1964 - 1992	
ANNUAL TOTAL	3378.0		3002.6		27.2	
ANNUAL MEAN	9.25		8.20		119	
HIGHEST ANNUAL MEAN					3.72	
LOWEST ANNUAL MEAN					1986	
HIGHEST DAILY MEAN	296	Mar 4	16	Jul 28	7970	Feb 18 1986
LOWEST DAILY MEAN	5.4	Nov 25	5.4	Nov 25	.70	Jan 18 1968
ANNUAL SEVEN-DAY MINIMUM	5.5	Nov 20	5.5	Nov 20	1.1	Jan 18 1968
INSTANTANEOUS PEAK FLOW			339	Jul 28	8870	Feb 17 1986
INSTANTANEOUS PEAK STAGE			7.12	Jul 28	14.92	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	6700		5960		19730	
10 PERCENT EXCEEDS	11		11		12	
50 PERCENT EXCEEDS	10		10		7.6	
90 PERCENT EXCEEDS	5.5		5.6		4.1	

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 mi².

PERIOD OF RECORD.--November 1961 to current year (fragmentary prior to Mar. 14, 1962).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 56,000 acre-ft, Apr. 29, elevation, 3,514.6 ft; minimum, 17,800 acre-ft, Aug. 22, elevation, 3,424.2 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21600	28500	18400	21400	19300	36600	43800	55300	46600	36600	25300	19000
2	21700	27800	18500	21500	19500	36600	44400	54800	46200	36200	24900	19100
3	21800	27700	18600	21600	19600	36500	45200	55100	45900	36200	24700	19200
4	21900	27200	18600	21700	19500	36400	45600	54800	45700	35700	24200	19400
5	21900	27000	18700	22000	19500	37000	46300	54800	45400	35900	23900	19500
6	22000	26800	18700	22200	19700	37800	46500	55100	45100	35400	23600	19600
7	22100	26900	18800	22100	19800	38300	46700	54600	44700	34800	22800	19700
8	22200	26600	18900	22100	20200	38700	47100	54300	44100	34200	22500	19800
9	22400	26300	19000	22000	20500	38900	47700	54100	43700	33800	22300	19600
10	22700	26100	19000	21800	21100	39600	47500	54300	43800	33400	21900	19700
11	22900	25900	19100	21400	21700	39900	47700	54400	43300	33000	21300	19700
12	23200	25500	19100	21200	23100	39600	49200	54300	42800	32800	20800	19700
13	23400	25000	19200	20900	24100	39500	50100	53800	42500	32500	20200	19700
14	23500	24200	19200	20600	25200	40200	50700	53600	42600	32100	19800	19800
15	23800	23500	19200	20200	25900	41100	51500	53000	42300	31900	19300	19800
16	24000	23500	19300	20000	26400	41900	52100	52700	42000	31400	18700	19800
17	24300	23800	19300	19400	26700	41700	52800	52500	41500	30900	18600	19800
18	24500	23400	19800	19400	27000	41300	53300	52200	41300	30600	18800	19800
19	24800	22400	20000	19400	28000	41100	53700	51800	40700	30400	18900	19800
20	25000	21700	20100	19300	30400	40900	54200	e51300	40400	30000	19000	19800
21	25200	21400	20300	19300	32200	41400	54500	51000	40200	29500	18600	19600
22	25500	21000	20300	19300	33800	41900	54400	50500	39700	29200	17900	19600
23	25700	20800	20400	19300	35300	42200	55000	50600	39200	28700	18000	19500
24	25900	20600	20500	19200	36000	41500	55000	50200	38900	28300	18100	19500
25	26300	20300	20600	19200	36100	41800	55100	49500	38800	28100	18200	19500
26	27000	19900	20600	19300	36300	41000	55500	49500	38300	27800	18300	19500
27	27300	19600	20700	19100	36500	41000	55400	49200	37900	27400	18400	19500
28	27600	19200	20900	19100	36500	41600	55800	48800	37800	27100	18600	19500
29	27800	18800	21100	19200	36600	42500	55400	48200	37200	26700	18700	19500
30	28000	18400	21200	19200	---	42600	55300	47500	36900	26300	18800	19600
31	28300	---	21300	19200	---	43100	---	47000	---	25900	18900	---
MAX	28300	28500	21300	22200	36600	43100	55800	55300	46600	36600	25300	19800
MIN	21600	18400	18400	19100	19300	36400	43800	47000	36900	25900	17900	19000
a	3455.3	3426.0	3435.4	3428.8	3475.6	3489.9	3573.4	3497.7	3476.3	3449.0	3427.8	3430.1
b	+6800	-9900	+2900	-2100	+17400	+6500	+12200	-8300	-10100	-11000	-7000	+700

CAL YR 1991 b +3700

WTR YR 1992 b -1900

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 National Geodetic Vertical Datum of 1929 (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 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	.00	.00	.00	.00	.00	.90	3.5	20	21	24	24
2	24	.00	.00	.00	.00	.00	1.8	4.9	20	23	24	24
3	24	.00	.00	.00	.00	.00	1.8	4.9	20	24	24	24
4	24	.00	.00	.00	.00	.00	1.9	4.9	22	24	24	24
5	24	.00	.00	.00	.00	.00	1.9	8.9	22	24	24	24
6	24	.00	.00	.00	.00	.00	1.8	11	23	24	24	24
7	24	.00	.00	.00	.00	.00	1.9	11	23	24	24	24
8	24	.00	.00	.00	.00	.00	1.9	12	23	24	24	24
9	24	.00	.00	.00	.00	.00	1.8	14	24	24	24	24
10	24	.00	8.0	.00	.00	.00	1.9	14	24	24	24	24
11	24	.00	13	.00	.00	.00	1.9	14	24	24	24	24
12	24	.00	4.6	.00	.00	.00	1.9	14	24	24	24	24
13	24	.00	.00	.00	.00	.00	1.8	14	24	24	24	24
14	24	.00	.00	.00	.00	.00	1.8	17	24	24	24	18
15	18	.00	.00	.00	.00	.00	1.8	18	24	24	24	14
16	14	.00	.00	.00	.00	.00	1.8	16	24	24	24	14
17	14	.00	.00	.00	.00	.00	1.8	16	24	24	24	14
18	14	.00	.00	.00	.00	.00	1.7	17	25	24	24	14
19	14	.00	.00	.00	.00	.00	1.8	17	23	24	24	14
20	14	.00	.00	.00	.00	.00	1.7	17	24	24	24	14
21	14	8.1	.00	.00	.00	.00	1.7	16	25	24	24	14
22	14	13	.00	.00	.00	.00	1.8	17	24	24	24	14
23	14	4.1	.00	7.9	.00	.00	1.7	16	25	24	24	14
24	14	.00	.00	13	.00	.00	1.8	16	24	24	24	14
25	14	.00	.00	7.2	.00	.00	1.7	16	24	24	24	14
26	14	.00	.00	.00	.00	.00	1.7	16	24	24	24	14
27	14	.00	.00	.00	.00	.00	1.8	19	24	24	24	14
28	14	.00	.00	.00	.00	.00	1.7	20	24	24	24	14
29	14	.00	.00	.00	.00	.00	1.7	20	24	24	24	14
30	8.4	.00	6.6	.00	---	.00	1.8	21	23	24	24	14
31	.00	---	5.1	.00	---	.00	---	21	---	24	24	---
TOTAL	558.40	25.20	37.30	28.10	0.00	0.00	53.00	447.1	702	740	744	554
MEAN	18.0	.84	1.20	.91	.000	.000	1.77	14.4	23.4	23.9	24.0	18.5
MAX	24	13	13	13	.00	.00	1.9	21	25	24	24	24
MIN	.00	.00	.00	.00	.00	.00	.90	3.5	20	21	24	14
AC-FT	1110	50	74	56	.00	.00	105	887	1390	1470	1480	1100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	MEAN	12.9	6.20	2.51	1.59	.89	1.04	2.09	5.74	12.7	17.4	20.5	19.4
	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	1964	1977	1977	1963	1976	1977	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	1975	1967	1965	1965	1965	1965	1965

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1963 - 1992
ANNUAL TOTAL	3731.26	3889.10	
ANNUAL MEAN	10.2	10.6	8.62
HIGHEST ANNUAL MEAN			16.7
LOWEST ANNUAL MEAN			4.92
HIGHEST DAILY MEAN	24	Jul 17	43
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
ANNUAL RUNOFF (AC-FT)	7400	7710	6250
10 PERCENT EXCEEDS	24		22
50 PERCENT EXCEEDS	7.5	8.0	5.9
90 PERCENT EXCEEDS	.00	.00	.00

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/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, 17 ft³/s, Apr. 19, gage height, 5.16 ft; minimum daily, 3.5 ft³/s, many days during year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	3.5	3.7	3.7	3.7	3.9	5.6	8.4	6.3	6.2	5.7	5.6
2	3.5	3.5	3.7	3.7	3.7	3.9	5.6	7.4	6.2	6.2	5.8	5.6
3	3.5	3.5	3.7	3.6	3.7	3.8	5.6	8.0	6.1	6.2	5.8	5.6
4	3.5	3.5	3.7	3.8	3.7	3.7	5.6	6.8	6.0	6.2	5.8	5.6
5	3.5	3.5	3.7	4.1	3.7	4.5	5.6	7.3	5.9	6.0	5.8	5.6
6	3.5	3.5	3.6	3.9	3.7	4.5	5.6	6.8	5.8	5.6	5.6	5.6
7	3.5	3.5	3.8	3.9	3.5	4.2	5.6	7.0	5.9	5.8	5.6	5.6
8	3.5	3.5	3.7	3.8	3.7	4.1	5.6	7.4	6.0	5.8	5.6	5.6
9	3.5	3.5	3.6	3.7	3.7	4.0	5.6	6.8	6.4	5.8	5.6	5.5
10	3.5	3.5	3.5	3.7	4.2	3.9	5.6	6.5	6.7	6.0	5.6	5.6
11	3.5	3.5	3.5	3.7	4.5	3.9	5.6	6.4	5.9	6.1	5.6	5.6
12	3.5	3.5	3.5	3.7	5.7	3.8	5.9	6.1	6.0	6.2	5.7	5.6
13	3.5	3.5	3.5	3.7	4.6	3.7	5.8	5.8	6.1	6.1	5.7	5.5
14	3.5	3.5	3.5	3.7	5.3	3.8	5.8	5.7	5.9	5.8	6.9	5.4
15	3.5	3.5	3.5	3.7	4.7	3.9	5.7	5.7	5.8	5.8	6.9	5.4
16	3.5	3.5	3.5	3.6	4.3	4.0	5.6	5.8	5.8	5.8	7.5	5.4
17	3.5	3.9	3.6	3.5	4.3	4.0	5.6	5.9	5.8	5.8	6.9	5.4
18	3.5	3.6	4.0	3.5	4.4	4.0	6.8	5.9	5.8	5.8	5.8	5.4
19	3.5	3.5	3.7	3.5	6.0	3.9	15	5.9	5.8	5.8	5.6	5.4
20	3.5	3.7	3.7	3.5	6.4	3.9	12	5.9	5.8	5.8	5.4	5.4
21	3.5	3.6	3.7	3.5	4.9	3.9	6.0	6.0	5.8	5.8	5.4	5.4
22	3.5	3.5	3.7	3.5	4.7	3.9	8.4	5.8	5.6	5.8	6.1	5.4
23	3.5	3.5	3.7	3.5	4.3	3.8	9.3	6.0	5.8	5.8	6.2	5.4
24	3.5	3.5	3.7	3.5	4.1	3.7	8.2	5.8	5.8	5.8	6.0	5.6
25	3.7	3.5	3.7	3.6	4.0	3.7	6.7	5.9	5.8	5.8	5.9	5.5
26	3.8	3.5	3.6	3.5	3.9	3.7	7.5	6.2	5.7	5.8	5.8	5.4
27	3.5	3.7	3.5	3.5	3.9	3.7	8.5	5.6	5.8	5.8	5.8	5.4
28	3.5	3.7	3.9	3.7	3.9	3.7	9.4	5.6	5.8	5.8	5.6	5.4
29	3.5	3.7	4.0	3.7	3.8	3.7	6.3	5.7	6.0	5.8	5.6	5.4
30	3.5	3.7	3.9	3.7	---	3.7	8.5	6.0	6.3	5.7	5.6	5.4
31	3.5	---	3.7	3.6	---	4.5	---	6.4	---	5.6	5.6	---
TOTAL	110.0	106.6	113.8	113.3	125.0	121.4	208.6	196.5	178.4	182.3	182.5	164.7
MEAN	3.55	3.55	3.67	3.65	4.31	3.92	6.95	6.34	5.95	5.88	5.89	5.49
MAX	4.5	3.9	4.0	4.1	6.4	4.5	15	8.4	6.7	6.2	7.5	5.6
MIN	3.5	3.5	3.5	3.5	3.5	3.7	5.6	5.6	5.6	5.6	5.4	5.4
AC-FT	218	211	226	225	248	241	414	390	354	362	362	327
a	0	17440	1090	6420	9290	25350	11780	14510	14360	15030	10550	345

a Diversion, in acre-feet, through Woodleaf powerplant, provided by Oroville-Wyandotte Irrigation District.

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
LOWEST ANNUAL MEAN	6.78
HIGHEST DAILY MEAN	3840
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	5000
INSTANTANEOUS PEAK STAGE	a6.90
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.4	7.23	30.3	40.7	42.7	49.4	40.4	23.2	13.0	3.34	2.70	2.24
MAX	392	179	355	411	512	573	267	208	172	16.0	22.2	6.28
(WY)	1963	1963	1982	1970	1986	1983	1982	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1962 - 1992

ANNUAL TOTAL	1771.1	1803.1	
ANNUAL MEAN	4.85	4.93	22.4
HIGHEST ANNUAL MEAN			84.7
LOWEST ANNUAL MEAN			.49
HIGHEST DAILY MEAN	16	Sep 5	3900
LOWEST DAILY MEAN	1.1	Aug 4	.00
ANNUAL SEVEN-DAY MINIMUM	3.4	Jan 13	.00
INSTANTANEOUS PEAK FLOW			5000
INSTANTANEOUS PEAK STAGE			6.90
ANNUAL RUNOFF (AC-FT)	3510	3580	16210
10 PERCENT EXCEEDS	6.4	6.2	6.8
50 PERCENT EXCEEDS	5.1	5.4	1.1
90 PERCENT EXCEEDS	3.4	3.5	.11

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 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 ft³/s, Feb. 17, 1986, gage height, 16.07 ft, from rating curve extended above 5,400 ft³/s on basis of flow-over-dam measurement of peak flow; minimum daily, 0.6 ft³/s, Apr. 4, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 168 ft³/s, Oct. 26, gage height, 5.88 ft; minimum daily, 5.6 ft³/s, Apr. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	11	5.9	5.9	5.7	5.9	5.7	11	11	11	11	11
2	24	11	5.9	5.9	5.8	5.9	5.7	10	11	11	11	10
3	24	11	5.9	5.7	5.9	5.9	5.7	11	11	11	10	10
4	24	8.0	5.9	5.7	5.8	5.9	5.7	11	11	11	10	11
5	24	5.9	5.9	6.1	5.8	6.1	5.7	11	11	11	11	11
6	24	5.9	5.9	5.9	5.7	5.9	5.7	11	11	11	11	11
7	24	5.8	5.9	5.7	5.8	5.9	5.7	11	11	11	11	11
8	24	5.9	5.8	5.8	5.9	5.9	5.7	11	11	11	11	11
9	24	5.9	5.7	5.7	5.9	5.9	5.7	10	11	10	11	11
10	24	5.8	5.7	5.7	6.0	6.1	5.7	11	11	12	11	11
11	24	5.9	5.7	5.7	6.1	5.9	5.7	11	11	11	11	11
12	24	5.8	5.7	5.7	6.4	5.9	5.9	11	11	11	11	11
13	24	5.9	5.7	5.7	6.1	5.9	5.8	11	11	11	11	11
14	24	5.8	5.7	5.7	6.4	5.9	5.7	11	11	11	11	11
15	24	5.8	5.7	5.7	6.3	6.1	5.8	11	11	11	11	11
16	24	5.7	5.7	5.9	6.1	5.9	5.7	11	11	11	11	11
17	24	5.9	5.7	5.8	6.1	5.7	5.8	11	10	11	11	11
18	25	5.8	5.8	5.7	6.1	5.7	5.7	11	10	11	11	11
19	25	5.7	5.9	5.7	6.3	5.7	5.8	11	10	11	11	10
20	24	5.9	5.9	5.8	6.3	5.7	5.8	11	11	11	11	10
21	24	5.8	5.9	5.8	6.1	5.7	5.7	11	10	11	11	10
22	26	5.9	5.9	5.7	6.1	5.7	5.7	11	11	11	11	10
23	27	5.9	5.9	5.8	5.9	5.7	5.7	11	11	11	11	10
24	26	5.7	5.9	5.7	6.1	5.7	5.7	11	11	10	11	11
25	36	5.7	5.9	5.7	5.9	5.7	5.6	11	11	11	11	10
26	99	5.9	5.9	5.7	5.9	5.7	5.7	11	11	11	11	10
27	35	5.9	5.9	5.8	5.9	5.7	5.8	11	11	11	11	10
28	30	5.9	5.9	5.8	5.9	5.7	5.7	11	11	11	10	10
29	29	5.9	5.9	5.8	5.9	5.7	5.7	11	11	10	10	11
30	24	5.9	5.9	5.8	---	5.7	8.7	11	11	10	11	11
31	11	---	5.8	5.7	---	5.7	---	11	---	11	11	---
TOTAL	852	192.9	180.8	178.8	174.2	180.5	174.7	339	326	338	337	319
MEAN	27.5	6.43	5.83	5.77	6.01	5.82	5.82	10.9	10.9	10.9	10.9	10.6
MAX	99	11	5.9	6.1	6.4	6.1	8.7	11	11	12	11	11
MIN	11	5.7	5.7	5.7	5.7	5.7	5.6	10	10	10	10	10
AC-FT	1690	383	359	355	346	358	347	672	647	670	668	633
a	0	18350	1320	6870	14650	29520	14210	15290	14980	15590	10810	218

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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.1	24.1	78.1	132	159	118	89.4	49.3	21.8	13.0	11.1	10.9
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1962 - 1992	
ANNUAL TOTAL	4155.7		3592.9		60.9	
ANNUAL MEAN	11.4		9.82		223	
HIGHEST ANNUAL MEAN					4.36	
LOWEST ANNUAL MEAN					13900	
HIGHEST DAILY MEAN	377	Mar 4	99	Oct 26	Feb 18	1986
LOWEST DAILY MEAN	5.7	Jan 1	5.6	Apr 25	Apr 4	1963
ANNUAL SEVEN-DAY MINIMUM	5.7	Feb 8	5.7	Dec 9	Mar 25	1980
INSTANTANEOUS PEAK FLOW			168	Oct 26	Feb 17	1986
INSTANTANEOUS PEAK STAGE			5.88	Oct 26	Feb 17	1986
ANNUAL RUNOFF (AC-FT)	8240		7130		44090	
10 PERCENT EXCEEDS	24		11		78	
50 PERCENT EXCEEDS	10		10		10	
90 PERCENT EXCEEDS	5.7		5.7		4.7	

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, May 13, 1984; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	272	92	33	96	260	267	273	289	287	288	19
2	29	260	.00	11	45	259	263	274	290	286	288	.00
3	28	270	.00	45	.00	259	264	269	290	285	288	28
4	28	264	6.0	101	57	256	264	274	290	284	287	49
5	29	278	105	98	98	261	266	277	290	284	287	48
6	29	258	.10	154	97	262	267	271	289	260	287	47
7	29	276	.00	179	97	261	266	275	290	285	284	31
8	29	276	156	199	99	261	268	284	289	285	282	.00
9	29	276	118	194	96	264	267	278	290	286	286	.00
10	28	276	38	249	93	265	263	275	289	287	286	44
11	27	260	.00	271	161	263	277	257	286	287	286	86
12	27	276	9.9	269	260	268	270	220	249	287	286	22
13	27	279	45	271	257	268	264	270	284	285	286	.00
14	27	275	44	255	260	263	266	283	284	284	246	.00
15	27	271	22	248	261	255	263	286	283	277	285	.00
16	27	266	.00	250	261	258	261	284	283	286	285	46
17	27	265	.00	227	262	265	258	283	284	285	285	94
18	27	269	.00	100	261	261	259	283	284	284	284	58
19	27	267	45	101	262	257	266	283	283	284	284	.00
20	27	265	45	100	259	260	271	284	284	283	134	.00
21	27	246	26	100	256	261	175	286	285	284	103	.00
22	27	268	.00	100	257	260	273	286	284	284	49	.00
23	27	267	22	101	257	264	265	284	280	284	50	.00
24	27	267	8.5	99	263	263	271	284	279	285	49	.00
25	20	267	43	98	268	264	275	284	280	283	11	110
26	57	268	17	96	265	265	273	285	246	283	50	67
27	110	271	61	80	262	269	259	284	284	282	48	.00
28	72	271	97	99	259	270	211	236	285	283	47	.00
29	18	272	99	98	259	268	271	271	285	284	47	.00
30	13	272	99	96	---	258	273	277	287	284	46	.00
31	145	---	95	98	---	269	---	286	---	286	45	---
TOTAL	1101	8068	1293.50	4420	5628.00	8137	7856	8546	8495	3793	6069	749.00
MEAN	35.5	269	41.7	143	194	262	262	276	283	284	196	25.0
MAX	145	279	156	271	268	270	277	286	290	287	288	110
MIN	13	246	.00	11	.00	255	175	220	246	260	11	.00
AC-FT	2180	16000	2570	8770	11160	16140	15580	16950	16850	17440	12040	1490
a	741	14830	1970	7680	10200	15620	14890	15490	14940	15480	10360	452

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	MEAN	174	190	190	189	202	203	204	214	226	239	240	192
	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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1963 - 1992
ANNUAL TOTAL	63082.39	69155.50	
ANNUAL MEAN	173	189	206
HIGHEST ANNUAL MEAN			239
LOWEST ANNUAL MEAN			52.2
HIGHEST DAILY MEAN	284	Jul 12	314
LOWEST DAILY MEAN	.00	Jan 4	.00
ANNUAL SEVEN-DAY MINIMUM	11	Jan 29	.00
ANNUAL RUNOFF (AC-FT)	125100	8.3	148900
10 PERCENT EXCEEDS	276		274
50 PERCENT EXCEEDS	250		242
90 PERCENT EXCEEDS	14		45

a Discharge, in acre-ft, through Kelly Ridge powerplant, provided by Oroville-Wyandotte Irrigation District.

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Aug. 17-20, 1963; no flow for several days in 1965, 1969.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	12	8.3	5.6	3.7	3.5	5.9	7.7	16	16	16	19
2	16	10	8.2	5.3	3.7	3.5	6.0	7.7	16	16	16	18
3	16	10	8.1	5.0	3.7	3.5	6.2	7.9	16	16	16	18
4	16	10	7.9	5.1	3.5	3.5	6.1	9.8	16	16	16	18
5	16	11	8.0	5.1	3.5	3.7	6.1	12	16	16	16	19
6	16	9.3	8.4	5.0	3.5	3.8	6.1	15	16	15	16	19
7	16	7.9	8.3	4.4	3.5	4.0	6.1	16	16	16	16	19
8	16	7.8	8.1	3.9	3.5	4.1	6.1	17	16	16	16	18
9	16	7.8	8.1	3.9	3.5	4.6	6.1	17	16	16	16	18
10	16	7.8	8.4	3.9	3.5	4.9	6.1	17	16	16	16	18
11	16	7.8	7.8	3.9	3.5	4.9	6.1	16	15	16	16	19
12	16	7.8	6.5	3.9	3.7	4.9	6.1	14	15	16	16	19
13	16	7.9	6.5	3.9	3.4	4.9	6.0	12	14	16	17	18
14	16	8.1	6.6	3.9	3.3	4.7	5.9	13	14	16	17	18
15	16	8.2	6.4	3.9	3.3	4.1	6.1	13	14	16	17	18
16	16	8.4	7.4	3.9	2.9	3.7	6.3	14	14	16	17	18
17	16	8.4	7.1	3.9	2.8	3.7	6.4	15	14	16	17	19
18	16	8.3	7.1	3.8	3.1	3.7	6.4	15	14	16	17	19
19	16	8.4	6.6	3.7	3.7	3.7	6.4	14	14	16	17	19
20	16	8.4	6.7	3.7	3.7	3.7	6.1	14	13	16	17	18
21	16	8.2	6.7	3.7	3.5	3.7	6.1	14	13	16	17	17
22	16	8.1	6.7	3.7	3.4	3.7	6.0	14	14	16	17	17
23	15	8.1	6.1	3.7	3.0	3.7	6.1	14	16	16	17	17
24	14	8.1	5.6	3.7	3.2	3.8	5.9	14	16	16	18	17
25	14	8.1	5.6	3.7	3.6	3.9	6.1	14	16	16	19	17
26	14	8.1	5.6	3.7	3.5	3.9	6.1	14	16	16	19	17
27	14	8.1	5.6	3.7	3.4	4.8	6.8	15	16	16	19	17
28	14	8.1	5.6	3.7	3.5	5.4	7.7	16	16	16	19	17
29	14	8.1	5.5	3.7	3.5	5.4	7.7	16	16	16	19	17
30	14	8.1	5.4	3.7	---	5.6	7.7	16	16	16	19	17
31	14	---	5.6	3.7	---	4.0	---	16	---	16	19	---
TOTAL	479	256.4	214.5	126.4	99.6	129.0	188.8	430.1	456	495	530	539
MEAN	15.5	8.55	6.92	4.08	3.43	4.16	6.29	13.9	15.2	16.0	17.1	18.0
MAX	16	12	8.4	5.6	3.7	5.6	7.7	17	16	16	19	19
MIN	14	7.8	5.4	3.7	2.8	3.5	5.9	7.7	13	15	16	17
AC-FT	950	509	425	251	198	256	374	853	904	982	1050	1070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	17.4	7.79	5.32	4.56	4.13	4.37	8.90	17.3	23.4	25.7	25.8	23.2																		
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	14.2	16.0	17.1	15.4																		
(WY)	1985	1969	1966	1966	1966	1966	1983	1983	1982	1982	1992	1986																		

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1963 - 1992

ANNUAL TOTAL	4074.1	3943.8	
ANNUAL MEAN	11.2	10.8	13.8
HIGHEST ANNUAL MEAN			18.0
LOWEST ANNUAL MEAN			9.18
HIGHEST DAILY MEAN	19	19	65
LOWEST DAILY MEAN	2.3	2.8	.00
ANNUAL SEVEN-DAY MINIMUM	2.9	3.2	.00
ANNUAL RUNOFF (AC-FT)	8080	7820	9980
10 PERCENT EXCEEDS	18	17	28
50 PERCENT EXCEEDS	10	10	19
90 PERCENT EXCEEDS	4.8	3.7	2.8

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 mi².

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 National Geodetic Vertical Datum of 1929, 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, 366 ft³/s, Mar. 4, 1991, gage height, 3.25 ft; minimum daily, 1.2 ft³/s, Aug. 21, 22, 27, 1992.

Combined flow: Maximum discharge, 396 ft³/s, Mar. 4, 1991; minimum daily, 1.2 ft³/s, Aug. 21, 22, 27, 1992.

EXTREMES FOR CURRENT YEAR.--Creek only, maximum discharge, 210 ft³/s, Feb. 20, gage height, 2.85 ft; minimum daily, 1.2 ft³/s, Aug. 21, 22, 27.

Combined flow: Maximum discharge, 242 ft³/s, Feb. 20; minimum daily, 1.2 ft³/s, Aug. 21, 22, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.4	3.7	6.2	6.9	17	11	8.6	4.6	4.8	2.0	1.3
2	1.7	3.4	3.7	5.6	5.7	15	11	8.3	4.2	4.3	2.0	1.3
3	1.6	3.3	3.8	5.4	5.4	14	11	8.0	4.1	4.2	2.0	1.3
4	1.6	3.3	3.7	6.5	5.1	13	11	7.9	4.1	4.1	1.9	1.3
5	1.6	3.3	3.7	6.3	4.9	28	10	7.7	4.0	3.9	1.9	1.5
6	1.7	3.3	3.8	5.4	5.0	16	10	7.5	4.1	3.7	1.9	1.5
7	1.8	3.3	6.9	5.4	5.0	14	10	7.4	4.2	3.6	2.0	1.4
8	1.8	3.3	5.2	5.3	7.1	13	9.9	7.3	4.1	3.5	2.0	1.4
9	1.7	3.3	4.4	6.1	6.6	13	9.8	7.1	4.0	3.3	1.9	1.3
10	1.6	3.3	4.1	7.3	14	13	10	6.9	3.8	3.3	1.9	1.3
11	1.6	3.2	4.0	6.6	14	13	10	6.8	3.7	3.4	1.8	1.4
12	1.7	3.3	3.9	6.1	51	17	14	6.7	4.0	4.0	1.7	1.4
13	1.7	3.3	3.9	5.9	14	16	14	6.7	4.3	3.9	1.7	1.4
14	1.7	3.2	3.9	5.6	32	15	14	6.6	4.2	3.5	1.6	1.3
15	1.6	3.2	3.8	5.5	28	15	13	6.4	5.5	3.3	1.6	1.3
16	1.7	3.3	3.8	5.4	15	13	12	6.3	5.3	3.2	1.6	1.3
17	1.7	5.7	3.9	5.4	17	13	14	6.1	4.6	3.1	1.5	1.3
18	1.7	6.0	5.7	5.3	15	13	12	6.1	4.4	3.0	1.5	1.3
19	1.8	4.3	6.2	5.1	44	15	11	6.1	4.3	2.9	1.4	1.3
20	1.7	5.6	5.3	5.0	78	16	11	6.1	3.9	2.7	1.3	1.3
21	1.6	5.2	4.7	5.0	22	16	11	6.0	3.6	2.6	1.2	1.3
22	1.8	4.2	4.4	4.9	14	15	10	5.8	3.5	2.5	1.2	1.3
23	2.4	4.0	4.2	4.9	13	15	10	5.6	3.5	2.5	1.4	1.3
24	2.5	3.9	4.1	4.8	13	14	9.8	5.6	3.8	2.5	1.3	1.3
25	3.8	3.9	4.1	5.3	13	14	9.6	5.5	3.6	2.5	1.3	1.3
26	16	4.6	4.1	5.0	13	13	9.4	5.4	3.4	2.4	1.3	1.3
27	5.1	4.0	4.1	4.9	13	13	9.1	5.3	3.4	2.3	1.2	1.3
28	3.7	3.8	7.2	6.1	14	13	8.9	5.0	3.6	2.2	1.3	1.3
29	3.6	3.7	5.5	5.2	15	12	8.9	4.6	6.3	2.1	1.4	1.3
30	3.5	3.7	6.1	5.0	---	12	8.8	4.5	7.2	2.1	1.5	1.3
31	3.3	---	7.4	4.9	---	12	---	4.5	---	2.0	1.6	---
TOTAL	81.1	115.3	143.3	171.4	503.7	451	324.2	198.4	127.3	97.4	49.9	39.9
MEAN	2.62	3.84	4.62	5.53	17.4	14.5	10.8	6.40	4.24	3.14	1.61	1.33
MAX	16	6.0	7.4	7.3	78	28	14	8.6	7.2	4.8	2.0	1.5
MIN	1.6	3.2	3.7	4.8	4.9	12	8.8	4.5	3.4	2.0	1.2	1.3
AC-FT	161	229	284	340	999	895	643	394	252	193	99	79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	1989	1990	1991	1992
MEAN	4.15	4.92	4.93	6.55
MAX	7.19	7.32	5.84	9.68
(WY)	1990	1990	1990	1992
MIN	2.62	3.59	4.34	4.44
(WY)	1992	1991	1991	1991

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1989 - 1992
ANNUAL TOTAL	2576.8	2302.9	
ANNUAL MEAN	7.06	6.29	7.18
HIGHEST ANNUAL MEAN			8.24
LOWEST ANNUAL MEAN			6.29
HIGHEST DAILY MEAN	157	78	157
LOWEST DAILY MEAN	1.6	1.2	1.2
ANNUAL SEVEN-DAY MINIMUM	1.7	1.3	1.3
INSTANTANEOUS PEAK FLOW		210	366
INSTANTANEOUS PEAK STAGE		2.85	3.25
ANNUAL RUNOFF (AC-FT)	5110	4570	5200
10 PERCENT EXCEEDS	14	14	14
50 PERCENT EXCEEDS	4.3	4.2	5.1
90 PERCENT EXCEEDS	1.9	1.4	2.2

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 1991 TO SEPTEMBER 1992
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.4	3.7	6.2	6.9	17	11	8.6	4.6	4.8	2.0	1.3
2	1.7	3.4	3.7	5.6	5.7	15	11	8.3	4.2	4.3	2.0	1.3
3	1.6	3.3	3.8	5.4	5.4	14	11	8.0	4.1	4.2	2.0	1.3
4	1.6	3.3	3.7	8.3	5.1	13	11	7.9	4.1	4.1	1.9	1.3
5	1.6	3.3	3.7	24	4.9	40	10	7.7	4.0	3.9	1.9	1.5
6	1.7	3.3	3.8	15	5.0	45	10	7.5	4.1	3.7	1.9	1.5
7	1.8	3.3	8.0	15	5.0	40	10	7.4	4.2	3.6	2.0	1.4
8	1.8	3.3	5.2	11	7.1	27	9.9	7.3	4.1	3.5	2.0	1.4
9	1.7	3.3	4.4	7.6	6.6	22	9.8	7.1	4.0	3.3	1.9	1.3
10	1.6	3.3	4.1	7.3	20	19	10	6.9	3.8	3.3	1.9	1.3
11	1.6	3.2	4.0	6.6	33	17	10	6.8	3.7	3.4	1.8	1.4
12	1.7	3.3	3.9	6.1	77	17	22	6.7	4.0	4.0	1.7	1.4
13	1.7	3.3	3.9	5.9	43	16	21	6.7	4.3	3.9	1.7	1.4
14	1.7	3.2	3.9	5.6	64	16	14	6.6	4.2	3.5	1.6	1.3
15	1.6	3.2	3.8	5.5	57	18	13	6.4	5.5	3.3	1.6	1.3
16	1.7	3.3	3.8	5.4	48	26	12	6.3	5.3	3.2	1.6	1.3
17	1.7	7.3	3.9	5.4	48	26	14	6.1	4.6	3.1	1.5	1.3
18	1.7	6.1	12	5.3	44	21	12	6.1	4.4	3.0	1.5	1.3
19	1.8	4.3	7.2	5.1	77	18	11	6.1	4.3	2.9	1.4	1.3
20	1.7	5.6	5.3	5.0	109	16	11	6.1	3.9	2.7	1.3	1.3
21	1.6	5.2	4.7	5.0	55	16	11	6.0	3.6	2.6	1.2	1.3
22	1.8	4.2	4.4	4.9	44	16	10	5.8	3.5	2.5	1.2	1.3
23	2.4	4.0	4.2	4.9	33	15	10	5.6	3.5	2.5	1.4	1.3
24	2.5	3.9	4.1	4.8	27	14	9.8	5.6	3.8	2.5	1.3	1.3
25	3.8	3.9	4.1	5.3	23	14	9.6	5.5	3.6	2.5	1.3	1.3
26	16	4.6	4.1	5.0	19	13	9.4	5.4	3.4	2.4	1.3	1.3
27	5.1	4.0	4.1	4.9	17	13	9.1	5.3	3.4	2.3	1.2	1.3
28	3.7	3.8	7.2	6.1	16	13	8.9	5.0	3.6	2.2	1.3	1.3
29	3.6	3.7	19	5.2	15	12	8.9	4.6	6.7	2.1	1.4	1.3
30	3.5	3.7	12	5.0	---	12	8.8	4.5	7.7	2.1	1.5	1.3
31	3.3	---	7.4	4.9	---	12	---	4.5	---	2.0	1.6	---
TOTAL	81.1	117.0	171.1	217.3	920.7	593	339.2	198.4	128.2	97.4	49.9	39.9
MEAN	2.62	3.90	5.52	7.01	31.7	19.1	11.3	6.40	4.27	3.14	1.61	1.33
MAX	16	7.3	19	24	109	45	22	8.6	7.7	4.8	2.0	1.5
MIN	1.6	3.2	3.7	4.8	4.9	12	8.8	4.5	3.4	2.0	1.2	1.3
AC-FT	161	232	339	431	1830	1180	673	394	254	193	99	79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	1989	1990	1991	1992
MEAN	4.15	4.94	5.23	9.68
MAX	7.19	7.32	5.84	17.5
(WY)	1990	1990	1990	1992
MIN	2.62	3.59	4.34	4.52
(WY)	1992	1991	1991	1991

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1989 - 1992
ANNUAL TOTAL	3302.0	2953.2	
ANNUAL MEAN	9.05	8.07	8.94
HIGHEST ANNUAL MEAN			9.84
LOWEST ANNUAL MEAN			8.07
HIGHEST DAILY MEAN	182	109	182
LOWEST DAILY MEAN	1.6	1.2	1.2
ANNUAL SEVEN-DAY MINIMUM	1.7	1.3	1.3
INSTANTANEOUS PEAK FLOW		242	396
ANNUAL RUNOFF (AC-FT)	6550	5860	6480
10 PERCENT EXCEEDS	20	16	21
50 PERCENT EXCEEDS	4.3	4.2	5.2
90 PERCENT EXCEEDS	1.9	1.4	2.2

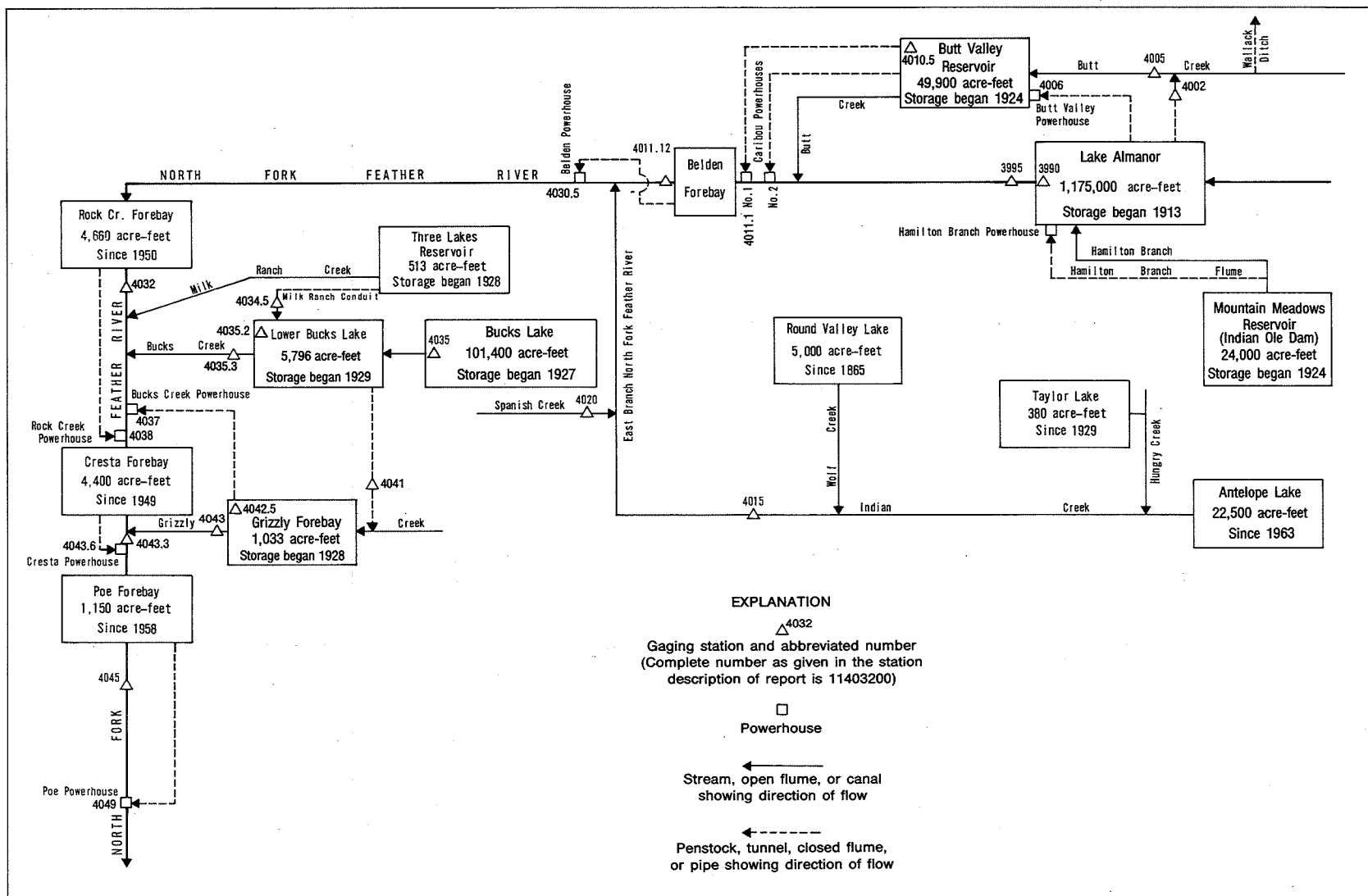


Figure 33. Diversions and storage in North Fork Feather River basin.

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 Canyon Dam.

DRAINAGE AREA.--491 mi².

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 National Geodetic Vertical Datum of 1929 (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, 871,187 acre-ft, July 5, gage height, 4,483.49 ft; minimum, 671,548 acre-ft, Nov. 4, gage height, 4,474.95 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	696181	672438	687634	697083	716575	757772	796294	843456	866786	869474	851935	798903
2	693703	673106	686737	697760	717486	758936	797954	844665	864832	870208	849509	796294
3	692578	672883	685840	698662	716803	760100	798666	845391	863612	870453	847086	793452
4	690104	671548	685616	699565	717714	761498	800090	846117	861906	870453	844665	790849
5	691228	672438	684719	702277	718398	764297	801277	846844	861662	871187	842731	788249
6	691003	673106	685167	703408	719538	765698	801752	847328	862149	869474	840798	785180
7	690104	673774	686064	704087	720451	767333	802941	848297	862637	867519	838625	782587
8	689206	674442	687185	703408	721592	768035	804129	849267	863125	865565	836695	779762
9	688532	675333	685167	703634	722506	767801	805557	850236	863368	864100	835490	777176
10	687859	675779	684495	703860	725021	768736	807223	851207	863125	862149	834285	774124
11	687859	676225	685616	704766	726393	769672	808890	851692	863368	862637	831878	771545
12	687859	677118	686064	705219	730059	770843	812229	852663	863856	863368	830675	768736
13	687859	677787	686961	705445	730977	771780	814855	853634	863856	861662	828992	765931
14	687185	678010	687410	706578	735341	772717	816528	854606	863856	860444	827310	763830
15	686513	678457	688083	707485	737641	775297	817723	855335	865320	858496	826350	761964
16	685392	678457	688757	708392	738562	776471	819877	857523	865076	857523	824670	759867
17	683823	680691	690104	709299	739023	777881	822752	858009	865320	856064	823231	758470
18	683152	681585	692353	709753	739484	779291	824670	858496	865565	856550	821314	756842
19	683823	682256	693478	709980	741789	780232	826590	858983	865320	856793	820116	756145
20	682704	683376	691228	710662	743174	781174	828271	859713	865809	854849	817245	755680
21	681585	684495	691903	711570	745484	782351	829713	860687	866297	853148	814855	753822
22	679350	684495	692578	711570	746640	783765	831156	861906	867030	850964	813900	752430
23	677341	685616	691228	711570	748722	784472	832600	862393	867030	849509	814138	749880
24	675779	685840	689655	710889	749648	785652	833563	863125	867519	850236	811274	747796
25	675779	685392	690554	711570	751502	787304	835249	863612	868252	850721	809367	746177
26	678010	686737	691003	712479	752662	788249	836213	864100	868985	850964	808414	745484
27	677787	686961	691228	712707	753822	789430	837418	864832	869230	851207	805795	744790
28	676225	687185	692803	713616	754982	790612	839349	865320	868985	851935	804367	743174
29	674219	687859	695054	714071	756145	791795	840798	864832	868496	852177	804129	741328
30	673774	688308	695730	714298	---	793452	841764	865320	869230	852420	803892	739484
31	673106	---	696406	715892	---	795109	---	866297	---	852663	801752	---
MAX	696181	688308	696406	715892	756145	795109	841764	866297	869230	871187	851935	798903
MIN	673106	671548	684495	697083	716575	757772	796294	843456	861662	849509	801752	739484
a	4475.02	4475.7	4476.06	4476.92	4478.67	4480.33	4482.28	4483.29	4483.41	4482.73	4480.61	4477.95
b	-26008	+15202	+8098	+19486	+40253	+38964	+46655	+24533	+2933	-16567	-50911	-62268
CAL YR 1991	MAX 850721	MIN 671548	b +25080									
WTR YR 1992	MAX 871187	MIN 671548	b +40370									

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

b Change in contents, in acre-feet.

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 mi².

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 (revised) above National Geodetic Vertical Datum of 1929. 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 ft³/s, Mar. 19, 1907, before construction of dam, gage height, 16.2 ft, at former site, from rating curve extended above 3,700 ft³/s; no flow at times during 1914, 1919, 1923.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38 ft³/s, several days, gage height, 2.52 ft; minimum daily, 34 ft³/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	34	37	37	36	36	37	37	35	36	36	36
2	35	34	37	37	36	36	37	37	35	36	36	36
3	35	34	37	37	36	36	37	37	35	36	35	36
4	35	35	37	37	36	36	37	37	35	35	35	36
5	35	37	37	37	36	36	37	37	35	35	35	36
6	35	36	37	37	36	36	37	37	35	35	35	36
7	35	36	37	37	36	36	37	38	35	35	35	35
8	35	36	37	38	36	36	37	38	35	35	35	35
9	35	36	37	38	36	36	37	38	35	35	35	36
10	35	36	37	38	36	36	37	38	35	35	36	37
11	35	36	37	38	36	36	37	38	35	35	36	37
12	35	36	37	38	36	36	37	38	35	35	36	37
13	35	36	37	38	36	36	37	38	35	35	36	37
14	35	37	37	38	36	36	37	38	35	36	36	36
15	35	37	37	38	36	36	37	38	35	36	36	36
16	35	37	37	38	36	36	37	38	35	36	36	36
17	35	37	37	38	36	36	37	38	35	36	36	36
18	35	37	37	38	36	36	37	36	36	36	36	36
19	35	37	37	38	36	36	37	35	37	36	36	36
20	35	36	37	38	36	37	37	35	37	36	36	36
21	34	37	37	38	36	37	37	34	37	36	36	37
22	34	37	37	36	36	37	37	34	37	35	36	37
23	34	37	36	35	36	37	37	34	36	35	36	37
24	34	37	36	35	36	37	37	34	36	35	36	37
25	34	37	36	35	36	37	37	34	36	35	36	37
26	35	37	36	35	36	37	37	35	36	35	36	36
27	34	37	36	35	36	37	37	36	36	35	36	36
28	34	37	37	36	36	37	37	36	36	35	36	36
29	34	37	37	36	36	37	37	35	36	35	35	36
30	34	37	37	36	---	37	37	35	36	35	35	37
31	34	---	37	36	---	37	---	35	---	36	36	---
TOTAL	1075	1090	1142	1146	1044	1128	1110	1128	1067	1097	1107	1088
MEAN	34.7	36.3	36.8	37.0	36.0	36.4	37.0	36.4	35.6	35.4	35.7	36.3
MAX	35	37	37	38	36	37	37	38	37	36	36	37
MIN	34	34	36	35	36	36	37	34	35	35	35	35
AC-FT	2130	2160	2270	2270	2070	2240	2200	2240	2120	2180	2200	2160
a	44760	6190	20940	7910	1460	1960	635	5660	11080	31750	64380	75120

a Diversion, in acre-feet, to Butt Valley powerplant, provided by Pacific Gas & Electric Co.

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
LOWEST ANNUAL MEAN	27.1
HIGHEST DAILY MEAN	2670
LOWEST DAILY MEAN	.50
ANNUAL SEVEN-DAY MINIMUM	.87
INSTANTANEOUS PEAK FLOW	2710
INSTANTANEOUS PEAK STAGE	6.95
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.2	31.2	31.7	32.8	34.5	33.6	43.1	39.0	50.3	49.1	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1960 - 1992

ANNUAL TOTAL	13273	13222	
ANNUAL MEAN	36.4	36.1	37.6
HIGHEST ANNUAL MEAN			112
LOWEST ANNUAL MEAN			22.3
HIGHEST DAILY MEAN	39	Jan 19	38
LOWEST DAILY MEAN	33	May 5	34
ANNUAL SEVEN-DAY MINIMUM	34	May 2	34
INSTANTANEOUS PEAK FLOW			38
INSTANTANEOUS PEAK STAGE			2.52
ANNUAL RUNOFF (AC-FT)	26330	26230	27240
ANNUAL TOTAL, DIVERSION (AC-FT) a	292100	271800	
10 PERCENT EXCEEDS	38	37	39
50 PERCENT EXCEEDS	36	36	36
90 PERCENT EXCEEDS	35	35	19

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/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 ft³/s, Feb. 17, 1986, gage height, 5.90 ft, from rating curve extended above 1,400 ft³/s; minimum daily, 26 ft³/s, several days during May and June 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 327 ft³/s, Apr. 12, gage height, 1.72 ft; minimum daily, 29 ft³/s, on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	38	39	40	42	84	156	94	40	46	33	29
2	30	38	39	39	41	80	149	84	40	42	32	29
3	30	37	38	39	40	81	146	81	40	40	31	29
4	29	37	38	41	40	85	140	76	39	40	31	29
5	29	37	38	44	40	88	124	75	39	39	32	29
6	29	37	39	43	41	79	108	73	39	39	31	30
7	29	36	41	41	42	76	102	68	38	38	30	29
8	29	37	39	38	47	74	102	66	37	37	30	29
9	30	38	38	37	49	72	103	64	36	36	30	29
10	30	38	38	40	52	71	150	61	37	36	31	29
11	31	37	38	37	52	74	130	59	36	37	31	29
12	32	37	37	37	54	79	230	58	37	36	30	29
13	32	37	36	39	55	87	203	58	39	36	31	29
14	32	36	38	39	55	94	154	56	39	36	32	29
15	32	36	38	40	50	91	144	53	47	36	32	29
16	32	37	38	39	51	85	136	52	44	39	32	29
17	30	44	38	40	50	83	228	51	41	44	32	29
18	30	45	54	39	48	81	171	50	42	36	31	29
19	30	40	42	36	50	79	149	50	41	37	31	30
20	30	44	40	37	89	81	140	51	41	37	30	29
21	30	44	40	39	87	90	134	48	39	36	30	29
22	31	40	40	37	88	94	123	47	37	36	30	30
23	33	39	38	38	75	94	114	46	36	36	30	29
24	35	39	38	39	68	95	105	46	37	36	30	29
25	36	39	39	40	67	98	101	46	37	36	30	30
26	65	39	40	40	72	111	99	44	39	36	30	30
27	42	51	39	40	73	115	96	43	37	36	29	30
28	36	43	41	41	72	121	95	42	37	36	29	30
29	36	40	37	41	71	126	96	42	46	34	30	32
30	37	35	43	41	---	128	95	42	54	33	30	32
31	37	---	41	41	---	140	---	41	---	33	30	---
TOTAL	1024	1175	1222	1222	1661	2836	4023	1767	1191	1155	951	883
MEAN	33.0	39.2	39.4	39.4	57.3	91.5	134	57.0	39.7	37.3	30.7	29.4
MAX	65	51	54	44	89	140	230	94	54	46	33	32
MIN	29	35	36	36	40	71	95	41	36	33	29	29
AC-FT	2030	2330	2420	2420	3290	5630	7980	3500	2360	2290	1890	1750
a	414	391	406	412	398	408	385	399	388	413	394	373

a Inflow, in acre-feet, from Almanor-Butt Creek tunnel at Outlet, provided by Pacific Gas & Electric Co.

11400500 BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	417	384	394	327	325	352	359	398	403	434	427	423
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1937 - 1992	
ANNUAL TOTAL	18811		19110			
ANNUAL MEAN	51.5		52.2		387	
HIGHEST ANNUAL MEAN					974	
LOWEST ANNUAL MEAN					40.1	
HIGHEST DAILY MEAN	440	Mar 4	230	Apr 12	2830	Feb 17 1986
LOWEST DAILY MEAN	29	Sep 16	29	Oct 4	26	May 26 1976
ANNUAL SEVEN-DAY MINIMUM	29	Sep 18	29	Sep 7	26	May 30 1976
INSTANTANEOUS PEAK FLOW			327	Apr 12	3870	Feb 17 1986
INSTANTANEOUS PEAK STAGE			1.72	Apr 12	5.90	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	37310		37900		280600	
ANNUAL TOTAL, INFLOW (AC-FT) a	5040		4780			
10 PERCENT EXCEEDS	89		95		995	
50 PERCENT EXCEEDS	40		39		111	
90 PERCENT EXCEEDS	31		30		42	

a Inflow, in acre-feet, from Almanor-Butt Creek tunnel at Outlet, provided by Pacific Gas & Electric Co.

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 mi².

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 National Geodetic Vertical Datum of 1929 (revised) (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, 46,198 acre-ft, July 17, elevation, 4,129.75 ft; minimum, 26,995 acre-ft, Oct. 1, elevation, 4,116.69 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	46,591
4,110	18,395	4,137	57,891
4,120	31,592		

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26995	30044	29696	35919	34460	35773	35846	41620	43543	44399	39795	42695
2	28930	29557	29487	35628	34533	35335	36215	41544	44088	44087	40022	42541
3	28791	29626	29765	34752	34825	35481	36289	41391	44632	43932	40248	42464
4	28722	29765	29765	34825	34606	35555	36510	42079	45099	43698	40993	42079
5	28585	29626	29348	35044	34460	35847	36732	42926	44943	43621	41544	42233
6	28475	29417	29696	34898	34533	35409	37695	43777	44710	44865	42156	42541
7	28543	29487	29835	34171	34460	35482	37695	44243	44477	45257	42464	42618
8	29069	29487	29626	34316	34099	35409	37396	45335	44243	45806	42772	43311
9	29417	29557	29765	33955	34171	36215	37471	45178	44088	45727	42849	43854
10	29209	29557	30044	34027	34316	35701	37695	45178	43854	45413	42695	43465
11	29626	29348	29696	33883	34460	35919	37994	45021	43621	45021	42849	43234
12	28861	29278	29139	33955	34825	35919	38591	45021	43465	44787	43234	43080
13	29000	29348	28930	33739	34971	36067	39041	44865	43234	45571	42541	44010
14	28791	29348	28585	33739	36584	35919	39342	44943	43080	45727	42387	43643
15	28861	29209	28653	33811	35262	35919	39569	44632	42849	45570	42464	42926
16	28930	29069	28310	33667	35481	35847	39871	44632	43388	45884	42695	43234
17	28791	29417	28310	33522	35554	35701	40248	44554	43543	46198	43621	43157
18	28777	29348	28447	33450	35627	35847	40552	44321	43311	45806	42695	42541
19	28681	29139	28447	33522	35555	35919	40857	44399	44399	45570	42233	41544
20	29139	29069	30747	33522	35847	35627	41086	44243	44088	45884	42849	41391
21	29278	29139	30887	33522	36141	35627	41315	44165	43777	46041	43621	41467
22	29417	29139	30817	33450	36362	35774	41467	44010	43698	45963	44010	41086
23	29417	28930	33090	33666	36510	35628	41696	44010	43311	45649	43621	41696
24	29974	29000	35336	34533	36510	35555	41849	43854	43080	45414	43003	41467
25	29974	29139	35408	34099	36658	35774	41772	43698	42926	45257	43003	41620
26	29765	29069	36067	34171	36805	35919	41925	43465	42772	45021	43543	41467
27	29835	29209	36067	34460	36215	36067	41772	43311	42618	43621	43543	41772
28	29696	29000	35993	34460	35482	36362	41925	43157	42464	42079	43699	41315
29	29209	29069	35701	34460	35555	36436	41849	44010	44010	40552	43932	40993
30	29209	29000	35774	34533	---	36362	41696	44010	44010	40324	43465	40993
31	29209	---	35847	34606	---	36658	---	43932	---	39569	43388	---
MAX	29974	30044	36067	35919	36805	36658	41925	45335	45099	46198	44010	44010
MIN	26995	28930	28310	33450	34099	35335	35846	41391	42464	39569	39795	40993
a	4118.3	4118.15	4122.95	4122.1	4122.75	4123.5	4126.85	4128.3	4128.35	4125.45	4127.95	4126.35
b	+3779	-209	+6847	-1241	+949	+1103	+5038	+2236	+78	-4441	+3819	-2395
c	36770	7450	13450	7520	4680	6410	3190	5630	10930	32990	51070	71600

CAL YR 1991 MAX 43388 MIN 24457 b -220 c 300600

WTR YR 1992 MAX 46198 MIN 26995 b +15563 c 251700

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.

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 mi².

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 (revised) above National Geodetic Vertical Datum of 1929 (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 ft³/s, Sept. 30, 1987, gage height, 8.96 ft; minimum daily, 2.3 ft³/s, Oct. 25, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 151 ft³/s, several days, gage height, 3.58 ft; minimum daily, 57 ft³/s, Jan. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	61	60	58	62	63	64	146	146	142	142	141
2	66	61	60	59	62	63	64	146	146	141	142	140
3	66	61	60	58	62	63	64	146	146	141	141	140
4	66	61	60	59	62	63	64	146	146	141	140	140
5	65	61	59	59	62	63	64	146	144	141	141	140
6	65	61	60	58	62	62	64	146	142	143	142	140
7	66	61	60	58	62	62	64	146	141	141	141	122
8	66	61	60	58	62	63	64	146	141	141	141	63
9	65	61	60	57	62	64	64	146	142	141	141	63
10	65	61	60	57	62	63	64	147	141	141	142	62
11	65	60	60	58	62	63	64	147	142	142	142	63
12	65	60	60	58	62	63	86	147	141	142	142	62
13	65	60	60	58	61	63	87	147	142	141	141	62
14	65	60	60	58	62	63	87	147	142	142	140	63
15	65	60	60	58	62	63	82	146	141	141	141	62
16	65	60	60	59	63	63	82	146	142	141	146	62
17	64	60	60	62	63	63	82	146	142	142	151	62
18	62	60	59	62	63	63	81	146	141	141	151	62
19	62	61	59	62	63	63	78	146	142	141	151	63
20	61	61	59	61	63	63	75	146	142	141	151	62
21	62	60	59	62	63	63	74	146	142	142	151	63
22	62	60	59	61	63	63	66	146	141	141	151	62
23	62	60	59	62	63	63	74	146	142	141	151	62
24	62	60	59	62	63	63	128	146	141	142	145	62
25	61	60	59	62	63	63	143	146	142	141	141	62
26	61	61	59	62	63	63	143	146	141	141	140	62
27	61	61	58	62	63	63	144	146	141	141	140	62
28	61	60	59	62	63	64	144	146	141	142	140	62
29	61	60	58	62	63	64	145	146	141	141	140	62
30	61	60	59	62	---	64	145	146	141	142	140	62
31	61	---	59	62	---	64	---	146	---	142	140	---
TOTAL	1970	1814	1843	1858	1811	1956	2650	4531	4265	4383	4448	2395
MEAN	63.5	60.5	59.5	59.9	62.4	63.1	88.3	146	142	141	143	79.8
MAX	66	61	60	62	63	64	145	147	146	143	151	141
MIN	61	60	58	57	61	62	64	146	141	141	140	62
AC-FT	3910	3600	3660	3690	3590	3880	5260	8990	8460	8690	8820	4750
a	41520	14160	18110	18690	7740	13200	2430	5240	9370	36410	51320	74950

a Diversion, in acre-feet, to Belden powerplant, provided by Pacific Gas & Electric Co.

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	153	168	140	111	102	103	178	161	138	138	133	139
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1970 - 1992	
ANNUAL TOTAL	33596		33924			
ANNUAL MEAN	92.0		92.7		139	
HIGHEST ANNUAL MEAN					745	
LOWEST ANNUAL MEAN					76.3	
HIGHEST DAILY MEAN	153	Apr 26	151	Aug 17	2800	Nov 20 1974
LOWEST DAILY MEAN	57	Jan 17	57	Jan 9	2.3	Oct 25 1981
ANNUAL SEVEN-DAY MINIMUM	57	Jan 15	58	Jan 6	3.5	Oct 25 1981
INSTANTANEOUS PEAK FLOW			151	Apr 30	3230	Sep 30 1987
INSTANTANEOUS PEAK STAGE			3.58	Apr 30	8.96	Sep 30 1987
ANNUAL RUNOFF (AC-FT)	66640		67290		100600	
ANNUAL TOTAL, DIVERSION (AC-FT) a	308000		293100			
10 PERCENT EXCEEDS	147		146		150	
50 PERCENT EXCEEDS	65		63		69	
90 PERCENT EXCEEDS	60		60		60	

a Diversion, in acre-feet, to Belden powerplant, provided by Pacific Gas & Electric Co.

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Mar. 4, 1991, gage height, 1.90 ft; minimum daily, 2.0 ft³/s, Aug. 9 to Sept. 30, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6.7 ft³/s, Apr. 13, gage height, 1.19 ft; minimum daily, 2.0 ft³/s, Aug. 9 to Sept. 30.

EXTREMES FOR 1991 WATER YEAR (NOT PREVIOUSLY PUBLISHED).--Maximum discharge, 26 ft³/s, Mar. 4, gage height, 1.90 ft; minimum daily, 2.2 ft³/s, Sept. 11-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.4	2.6	2.6	2.6	2.8	5.1	7.2	6.4	3.0	2.5	2.4
2	2.4	2.4	2.6	2.7	2.8	2.8	5.1	7.0	6.3	2.9	2.4	2.4
3	2.4	2.4	2.6	2.7	2.8	5.6	5.5	6.7	6.1	2.8	2.4	2.4
4	2.4	2.4	2.6	2.6	3.0	19	6.4	6.9	5.7	2.8	2.5	2.4
5	2.4	2.5	2.6	2.6	3.2	11	8.1	7.5	5.4	2.7	2.5	2.4
6	2.4	2.6	2.6	2.6	2.8	7.7	14	8.2	5.0	2.7	2.5	2.4
7	2.4	2.6	2.6	2.7	2.8	5.7	13	8.8	4.8	2.7	2.4	2.4
8	2.4	2.6	2.6	2.7	2.7	5.0	11	9.5	4.7	2.7	2.4	2.4
9	2.4	2.6	2.6	2.7	2.7	4.6	9.6	8.3	4.5	2.6	2.4	2.4
10	2.4	2.6	2.7	2.7	2.7	4.3	8.7	7.2	4.3	2.6	2.4	2.4
11	2.4	2.6	2.7	2.7	2.7	4.1	7.7	6.5	4.0	2.6	2.4	2.2
12	2.4	2.6	2.7	2.8	2.7	4.0	7.0	6.3	3.7	2.6	2.4	2.2
13	2.4	2.6	2.7	2.8	2.7	3.9	7.0	7.0	3.6	2.6	2.5	2.2
14	2.4	2.7	2.6	2.7	2.7	3.7	7.3	6.6	3.4	2.6	2.7	2.2
15	2.4	2.6	2.7	2.7	2.8	3.7	7.4	6.9	3.3	2.6	2.6	2.2
16	2.4	2.6	2.6	2.6	2.9	3.6	6.8	7.4	3.3	2.6	2.5	2.2
17	2.3	2.6	2.6	2.6	2.8	3.6	6.5	7.5	3.2	2.6	2.5	2.2
18	2.4	2.6	2.7	2.6	2.7	3.5	6.2	6.9	3.1	2.6	2.4	2.2
19	2.4	2.7	2.7	2.6	2.7	3.5	6.3	7.1	3.1	2.6	2.4	2.2
20	2.4	2.6	2.7	2.6	2.7	3.5	6.8	8.2	3.1	2.6	2.4	2.2
21	2.4	2.6	2.8	2.6	2.7	3.4	6.7	9.0	3.0	2.6	2.4	2.2
22	2.4	2.6	2.8	2.6	2.7	3.4	7.0	9.3	3.0	2.6	2.4	2.2
23	2.4	2.6	2.9	2.6	2.6	3.4	7.3	9.7	3.0	2.6	2.4	2.2
24	2.4	2.6	2.7	2.6	2.6	3.4	7.6	9.8	3.0	2.5	2.4	2.2
25	2.3	2.8	2.7	2.6	2.6	3.4	7.1	9.5	3.0	2.5	2.4	2.2
26	2.3	2.7	2.7	2.6	2.6	3.4	6.7	8.7	3.0	2.5	2.4	2.2
27	2.3	2.6	2.7	2.6	2.6	3.4	6.4	7.9	3.0	2.5	2.4	2.2
28	2.3	2.6	2.7	2.6	2.8	3.4	6.5	7.5	3.4	2.5	2.4	2.2
29	2.3	2.7	2.6	2.6	---	3.6	7.0	7.3	3.2	2.5	2.4	2.2
30	2.3	2.6	2.6	2.6	---	4.0	7.2	7.2	3.1	2.5	2.4	2.2
31	2.5	---	2.6	2.7	---	4.7	---	6.6	---	2.5	2.4	---
TOTAL	73.8	77.7	82.6	82.0	76.7	145.1	225.0	240.2	117.7	81.3	75.6	68.0
MEAN	2.38	2.59	2.66	2.65	2.74	4.68	7.50	7.75	3.92	2.62	2.44	2.27
MAX	2.5	2.8	2.9	2.8	3.2	19	14	9.8	6.4	3.0	2.7	2.4
MIN	2.3	2.4	2.6	2.6	2.6	2.8	5.1	6.3	3.0	2.5	2.4	2.2
AC-FT	146	154	164	163	152	288	446	476	233	161	150	135

WTR YR 1991 TOTAL 1345.7 MEAN 3.69 MAX 19 MIN 2.2 AC-FT 2670

11401165 SOUTH BRANCH WARD CREEK BELOW DIVERSION DAM, NEAR GENESEE, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.3	2.4	2.3	2.4	3.8	4.9	3.2	2.4	2.4	2.1	2.0
2	2.2	2.3	2.4	2.4	2.4	3.7	4.9	3.1	2.4	2.3	2.1	2.0
3	2.2	2.3	2.4	2.4	2.4	3.8	4.9	3.0	2.4	2.3	2.1	2.0
4	2.2	2.3	2.3	2.4	2.4	3.7	4.7	3.0	2.4	2.3	2.1	2.0
5	2.2	2.3	2.4	2.4	2.4	4.0	4.2	2.9	2.4	2.3	2.1	2.0
6	2.2	2.3	2.4	2.4	2.4	4.0	3.9	2.9	2.4	2.3	2.1	2.0
7	2.2	2.3	2.4	2.4	2.4	3.7	3.8	3.2	2.4	2.3	2.1	2.0
8	2.2	2.3	2.3	2.3	2.5	3.6	3.8	3.2	2.4	2.3	2.1	2.0
9	2.2	2.3	2.3	2.3	2.5	3.5	3.8	2.9	2.4	2.3	2.0	2.0
10	2.2	2.3	2.3	2.4	2.5	3.4	4.3	2.9	2.4	2.3	2.0	2.0
11	2.2	2.3	2.3	2.3	2.5	3.4	4.3	2.8	2.4	2.3	2.0	2.0
12	2.2	2.3	2.3	2.3	2.7	3.4	5.5	2.8	2.4	2.3	2.0	2.0
13	2.2	2.3	2.3	2.3	2.6	3.6	5.8	2.8	2.4	2.3	2.0	2.0
14	2.2	2.3	2.4	2.3	2.6	3.8	4.9	2.8	2.4	2.3	2.0	2.0
15	2.2	2.3	2.3	2.4	2.6	3.8	4.5	2.8	2.5	2.2	2.0	2.0
16	2.2	2.3	2.3	2.4	2.5	3.7	4.4	2.7	2.4	2.3	2.0	2.0
17	2.2	2.5	2.4	2.4	2.5	3.6	5.9	2.7	2.4	2.2	2.0	2.0
18	2.2	2.4	2.7	2.3	2.5	3.5	5.0	2.7	2.4	2.2	2.0	2.0
19	2.2	2.4	2.4	2.3	3.0	3.4	4.4	2.7	2.4	2.2	2.0	2.0
20	2.2	2.9	2.4	2.3	4.6	3.5	4.2	2.6	2.3	2.2	2.0	2.0
21	2.2	2.5	2.4	2.3	3.9	3.6	4.1	2.6	2.3	2.2	2.0	2.0
22	2.2	2.4	2.4	2.3	3.9	3.7	3.9	2.6	2.3	2.2	2.0	2.0
23	2.3	2.4	2.4	2.3	3.6	3.6	3.7	2.5	2.3	2.2	2.0	2.0
24	2.3	2.4	2.3	2.4	3.3	3.6	3.6	2.5	2.4	2.1	2.0	2.0
25	2.4	2.4	2.4	2.4	3.3	3.7	3.5	2.5	2.4	2.1	2.0	2.0
26	3.1	2.4	2.4	2.3	3.3	3.8	3.5	2.5	2.3	2.1	2.0	2.0
27	2.4	3.0	2.4	2.3	3.4	3.9	3.4	2.5	2.3	2.1	2.0	2.0
28	2.3	2.5	2.4	2.4	3.4	4.0	3.3	2.5	2.3	2.1	2.0	2.0
29	2.3	2.4	2.4	2.4	3.6	4.0	3.3	2.5	2.5	2.1	2.0	2.0
30	2.3	2.3	2.4	2.4	---	4.3	3.2	2.4	2.4	2.1	2.0	2.0
31	2.3	---	2.3	2.4	---	4.7	---	2.4	---	2.1	2.0	---
TOTAL	70.1	71.7	73.6	72.9	84.1	115.8	127.6	85.2	71.5	69.0	62.8	60.0
MEAN	2.26	2.39	2.37	2.35	2.90	3.74	4.25	2.75	2.38	2.23	2.03	2.00
MAX	3.1	3.0	2.7	2.4	4.6	4.7	5.9	3.2	2.5	2.4	2.1	2.0
MIN	2.2	2.3	2.3	2.3	2.4	3.4	3.2	2.4	2.3	2.1	2.0	2.0
AC-FT	139	142	146	145	167	230	253	169	142	137	125	119

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1992, BY WATER YEAR (WY)

MEAN	2.32	2.49	2.52	2.50	2.82	4.21	5.88	5.25	3.15	2.42	2.23	2.13
MAX	2.38	2.59	2.66	2.65	2.90	4.68	7.50	7.75	3.92	2.62	2.44	2.27
(WY)	1991	1991	1991	1991	1992	1991	1991	1991	1991	1991	1991	1991
MIN	2.26	2.39	2.37	2.35	2.74	3.74	4.25	2.75	2.38	2.23	2.03	2.00
(WY)	1992	1992	1992	1992	1991	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1991 - 1992

ANNUAL TOTAL	1327.0	964.3			
ANNUAL MEAN	3.64	2.63		3.16	
HIGHEST ANNUAL MEAN				3.69	1991
LOWEST ANNUAL MEAN				2.63	1992
HIGHEST DAILY MEAN	19	Mar 4	5.9	Apr 17	19 Mar 4 1991
LOWEST DAILY MEAN	2.2	Sep 11	2.0	Aug 9	Aug 9 1992
ANNUAL SEVEN-DAY MINIMUM	2.2	Sep 11	2.0	Aug 9	Aug 9 1992
INSTANTANEOUS PEAK FLOW			6.7	Apr 13	26 Mar 4 1991
INSTANTANEOUS PEAK STAGE			1.19	Apr 13	1.90 Mar 4 1991
ANNUAL RUNOFF (AC-FT)	2630	1910		2290	
10 PERCENT EXCEEDS	7.1	3.8		5.1	
50 PERCENT EXCEEDS	2.6	2.4		2.5	
90 PERCENT EXCEEDS	2.2	2.0		2.2	

11401500 INDIAN CREEK NEAR CRESCENT MILLS, CA

LOCATION.--Lat 40°04'41", long 120°55'37", in SW 1/4 SW 1/4 sec.25, T.26 N., R.9 E., Plumas County, Hydrologic Unit 18020122, on left bank 0.7 mi upstream from Dixie Creek and 1.5 mi southwest of Crescent Mills.
DRAINAGE AREA.--739 mi².

PERIOD OF RECORD.--January 1906 to December 1909, September 1911 to March 1918, October 1930 to current year.

CHEMICAL DATA: Water years 1951-66, 1972.

SUSPENDED SEDIMENT: Water years 1956-66.

WATER TEMPERATURE: Water years 1963-79.

REVISED RECORDS.--WSP 1445: 1906-9. WSP 1931: 1956, 1958(M).

GAGE.--Water-stage recorder. Elevation of gage is 3,500 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to March 1918, nonrecording gage at site 800 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow affected by storage in Round Valley Reservoir since 1865, capacity 5,000 acre-ft, Taylor Lake since 1929, capacity, 380 acre-ft, and Antelope Lake since November 1963, capacity, 22,500 acre-ft. Diversions upstream from station for irrigation of about 11,800 acres of which 9,700 acres are in Indian and Genesee Valleys. See schematic diagram of North Fork Feather River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,200 ft³/s, Feb. 18, 1986, gage height, 20.80 ft, from rating curve extended above 20,400 ft³/s; minimum daily, 0.90 ft³/s, July 28, 29, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	1115	*752	*4.55				

Minimum daily, 2.8 ft³/s, Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	52	56	72	82	214	153	79	13	18	5.7	4.4
2	13	54	61	70	85	207	144	74	15	14	7.5	4.0
3	11	48	58	66	77	198	134	68	11	13	5.7	4.4
4	10	50	56	73	74	197	126	63	11	16	7.0	5.0
5	9.2	46	56	98	73	244	113	64	12	13	7.3	4.1
6	8.7	44	56	91	76	299	106	60	13	7.4	5.6	4.3
7	15	44	70	83	78	257	94	60	12	12	4.3	6.1
8	15	44	68	76	83	228	95	75	8.2	11	4.5	5.3
9	13	45	61	70	94	203	101	70	10	8.5	5.0	4.6
10	13	46	58	69	106	186	97	60	7.9	6.9	6.0	5.2
11	13	45	59	70	127	174	109	57	9.3	6.2	5.7	7.3
12	19	46	57	65	198	168	168	53	7.3	6.4	6.2	5.3
13	20	46	56	65	209	164	248	51	9.3	5.6	6.2	5.6
14	20	45	56	68	210	164	198	48	11	7.2	4.4	4.7
15	17	44	58	68	315	177	166	42	12	7.2	5.0	7.1
16	21	47	57	67	264	205	143	32	9.6	9.3	7.8	6.5
17	22	63	58	68	224	178	162	29	13	10	7.4	6.4
18	23	85	79	67	200	162	165	25	14	7.2	5.4	6.5
19	23	69	85	63	227	152	143	23	10	6.7	5.6	5.4
20	24	66	70	61	673	146	128	22	8.0	5.9	4.6	7.2
21	24	69	65	65	595	142	110	20	6.4	5.4	3.5	6.3
22	26	66	69	64	443	145	99	19	15	6.5	4.3	5.0
23	29	61	67	60	356	153	100	24	12	7.2	3.9	5.2
24	30	58	63	65	287	146	93	22	11	12	3.6	4.1
25	35	56	61	70	252	144	88	16	13	9.6	4.3	3.7
26	70	57	66	67	237	152	84	16	11	6.6	4.3	4.5
27	85	67	66	66	231	147	81	17	6.6	10	3.9	4.0
28	62	68	70	73	226	141	75	17	8.2	9.8	2.8	4.5
29	58	66	76	74	218	145	72	12	14	9.2	3.0	8.0
30	54	59	80	77	---	144	71	15	17	8.5	3.1	6.9
31	46	---	77	77	---	147	---	12	---	6.0	4.7	---
TOTAL	842.9	1656	1995	2188	6320	5529	3666	1245	330.8	282.3	158.3	161.6
MEAN	27.2	55.2	64.4	70.6	218	178	122	40.2	11.0	9.11	5.11	5.39
MAX	85	85	85	98	673	299	248	79	17	18	7.8	8.0
MIN	8.7	44	56	60	73	141	71	12	6.4	5.4	2.8	3.7
AC-FT	1670	3280	3960	4340	12540	10970	7270	2470	656	560	314	321

11401500 INDIAN CREEK NEAR CRESCENT MILLS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	80.7	190	405	627	859	1146	1531	1070	372	74.9	27.9	31.7
MAX	1474	2291	2988	3859	5250	4191	5776	4408	2034	368	172	157
(WY)	1963	1982	1956	1909	1986	1907	1952	1938	1983	1983	1971	1971
MIN	11.0	33.2	32.7	45.1	68.9	81.4	43.4	40.2	11.0	4.03	1.49	2.78
(WY)	1934	1933	1977	1937	1933	1977	1977	1992	1992	1977	1977	1932

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1906 - 1992

ANNUAL TOTAL	55341.8		24374.9									
ANNUAL MEAN	152		66.6							531		
HIGHEST ANNUAL MEAN										1440		1983
LOWEST ANNUAL MEAN										41.8		1977
HIGHEST DAILY MEAN	2890	Mar 5		673	Feb 20					33000	Feb 18	1986
LOWEST DAILY MEAN	5.9	Aug 31		2.8	Aug 28					.90	Jul 28	1977
ANNUAL SEVEN-DAY MINIMUM	8.0	Aug 27		3.6	Aug 24					.99	Jul 25	1977
INSTANTANEOUS PEAK FLOW				752	Feb 20					36200	Feb 18	1986
INSTANTANEOUS PEAK STAGE				4.55	Feb 20					20.80	Feb 18	1986
ANNUAL RUNOFF (AC-FT)	109800			48350						384900		
10 PERCENT EXCEEDS	365			167						1430		
50 PERCENT EXCEEDS	61			53						132		
90 PERCENT EXCEEDS	12			5.4						14		

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 Keddle.

DRAINAGE AREA.--184 mi².

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 National Geodetic Vertical Datum of 1929.

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 ft³/s, Feb. 17, 1986, gage height, 14.88 ft, from rating curve extended above 5,200 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 3.0 ft³/s, Sept. 4, 5, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	0315	*1,890	*5.43				

Minimum daily, 8.0 ft³/s, Aug. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	31	37	49	54	255	238	108	29	32	e12	9.5
2	12	31	37	47	61	245	232	104	27	27	e10	15
3	14	31	37	45	55	234	223	97	26	26	e12	15
4	14	30	36	51	53	239	218	92	24	25	e12	15
5	14	30	36	118	50	357	194	93	26	24	e10	13
6	18	30	36	102	52	408	172	88	20	25	e9.0	14
7	21	30	50	77	55	319	156	90	22	18	e9.0	16
8	18	30	47	65	68	267	151	106	18	22	e10	12
9	17	30	41	58	107	230	150	89	22	21	e12	12
10	20	30	40	54	145	209	177	78	18	15	e11	12
11	19	30	39	51	244	196	186	72	17	16	e11	11
12	12	30	37	47	417	192	320	69	17	23	e11	12
13	13	30	37	48	359	195	456	64	19	18	e13	15
14	12	30	36	46	379	205	300	61	19	15	e11	16
15	14	30	36	46	400	219	247	58	27	13	e9.0	13
16	21	30	36	45	291	271	221	55	26	14	e10	9.2
17	19	49	36	44	238	233	270	54	29	13	e10	9.1
18	20	86	67	44	225	209	254	48	24	13	e10	10
19	21	50	80	42	348	192	212	43	27	17	e8.5	12
20	21	45	54	42	1280	182	193	47	23	16	e8.0	14
21	21	51	47	43	595	182	188	47	23	17	e11	13
22	23	47	45	41	467	193	178	46	22	15	e12	11
23	24	41	43	40	363	197	159	41	20	16	e13	9.4
24	26	39	41	41	292	186	147	41	17	16	e9.5	8.9
25	27	38	41	43	258	184	138	38	18	12	e9.0	8.7
26	63	37	40	43	264	214	134	36	24	12	e9.5	11
27	54	43	40	42	261	208	128	35	23	e13	9.8	13
28	38	47	44	48	254	203	117	34	22	e13	8.8	11
29	34	41	59	54	242	208	116	30	24	e13	8.6	12
30	32	38	57	50	---	214	114	26	36	e14	9.4	12
31	31	---	54	49	---	218	---	26	---	e13	10	---
TOTAL	706	1135	1366	1615	7877	7064	5989	1916	689	547	319.1	364.8
MEAN	22.8	37.8	44.1	52.1	272	228	200	61.8	23.0	17.6	10.3	12.2
MAX	63	86	80	118	1280	408	456	108	36	32	13	16
MIN	12	30	36	40	50	182	114	26	17	12	8.0	8.7
AC-FT	1400	2250	2710	3200	15620	14010	11880	3800	1370	1080	633	724

e Estimated.

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	60.3	136	286	393	505	530	559	416	163	50.0	28.0	30.2
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1934 - 1992

ANNUAL TOTAL	38776		29587.9									
ANNUAL MEAN	106		80.8							262		
HIGHEST ANNUAL MEAN										629		1983
LOWEST ANNUAL MEAN										34.1		1977
HIGHEST DAILY MEAN	3620	Mar 4		1280	Feb 20				14200		Feb 18	1986
LOWEST DAILY MEAN	11	Aug 27		8.0	Aug 20				3.0		Sep 4	1988
ANNUAL SEVEN-DAY MINIMUM	12	Aug 23		9.2	Aug 24				4.4		Aug 18	1934
INSTANTANEOUS PEAK FLOW				1890	Feb 20				19600		Feb 17	1986
INSTANTANEOUS PEAK STAGE				5.43	Feb 20				14.88		Feb 17	1986
ANNUAL RUNOFF (AC-FT)	76910		58690						189500			
10 PERCENT EXCEEDS	234		231						625			
50 PERCENT EXCEEDS	40		37						88			
90 PERCENT EXCEEDS	18		12						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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Feb. 19, 1986, gage height, unknown, on basis of slope-area measurement of peak flow; minimum daily, 50 ft³/s, Feb. 7, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft³/s, Feb. 20, gage height, 7.16 ft; minimum daily, 51 ft³/s, on several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	79	54	52	52	61	60	97	108	109	109	109
2	107	57	54	52	52	61	60	106	108	110	109	110
3	106	57	54	52	52	61	60	106	108	109	109	109
4	107	56	54	52	52	61	60	106	108	110	109	110
5	107	54	54	53	59	61	65	106	108	109	109	109
6	107	54	54	52	57	61	60	106	109	109	109	109
7	107	54	54	52	52	61	60	108	109	109	109	109
8	107	54	54	52	52	61	60	108	109	109	109	109
9	107	54	58	52	51	61	58	108	108	109	108	108
10	107	54	55	52	52	61	63	108	108	109	108	109
11	107	54	52	52	52	61	63	108	108	109	109	108
12	107	54	52	52	52	61	68	108	108	109	110	108
13	107	54	52	52	52	61	67	108	109	117	109	108
14	107	54	52	52	52	61	65	108	109	109	109	109
15	107	54	52	52	52	61	64	109	109	109	109	109
16	107	54	52	52	52	61	63	110	109	109	109	109
17	107	54	52	52	52	61	66	109	109	110	109	109
18	107	54	52	52	52	61	57	109	108	109	109	108
19	107	54	51	52	54	61	56	108	108	109	109	108
20	107	54	51	52	460	61	57	109	108	108	109	108
21	107	54	51	52	65	61	57	109	109	108	109	108
22	107	54	51	52	59	61	56	109	109	110	109	108
23	107	54	51	52	61	61	56	108	109	111	109	108
24	107	54	51	52	59	61	57	108	108	110	108	108
25	108	54	52	52	60	61	57	108	108	110	108	108
26	109	54	52	52	60	61	57	108	108	110	108	108
27	107	54	52	52	61	61	57	108	109	110	108	109
28	107	54	52	52	61	62	57	108	109	110	108	109
29	107	54	52	52	61	62	57	108	111	110	108	108
30	108	54	52	52	---	61	56	108	109	109	108	108
31	107	---	52	52	---	60	---	108	---	109	108	---
TOTAL	3320	1653	1631	1613	2008	1892	1799	3335	3258	3397	3370	3257
MEAN	107	55.1	52.6	52.0	69.2	61.0	60.0	108	109	110	109	109
MAX	109	79	58	53	460	62	68	110	111	117	110	110
MIN	106	54	51	52	51	60	56	97	108	108	108	108
AC-FT	6590	3280	3240	3200	3980	3750	3570	6610	6460	6740	6680	6460
a	47680	23480	32800	27980	61180	61600	59830	31580	22270	42880	59570	82460

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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	110	76.1	55.8	55.3	76.8	496	77.1	99.3	101	102	98.3	98.0
MAX	175	171	61.6	60.9	177	2225	139	112	116	123	109	109
(WY)	1987	1989	1987	1987	1987	1989	1989	1988	1989	1989	1988	1992
MIN	52.7	53.2	52.6	52.0	53.1	53.0	54.2	55.3	55.7	55.3	53.0	53.0
(WY)	1988	1988	1992	1992	1991	1990	1990	1987	1987	1987	1987	1987

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1987 - 1992	
ANNUAL TOTAL	40086		30533			
ANNUAL MEAN	110		83.4		121	
HIGHEST ANNUAL MEAN					284	
LOWEST ANNUAL MEAN					77.7	
HIGHEST DAILY MEAN	5930		460		12700	
LOWEST DAILY MEAN	51		51		50	
ANNUAL SEVEN-DAY MINIMUM	51		51		51	
INSTANTANEOUS PEAK FLOW			1270		79400	
INSTANTANEOUS PEAK STAGE			7.16		Feb 20	
ANNUAL RUNOFF (AC-FT)	79510		60560		87760	
ANNUAL TOTAL, DIVERSION (AC-FT) a	644900		553300			
10 PERCENT EXCEEDS	108		109		110	
50 PERCENT EXCEEDS	106		106		63	
90 PERCENT EXCEEDS	53		52		53	

a Diversion, in acre-feet, to Rock Creek powerplant, provided by Pacific Gas & Electric Co.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated discharges. 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). 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, 68 ft³/s, several days in April 1989; minimum daily, 0.26 ft³/s, Sept. 23, 24, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	2.1	3.7	4.8	3.0	16	30	44	7.1	8.3	5.8	12
2	15	2.1	4.2	3.5	2.9	14	30	42	6.7	6.4	5.8	12
3	14	2.0	4.5	3.0	2.8	14	32	41	6.2	5.5	5.8	11
4	14	2.0	4.4	3.1	2.5	14	30	43	5.9	4.7	5.8	11
5	6.7	2.0	5.1	3.5	2.6	12	24	42	5.5	4.2	5.6	10
6	1.8	2.0	6.5	3.7	2.8	10	21	45	5.3	3.8	5.7	9.6
7	1.7	2.0	6.4	3.7	3.6	9.8	21	47	5.1	3.6	5.8	8.6
8	1.7	2.0	6.4	3.2	5.7	9.9	23	45	4.9	5.7	5.6	7.4
9	1.7	2.0	6.4	3.2	5.3	9.6	23	36	4.6	7.8	5.5	5.1
10	1.7	2.0	6.3	3.1	4.9	10	45	31	4.3	7.7	5.3	2.0
11	1.7	2.0	6.2	2.9	5.1	11	32	29	4.1	8.2	5.5	1.3
12	1.7	2.0	7.0	2.7	5.8	12	51	26	4.4	8.6	5.6	1.1
13	1.7	2.0	8.4	2.7	5.7	13	37	24	4.5	8.2	5.5	.98
14	1.7	1.9	8.2	2.6	5.4	13	36	22	4.5	7.7	5.6	.88
15	1.7	1.9	8.1	2.6	5.1	12	33	21	6.8	7.7	5.5	.76
16	1.7	2.0	7.9	2.6	5.4	10	40	19	5.9	7.5	5.4	.73
17	1.7	2.5	8.0	2.7	5.4	10	54	18	5.6	7.4	5.3	.69
18	1.7	2.5	11	2.6	5.2	10	34	16	5.3	7.3	5.3	.68
19	1.7	2.4	8.6	2.5	9.2	10	30	16	4.8	7.0	5.1	.68
20	1.7	3.6	8.1	2.5	32	10	39	17	4.4	6.9	6.7	.69
21	1.7	3.0	7.8	2.5	16	11	51	14	4.0	6.9	9.3	.74
22	1.7	2.5	7.6	2.4	16	11	48	13	3.6	6.8	9.2	.91
23	1.9	2.4	7.3	2.4	13	11	41	12	3.4	6.6	9.2	.77
24	1.9	2.5	7.0	2.4	13	11	41	12	3.8	6.5	9.1	.75
25	2.9	2.6	6.7	2.6	14	12	45	11	4.0	6.4	9.0	.72
26	4.8	3.0	6.3	2.7	16	14	47	11	3.8	6.4	8.8	.66
27	2.7	7.0	6.2	2.6	16	15	47	10	3.5	6.4	10	.66
28	2.4	5.1	6.1	3.0	16	16	54	9.3	3.4	6.1	13	.67
29	2.5	4.7	5.8	3.1	15	17	58	8.8	11	6.0	13	.66
30	2.3	4.5	5.5	3.0	---	18	47	8.2	13	6.0	13	.67
31	2.1	---	5.1	2.9	---	25	---	7.6	---	5.8	12	---
TOTAL	110.8	80.3	206.8	90.8	255.4	391.3	1144	740.9	159.4	204.1	227.8	104.40
MEAN	3.57	2.68	6.67	2.93	8.81	12.6	38.1	23.9	5.31	6.58	7.35	3.48
MAX	15	7.0	11	4.8	32	25	58	47	13	8.6	13	12
MIN	1.7	1.9	3.7	2.4	2.5	9.6	21	7.6	3.4	3.6	5.1	.66
AC-FT	220	159	410	180	507	776	2270	1470	316	405	452	207

11403450 MILK RANCH CONDUIT AT OUTLET, NEAR BUCKS LODGE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.40	3.21	4.62	3.57	6.00	17.3	32.2	27.1	11.7	5.68	4.84	3.11
MAX	5.35	8.15	8.05	7.44	8.81	42.7	59.6	39.8	18.4	7.07	7.35	6.82
(WY)	1990	1990	1988	1990	1992	1989	1989	1991	1991	1989	1992	1990
MIN	.35	.65	1.19	1.23	2.39	7.93	15.5	21.1	5.31	4.28	.49	.32
(WY)	1989	1988	1991	1991	1991	1991	1991	1987	1992	1991	1987	1987

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1987 - 1992	
ANNUAL TOTAL	3353.5		3716.00		10.2	
ANNUAL MEAN	9.19		10.2		14.7	
HIGHEST ANNUAL MEAN					8.32	
LOWEST ANNUAL MEAN					68	
HIGHEST DAILY MEAN	63	May 23	58	Apr 29	68	Apr 7 1989
LOWEST DAILY MEAN	1.0	Jan 1	.66	Sep 26	.26	Sep 23 1987
ANNUAL SEVEN-DAY MINIMUM	1.0	Jan 4	.68	Sep 24	.28	Sep 29 1988
ANNUAL RUNOFF (AC-FT)	6650		7370		7360	
10 PERCENT EXCEEDS	29		29		28	
50 PERCENT EXCEEDS	4.9		5.9		5.4	
90 PERCENT EXCEEDS	1.6		1.8		.93	

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 mi².

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 (revised) below National Geodetic Vertical Datum of 1929 (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) that 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, 83,767 acre-ft, Oct. 1, elevation, 5,144.7 ft; minimum, 51,534 acre-ft, Jan. 23-25, elevation, 5,124.3 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	59,997
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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83767	79381	71001	58478	51967	57726	61223	74089	79548	80721	79548	76225
2	83597	79213	70197	58328	51967	57876	61685	74252	79716	80889	79213	76225
3	83597	78714	69714	58177	51967	58027	61994	74416	79716	80721	79047	76059
4	83597	78547	69392	58027	52112	58177	62304	74745	79716	80889	78714	76059
5	83427	78214	69073	58027	52256	58782	62613	75237	79716	80889	78547	75894
6	83427	77881	68594	57876	52256	58782	62768	75566	79716	80889	78361	75894
7	83257	77715	68114	57876	52401	58934	63077	75730	79883	80889	78214	75730
8	83087	77383	67637	57726	52545	58934	63077	76225	79883	81395	78214	75730
9	83087	77052	67161	57425	52691	59086	63389	76390	79883	81395	78214	75730
10	82917	76886	66686	56973	52837	59238	63857	76721	79883	81395	78214	75566
11	82917	76721	66210	56675	52984	59389	64169	76886	79883	81395	77881	75566
12	82747	76390	65895	56228	53422	59389	65581	77217	79883	81395	77548	75237
13	82577	76059	65424	55482	53714	59693	66210	77383	79883	81395	77217	74580
14	82408	75730	64952	55188	54155	59845	66686	77548	79883	81564	77052	74416
15	82408	75566	64481	54745	54155	60150	67161	77715	80051	81564	77052	74252
16	82408	75401	64013	54597	54450	60457	67478	77881	79548	81564	77052	74089
17	81733	75730	63701	54302	54597	60457	68274	77881	80051	81564	77052	73600
18	81395	75730	63545	53714	54597	60457	68753	78361	80051	81564	77052	73273
19	81058	75401	63233	53422	55188	60304	69232	78361	80051	81564	76886	72784
20	80721	75237	62768	52984	55483	60150	69553	78547	80051	81395	76721	72459
21	80554	74909	62458	52256	55930	60304	70036	78714	80218	81058	76556	71811
22	80386	74580	62149	51967	56079	60457	70518	78714	80218	80889	76556	71325
23	80051	74416	61685	51534	56228	60610	70840	78880	80218	80889	76556	71001
24	79883	74089	61223	51534	56675	60610	71163	78880	80218	80554	76390	70518
25	80051	73600	60764	51534	56824	60610	71487	79047	80218	80554	76390	70036
26	80386	73110	60457	51678	56973	60610	71973	79047	80218	80554	76225	69553
27	80554	72621	59997	51678	57124	60610	72297	79047	80218	80554	76225	69073
28	80554	72297	59541	51823	57274	60457	72621	79381	80386	80218	76225	68434
29	80386	72135	59238	51823	57565	60457	73273	79381	80554	80051	76390	67955
30	79883	71487	58934	51823	---	60764	73600	79548	80386	79883	76390	67637
31	79548	---	58630	51823	---	61070	---	79548	---	79716	76225	---
MAX	83767	79381	71001	58478	57565	61070	73600	79548	80554	81564	79548	76225
MIN	79548	71487	58630	51534	51967	57726	61223	74089	79548	79716	76225	67637
a	5142.2	5137.3	5129.1	5124.5	5128.4	5130.7	5138.6	5142.2	5142.7	5142.3	5140.2	5134.9
b	-4219	-8061	-12857	-6807	+5742	+3505	+12530	+5948	+838	-670	-3491	-8588

CAL YR 1991 MAX 84107 MIN 47558 b +11072
WTR YR 1992 MAX 83767 MIN 51534 b -16130

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

SACRAMENTO RIVER BASIN

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 mi².

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 3.50 ft (revised) below National Geodetic Vertical Datum of 1929 (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) 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, 648 acre-ft, Oct. 28, 1986, elevation, 4,970.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,272 acre-ft, Mar. 8, elevation, 5,009.7 ft; minimum, 811 acre-ft, Oct. 28, elevation, 4973.0 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1928)

4,970	624	5,010	4,307
4,980	1,314	5,020	5,573
4,990	2,171	5,030	6,981
5,000	3,175		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1170	1200	1162	3261	3315	4071	3207	3680	1276	1081	1177	1155
2	1162	1192	1147	3218	3315	4106	3446	3315	1283	1096	1207	1155
3	1162	1245	1155	3207	3315	4130	3348	2974	1299	1087	1155	1170
4	1170	1177	1253	3197	3315	4165	3424	2717	1314	1096	1185	1170
5	1140	1230	1377	3218	3337	4212	3479	2371	1322	1096	1185	1192
6	1200	1170	1457	3218	3337	4224	3413	2051	1330	1103	1155	1200
7	1192	1215	1505	3197	3337	4248	3213	1775	1338	1103	1222	1207
8	1177	1200	1538	3197	3348	4272	3250	1417	1353	1118	1230	1215
9	1238	1185	1563	3207	3370	4106	3229	1200	1353	1133	1238	1222
10	1238	1207	1588	3175	3381	3885	3261	1177	1361	1140	1215	1222
11	1155	1170	1672	3027	3402	3669	3348	1200	1369	1155	1170	1170
12	1155	1238	1757	2891	3435	3457	3513	1215	1377	1170	1170	1162
13	1192	1177	1775	2757	3457	3283	3602	1207	1385	1177	1207	1207
14	1200	1207	1775	2676	3491	3315	3692	1147	1385	1192	1192	1215
15	1200	1207	1809	2616	3502	3348	3703	1045	1409	1200	1200	1185
16	1207	1200	1836	2616	3535	3381	3557	1002	1401	1215	1207	1147
17	1177	1245	1862	2636	3546	3207	3636	988	1425	1222	1140	1155
18	1170	1170	1906	2636	3557	3250	3737	1118	1401	1230	1140	1162
19	1200	1230	1924	2646	3636	3283	3667	1238	1338	1245	1140	1147
20	1200	1200	1933	2626	3714	3304	3760	1276	1276	1147	1147	1147
21	1230	1192	1942	2596	3760	3315	3647	1299	1222	1177	1155	1147
22	1177	1222	1951	2850	3794	3348	3513	1322	1162	1207	1170	1155
23	1200	1215	1996	3283	3817	3207	3381	1346	1110	1155	1185	1155
24	1207	1192	2162	3294	3862	3272	3315	1361	1045	1215	1215	1155
25	1081	1177	2332	3294	3885	3304	3413	1385	1009	1222	1140	1155
26	884	1162	2676	3294	3920	3326	3513	1401	981	1230	1230	1155
27	891	1162	2943	3294	3966	3457	3546	1417	995	1170	1238	1155
28	811	1162	3069	3294	3989	3714	3658	1276	1009	1215	1260	1155
29	857	1162	3207	3304	4024	3978	3794	1230	1045	1147	1276	1155
30	1215	1200	3218	3304	---	3943	3885	1245	1067	1200	1291	1155
31	1170	---	3261	3304	---	3748	---	1260	---	1185	1253	---
MAX	1238	1245	3261	3304	4024	4272	3885	3680	1425	1245	1291	1222
MIN	811	1162	1147	2596	3315	3207	3207	988	981	1081	1140	1147
a	4978.1	4978.5	5000.8	5001.2	5007.6	5005.2	5006.4	4979.3	4976.7	4978.3	4979.2	4977.9
b	0	+30	+2061	+43	+720	-276	+137	-2625	-193	+118	+68	-98

CAL YR 1991 MAX 5884 MIN 811 b -296

WTR YR 1992 MAX 4272 MIN 811 b -15

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--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). Discharges greater than 10 ft³/s 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	3.7	1.4	---	---	---	---	e5.2	e1.7	1.9	1.8	1.3
2	3.8	2.7	1.4	---	---	---	---	e5.2	e2.0	1.9	1.8	1.3
3	3.8	2.7	1.4	---	---	---	---	e5.2	e2.0	1.9	1.8	1.3
4	3.8	2.7	1.3	---	---	---	---	e5.2	e2.0	1.9	1.8	1.3
5	3.8	2.7	1.3	---	---	---	---	e5.4	e2.0	1.9	1.8	1.3
6	3.9	2.7	1.4	---	---	---	---	e5.2	e2.0	1.9	1.7	1.3
7	3.9	2.7	1.4	---	---	---	---	e5.0	e2.0	1.9	1.7	1.3
8	3.9	2.7	1.4	---	---	---	---	e5.0	e2.0	1.9	1.7	1.3
9	3.9	2.7	1.3	---	---	---	---	e4.9	e2.0	1.9	1.5	1.0
10	4.0	2.7	1.3	---	---	---	---	e4.7	2.0	1.9	2.2	1.1
11	4.0	2.7	---	---	---	---	---	e4.5	2.0	1.8	1.4	1.0
12	3.9	2.7	---	---	---	---	---	e4.5	2.0	1.8	1.4	.80
13	3.9	2.7	---	---	---	---	---	e3.7	2.0	1.8	1.4	.82
14	3.9	2.7	---	---	---	---	---	e1.8	2.1	1.8	1.5	.80
15	3.9	2.7	---	---	---	---	---	e1.7	2.1	1.9	1.4	1.3
16	3.9	2.7	---	---	---	---	---	e1.7	2.1	1.8	1.4	1.9
17	3.7	2.8	---	---	---	---	---	e1.6	2.1	1.9	1.4	1.9
18	3.4	2.7	---	---	---	---	---	e1.5	2.1	1.8	1.4	1.9
19	3.4	2.3	---	---	---	---	---	e1.4	2.1	1.8	1.4	1.9
20	3.5	1.7	---	---	---	---	---	e1.4	2.0	1.8	1.4	1.8
21	3.4	1.6	---	---	---	---	---	e1.4	2.0	1.8	1.4	1.8
22	3.3	1.6	---	---	---	---	---	e1.4	2.0	1.8	1.3	1.8
23	3.3	1.6	---	---	---	---	---	e1.4	2.0	1.8	1.3	1.8
24	4.3	1.6	---	---	---	---	---	e1.4	1.9	1.8	1.3	1.8
25	5.0	1.6	---	---	---	---	---	e1.4	1.9	1.8	1.3	2.1
26	4.9	1.6	---	---	---	---	---	e1.4	1.9	1.8	1.3	2.1
27	4.6	1.7	---	---	---	---	---	e1.4	1.9	1.8	1.3	2.1
28	4.5	1.6	---	---	---	---	---	e1.4	1.9	1.8	1.3	1.9
29	4.4	1.6	---	---	---	---	---	e1.4	2.1	1.8	1.3	1.6
30	4.8	1.4	---	---	---	---	---	e1.4	1.9	1.8	1.3	1.6
31	5.0	---	---	---	---	---	---	e1.4	---	1.8	1.4	---
TOTAL	123.6	69.6	---	---	---	---	---	90.2	59.8	57.0	46.4	45.22
MEAN	3.99	2.32	---	---	---	---	---	2.91	1.99	1.84	1.50	1.51
MAX	5.0	3.7	---	---	---	---	---	5.4	2.1	1.9	2.2	2.1
MIN	3.3	1.4	---	---	---	---	---	1.4	1.7	1.8	1.3	.80
AC-FT	245	138	---	---	---	---	---	179	119	113	92	90

e Estimated.

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 current year. 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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Tunnel diverts from Lower Bucks Lake (station 11403520). 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 ft³/s, Mar. 9, 10, 1986; minimum daily, 0.10 ft³/s, Sept. 30, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	131	222	107	.56	.98	125	111	.61	.56	96	57
2	18	131	229	105	.56	1.0	100	222	.56	.56	96	54
3	40	128	230	106	.56	.99	91	211	.56	.56	96	52
4	38	141	208	107	.56	.99	2.4	166	.56	.51	96	52
5	14	133	144	110	.56	.98	.64	212	.56	.48	96	51
6	1.0	130	209	114	.56	1.0	32	201	.56	.48	97	51
7	29	129	209	117	.56	1.1	122	193	.56	.48	43	51
8	68	129	215	116	.56	1.1	119	218	.56	.48	.56	16
9	26	130	219	163	.56	.73	120	158	.56	.44	.56	.56
10	.64	131	222	288	.56	118	56	42	.56	.42	50	.56
11	51	130	189	304	.56	116	.73	18	.56	.42	107	6.3
12	69	128	184	321	.63	114	.73	18	.56	.42	108	173
13	46	129	226	316	.62	113	.73	26	.51	.42	106	178
14	66	130	227	297	.56	11	.73	50	.48	.42	92	154
15	92	129	218	276	.65	.68	12	73	.48	.42	.66	135
16	137	130	220	251	.73	.64	118	50	.48	.42	.56	141
17	144	111	222	238	.73	54	44	24	.48	.42	31	183
18	144	93	226	249	.73	118	.73	26	9.0	.42	55	151
19	144	124	228	238	.86	118	49	15	33	.42	56	247
20	144	123	229	251	1.2	114	12	1.2	33	37	56	249
21	143	115	230	251	1.1	5.7	92	1.2	32	103	44	247
22	97	123	230	99	1.1	.73	110	1.2	30	107	.58	246
23	134	128	216	.64	1.1	71	110	1.2	28	106	.56	244
24	130	216	151	.64	1.0	17	85	1.2	26	75	30	244
25	129	216	143	.64	.95	110	.73	1.2	23	.56	16	242
26	58	215	.70	.64	1.0	110	.66	1.1	21	.56	.56	240
27	50	216	88	.61	1.1	92	23	1.0	.56	70	.56	239
28	28	219	172	.56	1.1	.74	.75	61	.56	95	.56	238
29	17	230	175	.56	.99	.73	.73	39	.56	95	.56	239
30	59	227	175	.56	---	40	.73	.64	.56	95	.56	240
31	140	---	160	.56	---	127	---	.64	---	95	39	---
TOTAL	2261.14	4445	6086	4429.41	22.31	1533.36	1430.29	2144.58	246.44	887.87	1416.28	4421.42
MEAN	72.9	148	196	143	.77	49.5	47.7	69.2	8.21	28.6	45.7	147
MAX	144	230	230	321	1.2	127	125	222	33	107	108	249
MIN	.64	93	70	.56	.56	.64	.64	.64	.48	.42	.56	.56
AC-FT	4480	8820	12070	8790	44	3040	2840	4250	489	1760	2810	8770

11404100 BUCKS CREEK TUNNEL OUTLET NEAR STORRIE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	93.4	123	149	49.3	14.8	69.7	75.6	67.1	55.7	70.5	93.1	118
MAX	162	205	215	143	36.4	376	319	287	137	169	167	228
(WY)	1989	1987	1990	1992	1989	1986	1986	1986	1986	1986	1987	1986
MIN	1.56	5.29	19.1	.55	.50	.48	.65	12.8	6.63	1.32	.27	.14
(WY)	1991	1986	1989	1987	1988	1988	1991	1991	1987	1991	1991	1991

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1986 - 1992	
ANNUAL TOTAL	16592.06		29324.10			
ANNUAL MEAN	45.5		80.1		82.0	
HIGHEST ANNUAL MEAN					156	
LOWEST ANNUAL MEAN					38.3	
HIGHEST DAILY MEAN	230	Nov 29	321	Jan 12	472	Mar 9 1986
LOWEST DAILY MEAN	.10	Sep 30	.42	Jul 10	.10	Sep 30 1991
ANNUAL SEVEN-DAY MINIMUM	.11	Sep 24	.42	Jul 10	.11	Sep 24 1991
ANNUAL RUNOFF (AC-FT)	32910		58160		59410	
10 PERCENT EXCEEDS	150		222		227	
50 PERCENT EXCEEDS	.72		51		29	
90 PERCENT EXCEEDS	.21		.56		.55	

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 mi².

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 3.50 ft below National Geodetic Vertical Datum of 1929 (revised) (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) which enters 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, 1,155 acre-ft, Apr. 12, elevation, 4,317.13 ft; minimum, 221 acre-ft, Oct. 1, elevation, 4,283.1 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221	795	767	974	857	854	1017	773	715	742	736	733
2	257	802	780	935	877	837	960	811	700	767	712	719
3	361	802	802	904	898	764	915	824	694	752	739	749
4	456	824	942	884	915	805	1002	837	700	773	706	715
5	498	831	894	877	815	821	935	847	697	795	727	721
6	498	837	837	854	837	777	946	828	697	792	715	718
7	552	841	854	851	861	805	932	786	697	811	691	694
8	677	841	851	815	911	851	999	792	694	694	703	706
9	651	847	864	764	808	877	1013	867	694	715	715	718
10	637	851	831	749	808	874	956	795	697	733	749	697
11	654	854	911	752	773	851	981	777	718	752	739	715
12	662	854	939	777	783	847	1155	758	706	777	745	752
13	656	857	861	789	736	837	1071	742	700	697	727	770
14	662	861	792	828	755	795	877	764	703	715	724	761
15	674	861	808	789	691	792	783	780	709	730	733	724
16	736	864	818	795	682	808	887	818	706	694	742	703
17	758	874	831	841	721	834	1013	904	700	712	764	761
18	780	841	921	780	736	805	821	887	706	727	697	691
19	802	841	861	770	864	854	824	928	691	739	715	694
20	824	877	834	777	1006	935	904	967	697	715	715	758
21	851	857	818	847	783	932	837	1017	697	709	758	700
22	874	857	745	867	700	918	749	995	703	712	764	709
23	881	808	881	887	761	925	828	1031	697	745	773	718
24	877	821	991	904	770	946	767	1020	697	718	727	730
25	904	777	932	921	821	970	783	1009	694	718	780	758
26	881	724	761	939	799	911	706	1049	694	733	697	745
27	761	828	831	956	805	942	700	1009	668	764	706	755
28	703	786	831	977	815	935	767	963	598	697	712	733
29	703	739	904	942	861	939	721	742	648	742	721	755
30	770	764	967	963	---	995	730	780	709	727	730	691
31	792	---	1006	831	---	1042	---	706	---	733	721	---
MAX	904	877	1006	977	1006	1042	1155	1049	718	811	780	770
MIN	221	724	745	749	682	764	700	706	598	694	691	691
a	4306.8	4305.9	4313.1	4308.0	4308.9	4314.1	4304.8	4304.0	4304.1	4304.9	4304.5	4303.5
b	+574	-28	+242	-175	+30	+181	-312	-24	+3	+24	-12	-30

CAL YR 1991 MAX 1228 MIN 216 b +43

WTR YR 1992 MAX 1155 MIN 221 b +473

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 National Geodetic Vertical Datum of 1929, 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). 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 ft³/s, Feb. 17, 1986, gage height, 9.54 ft, datum then in use, from rating curve extended above 260 ft³/s on basis of computation of spill over dam of peak flow; minimum daily, 1.9 ft³/s, June 14, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 274 ft³/s, Apr. 12, gage height, 2.47 ft; minimum daily, 2.0 ft³/s, on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	3.3	2.0	2.2	2.1	2.5	2.3	4.4	2.0	2.0	2.0	2.0
2	4.9	2.1	2.0	2.2	2.1	2.4	2.3	4.4	2.0	2.0	2.0	2.0
3	5.5	2.1	2.1	2.2	2.1	2.4	2.3	4.4	2.0	2.0	2.0	2.0
4	7.3	2.1	2.1	2.3	2.1	2.3	2.3	4.5	2.0	2.0	2.0	2.0
5	8.8	2.1	2.1	2.3	2.1	2.5	2.3	4.5	2.0	2.1	2.0	2.0
6	8.8	2.1	2.1	2.2	2.1	2.5	2.2	4.5	2.0	2.1	2.0	2.0
7	8.8	2.1	2.2	2.2	2.1	2.4	2.3	4.5	2.0	2.1	2.0	2.0
8	9.6	2.1	2.1	2.1	2.2	2.4	2.3	4.4	2.0	2.1	2.0	2.0
9	10	2.1	2.1	2.1	2.2	2.4	2.3	4.5	2.0	2.1	2.0	2.0
10	10	2.1	2.1	2.1	2.3	2.4	2.3	4.5	2.0	2.1	2.0	2.0
11	10	2.1	2.1	2.1	2.4	2.4	2.3	4.4	2.0	2.1	2.1	2.0
12	10	2.1	2.1	2.1	2.6	2.3	4.5	4.4	2.0	2.1	2.1	2.0
13	10	2.1	2.1	2.1	2.6	2.3	61	3.3	2.0	2.1	2.1	2.0
14	10	2.1	2.1	2.1	2.5	2.3	2.3	2.1	2.0	2.1	2.1	2.0
15	10	2.1	2.1	2.1	2.4	2.4	2.2	2.1	2.1	2.1	2.0	2.0
16	11	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.0	2.1	2.0	2.0
17	6.9	2.3	2.2	2.1	2.2	2.3	2.3	2.1	2.0	2.1	2.1	2.0
18	4.4	2.2	2.3	2.1	2.2	2.3	2.2	2.2	2.0	2.1	2.1	2.0
19	4.4	2.1	2.2	2.1	2.5	2.3	2.2	2.2	2.0	2.1	2.0	2.0
20	4.5	2.2	2.1	2.1	3.1	2.3	2.2	2.2	2.0	2.1	2.0	2.0
21	4.5	2.1	2.1	2.1	2.7	2.3	2.2	2.2	2.0	2.1	2.0	2.0
22	4.6	2.1	2.1	2.1	2.5	2.3	2.2	2.2	2.0	2.1	2.0	2.0
23	4.6	2.1	2.1	2.1	2.4	2.3	2.2	2.2	2.0	2.1	2.1	2.0
24	4.6	2.1	2.1	2.1	2.4	2.3	2.2	2.2	2.0	2.1	2.1	2.0
25	4.7	2.0	2.1	2.1	2.4	2.3	2.2	2.2	2.0	2.1	2.0	2.0
26	4.7	2.0	2.1	2.1	2.4	2.3	2.1	2.2	2.0	2.1	2.0	2.0
27	4.6	2.0	2.1	2.1	2.4	2.3	2.1	2.2	2.0	2.1	2.0	2.0
28	4.4	2.0	2.2	2.2	2.4	2.3	2.1	2.2	2.0	2.1	2.0	2.0
29	4.4	2.0	2.2	2.2	2.4	2.3	2.1	2.2	2.1	2.1	2.0	2.0
30	4.4	2.0	2.2	2.1	---	2.3	3.1	2.1	2.0	2.1	2.0	2.0
31	4.4	---	2.2	2.1	---	2.3	---	2.1	---	2.0	2.0	---
TOTAL	209.7	64.0	65.8	66.2	68.1	72.7	169.3	95.7	60.2	64.6	62.8	60.0
MEAN	6.76	2.13	2.12	2.14	2.35	2.35	5.64	3.09	2.01	2.08	2.03	2.00
MAX	11	3.3	2.3	2.3	3.1	2.5	61	4.5	2.1	2.1	2.1	2.0
MIN	4.4	2.0	2.0	2.1	2.1	2.3	2.1	2.1	2.0	2.0	2.0	2.0
AC-FT	416	127	131	131	135	144	336	190	119	128	125	119
a	4830	10520	13100	9500	4190	8160	12620	7800	1980	2730	3550	9110

a Diversion, in acre-feet, to Bucks Creek powerplant, provided by Pacific Gas & Electric Co.

11404300 GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.31	4.69	3.07	4.78	59.4	43.3	7.64	4.91	3.48	3.67	3.39	3.14
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	2.11	2.14	2.19	2.20	2.10	2.03	2.01	2.08	2.03	2.00
(WY)	1988	1988	1987	1992	1989	1988	1987	1987	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1986 - 1992	
ANNUAL TOTAL	3145.9		1059.1			
ANNUAL MEAN	8.62		2.89		11.9	
HIGHEST ANNUAL MEAN					50.6	1986
LOWEST ANNUAL MEAN					2.66	1988
HIGHEST DAILY MEAN	1180	Mar 4	61	Apr 13	3250	Feb 17 1986
LOWEST DAILY MEAN	2.0	Nov 25	2.0	Nov 25	1.9	Jun 14 1988
ANNUAL SEVEN-DAY MINIMUM	2.0	Nov 25	2.0	Nov 25	2.0	May 2 1987
INSTANTANEOUS PEAK FLOW			274	Apr 12	5870	Feb 17 1986
INSTANTANEOUS PEAK STAGE			2.47	Apr 12	9.54	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	6240		2100		8610	
ANNUAL TOTAL, DIVERSION (AC-FT) a	59340		88100			
10 PERCENT EXCEEDS	10		4.4		4.6	
50 PERCENT EXCEEDS	4.4		2.1		2.2	
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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/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 ft³/s, Oct. 1, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,740 ft³/s, Feb. 20, gage height, 7.75 ft; minimum daily, 55 ft³/s, on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	56	56	56	57	163	122	99	56	59	57	58
2	56	56	56	56	56	142	122	94	56	61	57	59
3	56	56	55	56	56	134	123	91	56	59	58	59
4	56	56	55	77	56	129	123	88	56	59	58	58
5	56	56	56	148	64	257	131	86	55	59	58	59
6	56	56	71	84	60	210	124	84	56	58	58	59
7	56	56	64	76	55	177	105	82	55	57	58	58
8	56	56	69	63	70	159	104	80	56	57	58	58
9	56	56	61	57	58	144	104	76	56	58	58	59
10	56	57	59	62	125	136	129	74	55	58	58	58
11	56	57	56	58	200	129	113	73	56	59	58	59
12	56	57	56	55	394	125	255	71	55	60	58	59
13	56	58	56	56	248	122	375	69	56	59	55	59
14	56	57	56	56	274	125	181	65	55	58	56	60
15	57	57	56	55	231	162	159	62	58	57	56	58
16	56	57	56	56	190	174	149	61	55	57	56	59
17	56	86	57	56	168	151	230	59	57	57	56	60
18	56	63	106	55	172	137	160	58	56	55	56	60
19	56	57	61	56	466	127	145	57	57	55	57	60
20	56	59	63	57	2560	121	834	57	57	57	57	60
21	56	58	59	56	501	118	134	55	57	58	57	60
22	56	60	55	56	216	121	127	56	57	58	57	60
23	56	59	56	55	211	118	119	56	57	58	57	60
24	56	57	56	56	183	113	115	56	57	58	57	60
25	63	57	57	56	162	114	113	55	55	58	57	60
26	89	57	56	56	159	124	110	57	55	58	57	60
27	59	70	56	56	150	117	104	55	58	58	57	60
28	56	60	66	66	140	117	102	55	69	58	58	60
29	56	58	82	55	135	116	101	56	71	58	58	59
30	56	57	63	56	---	128	100	56	70	58	58	59
31	56	---	55	56	---	120	---	55	---	58	58	---
TOTAL	1780	1762	1886	1919	7417	4330	4913	2098	1725	1797	1774	1777
MEAN	57.4	58.7	60.8	61.9	256	140	164	67.7	57.5	58.0	57.2	59.2
MAX	89	86	106	148	2560	257	834	99	71	61	58	60
MIN	56	56	55	55	55	113	100	55	55	55	55	58
AC-FT	3530	3490	3740	3810	14710	8590	9740	4160	3420	3560	3520	3520
a	60740	39660	52820	46040	90780	96280	104600	61370	35500	55240	69670	95760

a Diversion, in acre-feet, to Cresta powerplant, provided by Pacific Gas & Electric Co.

11404330 NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	92.3	105	102	159	151	937	185	88.7	68.4	58.5	58.3	59.4
MAX	182	256	215	605	357	4115	458	117	106	62.5	61.8	65.9
(WY)	1986	1989	1988	1986	1987	1989	1989	1991	1990	1989	1989	1989
MIN	57.4	58.7	59.0	55.7	61.5	86.0	78.0	67.7	55.6	55.4	55.5	56.0
(WY)	1992	1992	1990	1991	1991	1988	1988	1992	1988	1988	1988	1991

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1986 - 1992	
ANNUAL TOTAL	46480		33178			
ANNUAL MEAN	127		90.7		163	
HIGHEST ANNUAL MEAN					460	
LOWEST ANNUAL MEAN					84.4	
HIGHEST DAILY MEAN	9330	Mar 4	2560	Feb 20	39500	Feb 17 1986
LOWEST DAILY MEAN	52	Jun 23	55	Dec 3	48	Oct 1 1985
ANNUAL SEVEN-DAY MINIMUM	53	Jun 19	56	Jan 12	52	Dec 10 1989
INSTANTANEOUS PEAK FLOW			3740	Feb 20	86000	Feb 19 1986
INSTANTANEOUS PEAK STAGE			7.75	Feb 20		
ANNUAL RUNOFF (AC-FT)	92190		65810		118400	
ANNUAL TOTAL, DIVERSION (AC-FT) a	865500		808400			
10 PERCENT EXCEEDS	124		143		161	
50 PERCENT EXCEEDS	56		58		63	
90 PERCENT EXCEEDS	55		56		56	

a Diversion, in acre-feet, to Cresta powerplant, provided by Pacific Gas & Electric Co.

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 mi².

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 National Geodetic Vertical Datum of 1929. 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 ft³/s, Feb. 19, 1986, gage height, 39.86 ft, from rating curve extended above 32,000 ft³/s on basis of slope area measurement of peak discharge; minimum daily, 5.4 ft³/s, Sept. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,040 ft³/s, Feb. 20, gage height, 11.02 ft; minimum daily, 51 ft³/s, Aug. 29, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	56	54	58	56	73	60	63	59	60	62	53
2	62	56	54	56	60	70	59	63	61	61	62	58
3	61	55	56	56	56	67	58	62	60	61	62	53
4	61	56	55	62	54	63	58	61	61	61	63	54
5	61	56	56	87	52	82	56	60	60	63	61	55
6	61	55	61	58	57	103	55	62	60	61	61	55
7	60	56	56	56	60	93	55	60	61	62	65	54
8	61	55	55	54	60	86	55	63	60	62	64	55
9	61	55	59	54	57	81	57	60	60	64	64	54
10	61	56	63	52	71	75	57	62	60	65	63	55
11	62	55	56	56	110	72	56	60	61	65	63	59
12	61	55	56	56	165	70	85	61	60	65	62	57
13	61	55	63	55	129	68	87	61	59	65	60	56
14	61	54	67	55	137	65	69	61	61	65	61	54
15	61	54	67	56	164	69	65	60	60	62	60	55
16	63	55	66	55	132	93	63	62	62	63	60	54
17	59	62	66	56	118	97	142	60	60	63	60	56
18	55	54	76	56	114	87	69	61	61	63	60	59
19	59	54	66	55	169	81	67	60	60	62	60	59
20	56	56	63	55	2470	78	65	60	60	63	60	58
21	55	55	62	56	961	75	64	60	61	61	60	57
22	55	56	62	55	144	72	64	61	61	60	61	58
23	57	56	60	56	113	70	62	61	60	58	60	57
24	55	55	62	55	97	68	61	59	60	59	60	57
25	60	54	63	56	88	66	61	60	61	59	54	58
26	61	56	62	55	84	64	60	61	61	63	52	57
27	55	55	60	55	78	64	61	60	61	63	52	58
28	56	56	68	55	74	63	66	60	63	63	53	57
29	56	55	78	56	70	63	65	60	67	63	51	58
30	55	55	66	58	---	62	65	61	61	63	56	58
31	55	---	61	56	---	61	---	61	---	62	51	---
TOTAL	1828	1663	1919	1761	6000	2301	1967	1886	1822	1930	1843	1688
MEAN	59.0	55.4	61.9	56.8	207	74.2	65.6	60.8	60.7	62.3	59.5	56.3
MAX	63	62	78	87	2470	103	142	63	67	65	65	59
MIN	55	54	54	52	52	61	55	59	59	58	51	53
AC-FT	3630	3300	3810	3490	11900	4560	3900	3740	3610	3830	3660	3350
a	61410	42820	53820	51890	101600	106200	112800	63570	38920	57370	69990	93540

a Diversion, in acre-feet, to Poe powerplant, provided by Pacific Gas & Electric Co.

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1020	1232	1771	2171	2816	2806	3565	3048	1630	1030	973	924
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 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1911 - 1992		
ANNUAL TOTAL	42989			26608					
ANNUAL MEAN	118			72.7			1884		
HIGHEST ANNUAL MEAN							5320		
LOWEST ANNUAL MEAN							42.7		
HIGHEST DAILY MEAN	10500			Mar 4			2470		
LOWEST DAILY MEAN	53			Mar 11			Feb 20		
ANNUAL SEVEN-DAY MINIMUM	55			Nov 9			Aug 29		
INSTANTANEOUS PEAK FLOW							5.4		
INSTANTANEOUS PEAK STAGE							Aug 26		
ANNUAL RUNOFF (AC-FT)	85270			52780			12		
ANNUAL TOTAL (AC-FT) a	908200			854000			87900		
10 PERCENT EXCEEDS	68			73			39.86		
50 PERCENT EXCEEDS	61			60			1365000		
90 PERCENT EXCEEDS	56			55			55		

a Diversion, in acre-feet, to Poe powerplant, provided by Pacific Gas & Electric Co.

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	2.9	---	---	---	---	---	3.5	3.0	3.0	38	3.1
2	2.7	2.9	---	---	---	---	3.7	3.5	3.0	3.0	16	3.1
3	2.7	2.9	---	---	---	---	3.7	3.5	3.0	3.0	3.2	3.1
4	2.7	2.9	---	---	---	---	3.8	3.5	3.0	3.0	3.2	3.1
5	2.7	2.9	---	---	---	---	3.8	3.5	3.0	3.0	3.2	3.1
6	2.7	2.9	---	---	---	---	3.8	3.5	3.0	3.0	34	3.1
7	2.7	2.9	---	---	---	---	3.8	3.5	3.0	16	57	3.1
8	2.7	---	---	---	---	---	3.8	3.5	3.0	24	56	3.1
9	2.7	---	---	---	---	---	3.8	3.5	3.0	24	56	3.1
10	2.7	---	---	---	---	---	3.9	3.5	3.0	24	56	3.1
11	2.8	---	---	---	---	---	3.9	3.5	3.0	24	55	3.0
12	2.8	---	---	---	---	---	4.0	3.5	3.0	24	55	3.0
13	2.8	---	---	---	---	---	4.0	3.2	3.0	24	55	3.0
14	2.7	---	---	---	---	---	4.0	3.0	3.0	24	55	3.0
15	2.7	---	---	---	---	---	4.0	3.0	3.0	24	54	3.0
16	2.7	---	---	---	---	---	4.0	3.0	3.0	24	23	3.1
17	2.7	---	---	---	---	---	4.0	3.0	3.0	24	3.2	3.1
18	2.7	---	---	---	---	---	4.0	3.0	3.0	24	3.2	3.1
19	2.7	---	---	---	---	---	4.0	3.0	3.0	24	3.2	3.0
20	2.7	---	---	---	---	---	4.0	3.0	3.0	24	3.2	3.0
21	2.7	---	---	---	---	---	3.6	3.0	3.0	24	3.2	3.0
22	2.7	---	---	---	---	---	3.4	3.0	3.0	33	3.2	3.0
23	2.8	---	---	---	---	---	3.4	3.0	3.0	40	3.2	3.0
24	2.8	---	---	---	---	---	3.4	3.0	3.0	39	3.2	3.0
25	2.8	---	---	---	---	---	3.4	3.0	3.0	39	3.2	3.0
26	2.9	---	---	---	---	---	3.5	3.0	3.0	39	3.1	3.0
27	2.9	---	---	---	---	---	3.5	3.0	3.0	39	3.1	3.0
28	2.8	---	---	---	---	---	3.5	3.0	3.0	39	3.1	3.0
29	2.9	---	---	---	---	---	3.5	3.0	3.1	39	3.1	3.0
30	2.9	---	---	---	---	---	3.5	3.0	3.0	39	3.1	9.5
31	2.9	---	---	---	---	---	---	3.0	---	38	3.1	---
TOTAL	85.4	---	---	---	---	---	---	99.2	90.1	754.0	667.0	97.8
MEAN	2.75	---	---	---	---	---	---	3.20	3.00	24.3	21.5	3.26
MAX	2.9	---	---	---	---	---	---	3.5	3.1	40	57	9.5
MIN	2.7	---	---	---	---	---	---	3.0	3.0	3.0	3.1	3.0
AC-FT	169	---	---	---	---	---	---	197	179	1500	1320	194

11405200 WEST BRANCH FEATHER RIVER BELOW HENDRICKS DIVERSION DAM, NEAR STIRLING CITY, CA

LOCATION.--Lat 39°56'03", long 121°31'03", 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 mi².

PERIOD OF RECORD.--August 1986 to current year (low-flow records only).

GAGE.--Water-stage recorder. Elevation of gage is 3,210 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 40 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	17	19	19	---	---	---	12	12	9.2	17
2	16	17	17	18	18	---	---	---	12	11	9.4	17
3	16	17	17	18	18	---	---	---	12	11	9.6	17
4	16	17	17	20	18	---	---	---	12	10	9.5	17
5	16	17	17	22	18	---	---	---	12	10	9.5	17
6	16	17	17	19	18	---	---	---	12	10	9.7	17
7	16	17	17	18	18	---	---	---	12	10	12	17
8	16	17	17	17	19	---	---	---	12	11	13	17
9	16	17	17	18	20	---	---	---	12	11	13	17
10	16	17	17	18	25	31	---	---	12	11	13	17
11	16	17	17	18	36	27	---	---	11	11	13	17
12	16	17	17	18	---	28	---	---	12	11	13	17
13	16	17	17	18	---	31	---	---	12	11	13	17
14	16	17	18	18	---	---	---	40	12	10	18	23
15	16	17	18	18	23	---	---	35	12	10	21	21
16	16	17	18	18	18	---	---	29	12	10	20	17
17	16	18	18	18	18	---	---	23	12	10	17	17
18	16	18	21	18	18	---	---	16	11	10	17	17
19	16	17	19	18	---	38	---	14	11	10	17	17
20	16	17	19	18	---	34	---	18	11	10	17	17
21	16	17	19	18	---	35	---	13	11	9.8	17	16
22	16	17	19	18	---	40	---	13	11	9.3	17	14
23	16	17	18	18	---	---	---	13	11	9.7	17	14
24	16	17	18	18	---	33	---	13	11	9.7	17	14
25	18	17	18	18	---	33	---	13	11	9.6	17	14
26	29	17	18	18	---	---	---	13	11	9.5	17	14
27	17	17	18	18	---	---	---	13	11	9.5	17	14
28	17	17	20	18	---	---	---	12	11	9.5	17	14
29	17	17	20	18	---	---	---	12	18	9.4	17	14
30	17	17	19	18	---	---	---	10	17	9.3	17	14
31	17	---	19	18	---	---	---	11	---	9.2	17	---
TOTAL	516	512	558	565	---	---	---	---	359	314.5	460.9	492
MEAN	16.6	17.1	18.0	18.2	---	---	---	---	12.0	10.1	14.9	16.4
MAX	29	18	21	22	---	---	---	---	18	12	21	23
MIN	16	17	17	17	---	---	---	---	11	9.2	9.2	14
AC-FT	1020	1020	1110	1120	---	---	---	---	712	624	914	976

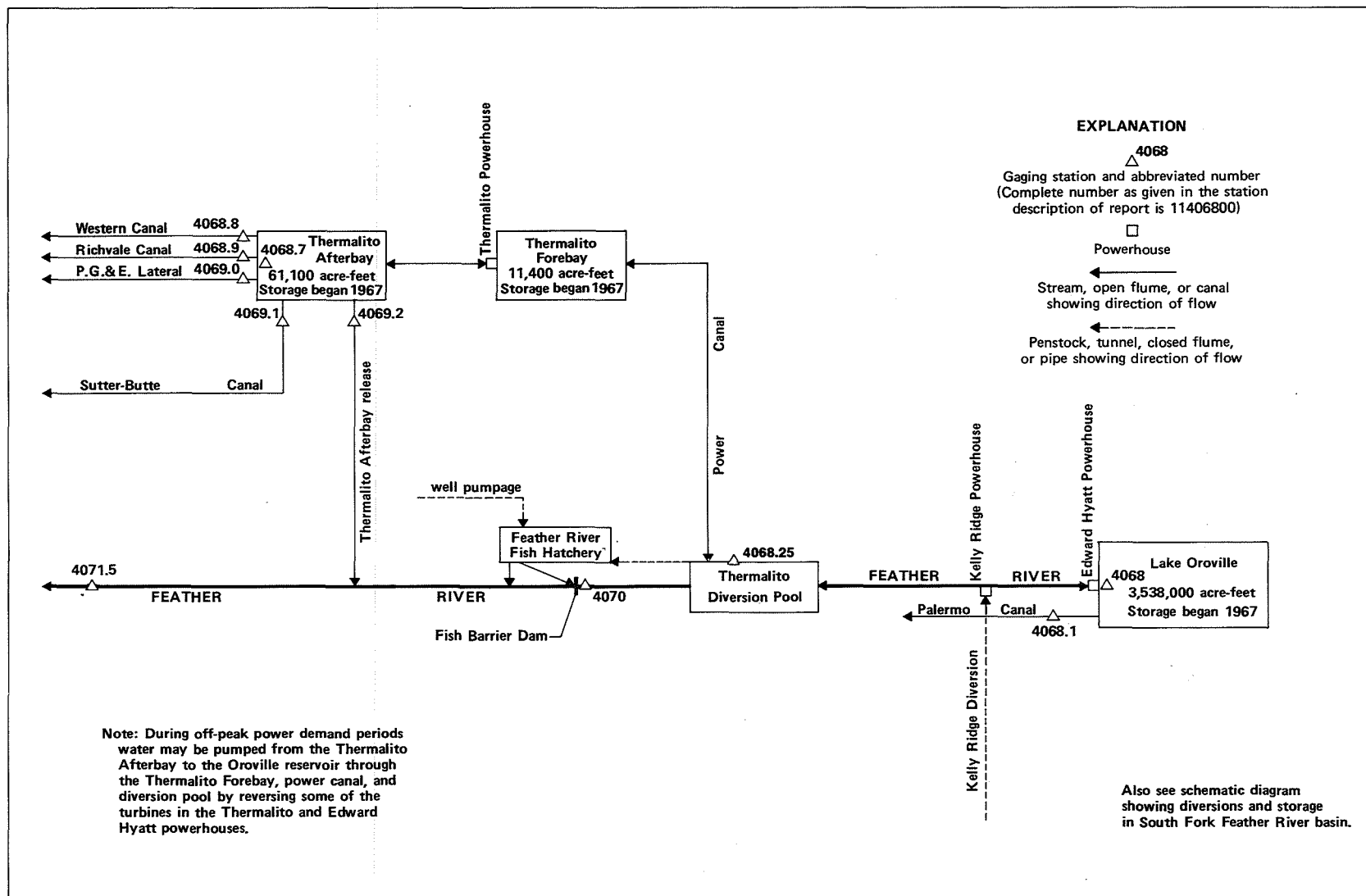


Figure 34. Diversions and storage from Feather River at Lake Oroville.

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 mi².

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above National Geodetic Vertical Datum of 1929 (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 ft³/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, 645.11 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,206,036 acre-ft, May 4, gage height, 784.90 ft; minimum, 1,258,607 acre-ft, Jan. 3, gage height, 700.52 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1397197	1353168	1333502	1268347	1279298	1552269	1783274	2020174	1870604	1739736	1562541	1401554
2	1393258	1351883	1330004	1262205	1281542	1558549	1786487	2023050	1861153	1731135	1558729	1390473
3	1389982	1351401	1326196	1258607	1281620	1563071	1793806	2025716	1853337	1725989	1549095	1379617
4	1387692	1351321	1323187	1262282	1280304	1569559	1805266	2026036	1841856	1728465	1543105	1370600
5	1381489	1348994	1322238	1269039	1282084	1583488	1812838	2024436	1832411	1729704	1538536	1371735
6	1377988	1347632	1319077	1268423	1281231	1596873	1818358	2020174	1835390	1721900	1531960	1376526
7	1374168	1346190	1321131	1269731	1279297	1608344	1824781	2015919	1836583	1716584	1523662	1380350
8	1370112	1343790	1323662	1268270	1282315	1623516	1829733	2010715	1826464	1713268	1524622	1369142
9	1366712	1342990	1323345	1268501	1285417	1631368	1833503	2010715	1819839	1707689	1523575	1359850
10	1363883	1340434	1323266	1269193	1286658	1638055	1841358	2013156	1815498	1703253	1514701	1354856
11	1362348	1338758	1322792	1271271	1291868	1642002	1850437	2005626	1812247	1702969	1504044	1355660
12	1361864	1337084	1321052	1273892	1306875	1646324	1867987	1995793	1810672	1705233	1496020	1359122
13	1358075	1335809	1317025	1271348	1316788	1649087	1886062	1987468	1807624	1697507	1488714	1362752
14	1354615	1334695	1313715	1269424	1327861	1656774	1898553	1980217	1810672	1698806	1477160	1358558
15	1352606	1332547	1316236	1271271	1342990	1676249	1908957	1973194	1801342	1679047	1473834	1352686
16	1351240	1330401	1308996	1271887	1355017	1683439	1915711	1968488	1795175	1667594	1472045	1342750
17	1352043	1331513	1304837	1274123	1363883	1690463	1928242	1972148	1786780	1657120	1464735	1338360
18	1351963	1331513	1298420	1276052	1370518	1696284	1942384	1962746	1781620	1653239	1459311	1335411
19	1349796	1329925	1289302	1278215	1385078	1700519	1951922	1951196	1772980	1656011	1453227	1339397
20	1347552	1330560	1278834	1277597	1423232	1704950	1957745	1942591	1774241	1646785	1444048	1341712
21	1348593	1330560	1276747	1276284	1446150	1711659	1964728	1932569	1777830	1638789	1436919	1338041
22	1348914	1329131	1278911	1275666	1464311	1723801	1973089	1919403	1768718	1633198	1438259	1330719
23	1349235	1330322	1273583	1275049	1478099	1728847	1980007	1918172	1764170	1626709	1438594	1327148
24	1348593	1332388	1272273	1274894	1488542	1733712	1983892	1920942	1757701	1618144	1433154	1324929
25	1350358	1332785	1274663	1277443	1496537	1735240	1990310	1922688	1752980	1614782	1426979	1325166
26	1353650	1329607	1270963	1278911	1506725	1739448	1997377	1913049	1748749	1613330	1420323	1328337
27	1353250	1330242	1264736	1280381	1515396	1743279	2002556	1899572	1754810	1604815	1412944	1330242
28	1353652	1332547	1266656	1279453	1526541	1751249	2006579	1884847	1757219	1593182	1406498	1323899
29	1355018	1331673	1270963	1278138	1535990	1767072	2012200	1874135	1752211	1579998	1409305	1319709
30	1354777	1331037	1267578	1277674	---	1770559	2017514	1876456	1746733	1570273	1410380	1316867
31	1353409	---	1265734	1277365	---	1775113	---	1879385	---	1562896	1406168	---
MAX	1397197	1353168	1333502	1280381	1535990	1775113	2017514	2026036	1870604	1739736	1562541	1401554
MIN	1347552	1329131	1264736	1258607	1279297	1552269	1783274	1874135	1746733	1562896	1406168	1316867
a	712.61	709.81	701.45	702.96	734.35	760.25	784.10	770.78	757.31	737.40	719.09	708.02
b	-45842	-22372	-65303	+11631	+258625	+239123	+242401	-138129	-132652	-183837	-156728	-89301
c	3428	1195	619	355	685	1330	2510	4504	4376	5022	5147	4000

CAL YR 1991 b +278640

WTR YR 1992 b -82384

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.

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 National Geodetic Vertical Datum of 1929 (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 ft³/s, several days during July to September 1967; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	7.6	4.8	3.1	2.0	2.0	2.1	4.9	15	16	16	18
2	17	7.7	4.8	3.2	1.9	2.0	1.9	4.9	16	16	16	18
3	17	7.8	4.8	2.4	1.9	2.0	1.9	6.4	16	16	16	18
4	17	7.7	4.9	1.9	2.0	2.0	2.0	9.5	16	16	16	18
5	17	7.6	4.9	2.0	2.0	2.0	2.0	11	16	16	16	18
6	17	6.7	4.8	2.0	2.0	2.1	2.0	11	16	16	16	18
7	17	5.8	4.7	2.0	2.1	2.1	2.0	13	16	16	16	18
8	17	5.9	4.8	2.0	2.1	2.1	2.0	14	16	16	16	18
9	17	5.9	3.7	2.0	2.1	2.0	2.0	14	16	16	16	18
10	16	5.9	3.0	2.0	2.2	2.0	2.1	14	16	16	16	18
11	15	6.0	3.0	2.0	2.2	2.1	2.2	14	16	16	16	18
12	15	6.0	3.1	2.0	2.2	2.2	2.1	14	16	16	16	18
13	15	6.1	3.2	2.0	2.2	2.2	1.8	14	16	16	17	18
14	15	4.6	3.0	1.9	2.2	2.2	1.8	15	16	16	18	18
15	15	3.4	3.0	1.9	2.1	2.3	2.0	14	16	16	18	18
16	15	3.4	3.1	2.0	2.2	2.3	2.0	14	16	16	18	18
17	15	3.5	3.2	2.0	2.2	2.2	2.0	14	16	16	18	18
18	15	3.0	3.2	2.0	2.2	2.0	2.0	14	16	16	18	18
19	15	1.9	3.2	2.0	2.2	2.1	2.0	14	16	16	18	17
20	15	2.0	3.2	2.0	2.2	2.0	2.0	15	16	16	18	17
21	15	2.0	3.3	2.0	2.1	1.9	2.0	15	16	16	18	17
22	14	2.0	3.3	2.0	2.1	1.9	1.8	15	16	16	18	17
23	13	2.0	3.2	2.0	2.2	2.0	1.9	15	16	16	18	17
24	11	1.9	3.1	2.0	2.2	2.0	1.9	15	16	16	18	16
25	8.3	2.0	3.2	2.0	2.0	2.0	1.9	15	16	16	18	16
26	7.8	3.9	3.1	2.1	2.2	2.0	1.9	15	16	16	18	16
27	7.7	4.8	3.0	2.1	2.2	2.1	1.9	15	16	16	18	16
28	7.5	4.8	3.0	2.2	2.0	2.2	3.4	15	16	16	18	16
29	7.5	4.9	3.0	2.1	2.0	2.2	4.9	15	16	16	18	16
30	7.5	4.9	3.1	2.2	---	2.2	4.9	15	16	16	18	16
31	7.6	---	3.1	2.2	---	2.3	---	15	---	16	18	---
TOTAL	425.9	141.7	110.8	65.3	61.2	64.7	66.4	409.7	479	496	533	521
MEAN	13.7	4.72	3.57	2.11	2.11	2.09	2.21	13.2	16.0	16.0	17.2	17.4
MAX	17	7.8	4.9	3.2	2.2	2.3	4.9	15	16	16	18	18
MIN	7.5	1.9	3.0	1.9	1.9	1.9	1.8	4.9	15	16	16	16
AC-FT	845	281	220	130	121	128	132	813	950	984	1060	1030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1992, BY WATER YEAR (WY)

	MEAN	12.4	5.20	3.36	2.90	2.45	2.73	6.34	15.3	19.5	19.8	20.1	19.0
MAX	18.0	8.32	5.94	5.12	5.33	6.22	19.1	22.3	24.5	24.5	24.5	24.5	22.8
(WY)	1979	1977	1975	1971	1974	1988	1970	1976	1976	1975	1978	1975	1975
MIN	6.85	2.04	.000	1.05	.000	.000	.000	7.26	13.7	16.0	16.2	13.8	13.8
(WY)	1973	1983	1982	1982	1975	1979	1991	1983	1990	1991	1991	1985	1985

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1969 - 1992		
ANNUAL TOTAL	3183.00			3374.7					
ANNUAL MEAN	8.72			9.22			10.8		
HIGHEST ANNUAL MEAN							13.3		
LOWEST ANNUAL MEAN							8.84		
HIGHEST DAILY MEAN	18	Sep	3	18	Aug	14	26	Jul	2 1975
LOWEST DAILY MEAN	.00	Mar	5	1.8	Apr	13	.00	Jan	15 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Mar	5	1.9	Apr	21	.00	Jan	15 1970
ANNUAL RUNOFF (AC-FT)	6310			6690			7820		
10 PERCENT EXCEEDS	17			17			21		
50 PERCENT EXCEEDS	7.6			7.6			9.0		
90 PERCENT EXCEEDS	.00			2.0			1.3		

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 National Geodetic Vertical Datum of 1929 (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 ft³/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, 51,437 acre-ft, Feb. 20, gage height, 135.17 ft; minimum, 17,381 acre-ft, June 14, gage height, 124.92 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30283	31260	28783	27012	40294	30770	39229	21524	29449	28155	27658	23287
2	30058	31260	31853	31096	39558	33867	42652	20439	32887	34690	25413	30251
3	30802	30933	35521	35208	38901	36714	43223	18290	36221	36891	31096	37639
4	32418	30380	38286	34483	39011	36356	39888	18830	40850	31129	30510	43951
5	33291	30316	38974	33799	38865	35416	38430	19694	43490	25057	30868	38611
6	32052	30478	40442	35173	39083	36962	37962	22411	35528	30770	32786	33257
7	31655	30933	40072	36785	39852	36927	36927	25711	25861	32085	37104	28062
8	30770	31326	38539	40516	39339	28187	37104	27751	29449	35695	31293	33663
9	30283	31688	39412	42652	38756	30283	38430	23516	29481	38539	26585	38539
10	31064	32019	39705	42576	41148	31260	38250	18392	29321	40442	30868	41148
11	31260	32652	38394	41709	44105	32819	35765	21717	26951	35382	35486	39522
12	30640	32819	36785	40998	44413	35451	34140	25831	25981	29897	38466	34862
13	31064	33122	37532	43414	45384	38974	33156	28093	24383	29737	41372	30187
14	33088	33358	35870	44529	48832	37568	31358	29163	17381	32819	47195	29545
15	35660	33562	31457	45112	48470	26342	30966	29801	21882	35695	43874	32652
16	36010	34243	33190	44375	47711	30705	31031	27442	25235	42123	40220	39156
17	35486	34243	33596	43644	47671	33325	31195	19456	30900	45697	40924	41446
18	35104	34758	36714	42918	49114	34896	29545	22383	32786	39339	42425	41148
19	33970	35695	40553	42085	49518	37318	29194	27165	38974	29833	45151	36785
20	34380	36326	46878	43032	51437	40036	29353	30933	35035	32052	47155	32451
21	34004	36115	43720	43299	50739	38901	29353	34690	28500	32351	48671	31490
22	33426	36538	38286	42425	48872	32185	29036	39999	33528	32518	41746	35590
23	33122	35416	36962	42804	46604	35556	28374	35312	36010	32218	35035	36467
24	32385	33596	34209	42085	47234	35905	28062	28468	37926	31523	32385	34243
25	32987	33055	29961	41334	47116	40627	27073	21305	38430	26494	33325	31886
26	32485	35451	29545	40590	46484	42463	26071	23918	37532	20573	34209	27813
27	32151	34380	33291	39888	45541	45815	24092	33731	28500	21938	36432	23717
28	32518	32752	30316	39375	42576	43108	25711	41372	20119	26252	36396	23947
29	32451	30802	27473	39778	40036	32019	23573	45267	22272	32318	30122	27442
30	31260	30187	27257	40701	---	35975	21196	37140	25294	33291	23976	28343
31	31162	---	28594	40924	---	38394	---	28093	---	33629	20843	---
MAX	36010	36538	46878	45112	51437	45815	43223	45267	43490	45697	48671	43951
MIN	30058	30187	27257	27012	38756	26342	21196	18290	17381	20573	20843	23287
a	129.70	129.40	128.90	132.49	132.25	131.80	126.38	128.74	127.82	130.44	126.25	128.82
b	+327	-975	-1593	+12330	-888	-1642	-17198	+6897	-2799	+8335	-12786	+7500
c	1656	748	375	218	524	679	1143	1795	1894	2234	2427	1891

CAL YR 1991 b -4494

WTR YR 1992 b -2492

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.

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 National Geodetic Vertical Datum of 1929 (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 ft³/s, May 12, 1981, May 6, 7, 1984, May 6-8, 1990; no flow at times each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	303	197	.00	.00	.00	.00	299	599	498	609	230
2	40	380	185	.00	.00	.00	.00	408	611	489	609	209
3	64	433	184	.00	.00	.00	.00	485	623	489	610	199
4	89	433	183	.00	.00	.00	.00	603	650	478	605	170
5	114	347	185	.00	.00	.00	.00	675	698	468	601	140
6	138	299	184	.00	.00	.00	.00	758	719	470	587	118
7	141	298	184	.00	.00	.00	.00	825	700	480	574	107
8	138	299	182	.00	.00	.00	.00	839	683	494	562	109
9	145	299	184	.00	.00	.00	.00	946	684	525	547	100
10	148	298	181	.00	.00	.00	.00	1050	699	558	544	76
11	148	293	174	.00	.00	.00	.00	1110	709	578	556	66
12	149	289	173	.00	.00	.00	.00	1110	706	589	559	66
13	150	288	172	.00	.00	.00	.00	1130	688	593	547	67
14	149	288	173	.00	.00	.00	.00	1130	679	607	539	67
15	149	278	173	.00	.00	.00	.00	1170	656	619	539	65
16	165	270	168	.00	.00	.00	.00	1190	609	632	534	55
17	183	259	163	.00	.00	.00	.00	1140	550	639	529	49
18	197	238	163	.00	.00	.00	.00	1050	501	644	523	50
19	241	229	155	.00	.00	.00	.00	957	489	645	499	47
20	279	217	136	.00	.00	.00	8.7	829	497	639	479	35
21	286	209	128	.00	.00	.00	20	774	528	648	467	28
22	279	210	133	.00	.00	.00	35	800	549	659	459	23
23	279	208	134	.00	.00	.00	47	774	549	646	452	22
24	279	208	134	.00	.00	.00	49	724	549	633	442	15
25	274	208	133	.00	.00	.00	49	673	556	628	426	11
26	269	209	133	.00	.00	.00	61	623	569	635	392	11
27	255	207	134	.00	.00	.00	68	617	569	639	369	11
28	243	208	133	.00	.00	.00	87	625	563	628	358	22
29	257	209	122	.00	.00	.00	133	621	554	619	326	59
30	269	209	73	.00	---	.00	212	618	528	618	295	109
31	269	---	22	.00	---	.00	---	611	---	610	267	---
TOTAL	5808	8123	4778	0.00	0.00	0.00	769.70	25164	18264	18097	15405	2336
MEAN	187	271	154	.000	.000	.000	25.7	812	609	584	497	77.9
MAX	286	433	197	.00	.00	.00	212	1190	719	659	610	230
MIN	22	207	22	.00	.00	.00	.00	299	489	468	267	11
AC-FT	11520	16110	9480	.00	.00	.00	1530	49910	36230	35900	30560	4630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	MEAN	244	217	108	29.4	.000	.53	160	697	701	758	647	165
	MAX	539	607	365	155	.000	12.4	566	930	959	1032	890	227
	(WY)	1975	1975	1977	1977	1968	1972	1977	1985	1981	1981	1981	1968
	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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1968 - 1992
ANNUAL TOTAL	94116.20	98744.70	
ANNUAL MEAN	258	270	312
HIGHEST ANNUAL MEAN			403
LOWEST ANNUAL MEAN			217
HIGHEST DAILY MEAN	905	1190	1200
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	186700	195900	226200
10 PERCENT EXCEEDS	604	645	818
50 PERCENT EXCEEDS	184	173	208
90 PERCENT EXCEEDS	.00	.00	.00

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 National Geodetic Vertical Datum of 1929 (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 ft³/s, May 16, 1974; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	91	98	80	.00	.00	.00	139	135	179	204	119
2	.00	149	99	79	.00	.00	.00	123	152	168	204	106
3	.00	149	99	48	.00	.00	.00	115	159	164	204	91
4	.00	149	99	.00	.00	.00	.00	115	165	163	204	87
5	.00	126	99	.00	.00	.00	.00	176	186	163	204	86
6	.00	114	100	.00	.00	.00	.00	236	200	164	204	84
7	6.0	114	98	.00	.00	.00	.00	249	193	175	204	77
8	11	115	98	.00	.00	.00	.00	249	171	168	204	58
9	10	113	99	.00	.00	.00	.00	249	164	164	204	44
10	5.7	114	100	.00	.00	.00	.00	198	164	164	204	42
11	.00	114	100	.00	.00	.00	.00	168	146	163	204	35
12	.00	114	98	.00	.00	.00	.00	178	139	164	204	31
13	.00	114	99	.00	.00	.00	.00	191	139	164	204	30
14	.00	114	99	.00	.00	.00	.00	194	138	167	204	23
15	.00	114	98	.00	.00	.00	.00	194	139	169	204	21
16	.00	114	99	.00	.00	.00	.00	162	128	169	204	22
17	.00	114	87	.00	.00	.00	.00	148	114	176	204	20
18	.00	114	79	.00	.00	.00	.00	177	109	186	197	20
19	.00	115	79	.00	.00	.00	.00	189	109	188	194	14
20	.00	115	80	.00	.00	.00	.00	171	116	189	194	3.9
21	.00	113	79	.00	.00	.00	8.8	164	119	192	194	.00
22	.00	114	78	.00	.00	.00	21	147	126	194	193	.00
23	.00	115	79	.00	.00	.00	30	139	140	194	194	.00
24	.00	113	78	.00	.00	.00	61	138	150	194	183	.00
25	.00	114	79	.00	.00	.00	75	128	154	201	179	.00
26	.00	104	78	.00	.00	.00	74	124	161	203	165	.00
27	.00	100	79	.00	.00	.00	74	124	174	204	158	.00
28	.00	97	78	.00	.00	.00	74	134	178	204	159	.00
29	.00	98	79	.00	.00	.00	118	128	179	204	144	.00
30	.00	98	79	.00	---	.00	139	131	179	204	138	.00
31	.00	---	80	.00	---	.00	---	133	---	204	138	---
TOTAL	32.70	3442	2773	207.00	0.00	0.00	674.80	5111	4526	5605	5898	1013.90
MEAN	1.05	115	89.5	6.68	.000	.000	22.5	165	151	181	190	33.8
MAX	11	149	100	80	.00	.00	139	249	200	204	204	119
MIN	.00	91	78	.00	.00	.00	.00	115	109	163	138	.00
AC-FT	65	6830	5500	411	.00	.00	1340	10140	8980	11120	11700	2010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	MEAN	10.4	19.4	14.2	1.56	.000	.32	74.6	281	284	304	264	72.7
	MAX	50.2	115	89.5	10.9	.000	6.32	201	436	400	390	373	116
	(WY)	1968	1992	1992	1987	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 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1968 - 1992
ANNUAL TOTAL	23853.20	29283.40	
ANNUAL MEAN	65.4	80.0	112
HIGHEST ANNUAL MEAN			146
LOWEST ANNUAL MEAN			66.4
HIGHEST DAILY MEAN	171	249	511
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	47310	58080	81340
10 PERCENT EXCEEDS	147	194	347
50 PERCENT EXCEEDS	78	79	14
90 PERCENT EXCEEDS	.00	.00	.00

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 National Geodetic Vertical Datum of 1929 (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 ft³/s, Apr. 24, 1977, May 16, 1978; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.3	.00	.00	.00	.00	3.9	8.4	10	9.9	4.0
2	.00	.00	1.2	.00	.00	.00	.00	6.3	10	8.3	10	3.6
3	.00	.00	1.3	.00	.00	.00	.00	5.0	8.7	7.8	10	2.4
4	.00	.00	1.3	.00	.00	.00	.00	4.2	9.4	7.7	9.2	3.6
5	.00	.00	1.3	.00	.00	.00	.00	2.8	9.3	7.9	8.8	3.3
6	.00	.00	1.3	.00	.00	.00	.00	12	9.9	9.1	8.8	1.8
7	.00	.00	1.1	.00	.00	.00	.00	19	11	11	8.9	1.0
8	.00	.00	1.0	.00	.00	.00	.00	19	11	12	8.7	1.1
9	.00	.00	1.0	.00	.00	.00	.00	18	8.9	12	8.7	1.2
10	.00	.00	1.2	.00	.00	.00	.00	17	9.1	12	9.1	1.2
11	.00	.00	1.3	.00	.00	.00	.00	20	9.4	12	9.6	.56
12	.00	.00	1.3	.00	.00	.00	.00	18	7.1	12	10	.00
13	.00	.00	1.2	.00	.00	.00	.00	16	6.4	11	10	.00
14	.00	.00	1.1	.00	.00	.00	.00	16	5.9	11	9.8	.00
15	.00	.00	1.2	.00	.00	.00	.00	15	6.2	11	10	.00
16	.00	.00	1.3	.00	.00	.00	.00	11	8.5	11	9.8	.00
17	.00	.00	1.3	.00	.00	.00	.00	9.1	9.9	11	10	.00
18	.00	.00	1.3	.00	.00	.00	.00	15	9.8	11	11	.00
19	.00	9.4	1.3	.00	.00	.00	.00	19	8.9	11	11	.00
20	.00	15	1.3	.00	.00	.00	.00	20	7.3	11	11	.00
21	.00	15	1.3	.00	.00	.00	.00	17	6.9	11	8.1	.00
22	.00	15	1.2	.00	.00	.00	.00	15	8.2	11	5.7	.00
23	.00	15	1.3	.00	.00	.00	.00	11	8.8	11	5.1	.00
24	.00	15	1.3	.00	.00	.00	.00	7.0	9.9	11	4.8	.00
25	.00	8.8	1.3	.00	.00	.00	.00	5.1	11	11	4.8	.00
26	.00	3.9	1.3	.00	.00	.00	.00	5.0	11	11	4.3	.00
27	.00	2.3	1.3	.00	.00	.00	.00	7.6	11	11	4.6	.00
28	.00	2.2	.59	.00	.00	.00	.00	7.1	11	11	5.0	.00
29	.00	2.2	.00	.00	.00	.00	.00	6.3	12	11	4.9	.00
30	.00	1.5	.00	.00	---	.00	.00	6.1	12	10	5.5	.00
31	.00	---	.00	.00	---	.00	---	6.0	---	10	4.6	---
TOTAL	0.00	105.30	34.19	0.00	0.00	0.00	0.00	359.5	276.9	328.8	251.7	23.76
MEAN	.000	3.51	1.10	.000	.000	.000	.000	11.6	9.23	10.6	8.12	.79
MAX	.00	15	1.3	.00	.00	.00	.00	20	12	12	11	4.0
MIN	.00	.00	.00	.00	.00	.00	.00	2.8	5.9	7.7	4.3	.00
AC-FT	.00	209	68	.00	.00	.00	.00	713	549	652	499	47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	.033	1.06	.53	.028	.000	.000	3.61	13.6	12.7	13.0	10.6	1.30													
MAX	.19	5.23	3.49	.33	.000	.000	14.8	23.2	18.3	17.1	13.5	2.62													
(WY)	1989	1986	1987	1988	1969	1969	1977	1975	1981	1981	1981	1972													
MIN	.000	.000	.000	.000	.000	.000	.000	7.17	9.08	9.37	7.12	.070													
(WY)	1969	1969	1969	1969	1969	1969	1974	1991	1983	1970	1988	1984													

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1968 - 1992

	1991 CALENDAR YEAR	1992 WATER YEAR	1968 - 1992
ANNUAL TOTAL	1330.80	1380.15	
ANNUAL MEAN	3.65	3.77	4.78
HIGHEST ANNUAL MEAN			5.93
LOWEST ANNUAL MEAN			3.67
HIGHEST DAILY MEAN	18 May 6	20 May 11	46 Apr 24 1977
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Sep 9 1968
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Sep 9 1968
ANNUAL RUNOFF (AC-FT)	2640	2740	3460
10 PERCENT EXCEEDS	10	11	14
50 PERCENT EXCEEDS	1.2	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

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 National Geodetic Vertical Datum of 1929 (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 ft³/s, Apr. 22-24, 1968; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	313	215	153	.00	.00	.00	668	796	834	952	785
2	60	320	209	154	.00	.00	.00	745	824	862	957	757
3	60	299	203	92	.00	.00	.00	794	890	873	943	736
4	60	301	200	.00	.00	.00	.00	923	880	845	915	716
5	61	205	196	.00	.00	.00	.00	993	882	830	889	675
6	61	181	192	.00	.00	.00	.00	1100	881	865	919	644
7	161	177	193	.00	.00	.00	.00	1210	870	896	951	626
8	170	177	191	.00	.00	.00	.00	1290	874	935	904	574
9	176	176	189	.00	.00	.00	.00	1260	858	942	880	536
10	198	177	172	.00	.00	.00	.00	1260	855	897	873	495
11	190	178	163	.00	.00	.00	.00	1260	830	926	885	477
12	134	182	166	.00	.00	.00	.00	1320	824	953	880	458
13	128	205	165	.00	.00	.00	.00	1340	811	955	859	445
14	128	217	160	.00	.00	.00	.00	1380	807	921	847	421
15	129	220	159	.00	.00	.00	.00	1240	837	947	832	360
16	129	221	161	.00	.00	.00	.00	1160	816	994	822	357
17	185	222	161	.00	.00	.00	.00	1080	800	1020	819	372
18	190	222	157	.00	.00	.00	.00	1050	775	1020	844	351
19	237	213	153	.00	.00	.00	.00	1100	783	997	869	319
20	237	208	149	.00	.00	.00	.00	1080	789	992	882	346
21	238	208	146	.00	.00	.00	.00	997	786	998	909	352
22	239	208	146	.00	.00	.00	.00	941	756	1010	934	421
23	253	208	146	.00	.00	.00	.00	914	747	990	933	446
24	247	205	146	.00	.00	.00	153	884	787	948	943	438
25	231	204	146	.00	.00	.00	201	884	827	953	894	270
26	226	213	145	.00	.00	.00	219	855	848	945	866	188
27	226	216	152	.00	.00	.00	319	822	854	940	842	190
28	232	214	155	.00	.00	.00	495	820	844	951	858	191
29	249	215	154	.00	.00	.00	609	794	824	968	846	239
30	259	217	155	.00	---	.00	613	807	826	973	820	274
31	259	---	154	.00	---	.00	---	799	---	964	826	---
TOTAL	5413	6522	5199	399.00	0.00	0.00	2609.00	31770	24781	29144	27393	13459
MEAN	175	217	168	12.9	.000	.000	87.0	1025	826	940	884	449
MAX	259	320	215	154	.00	.00	613	1380	890	1020	957	785
MIN	60	176	145	.00	.00	.00	.00	668	747	830	819	188
AC-FT	10740	12940	10310	791	.00	.00	5170	63020	49150	57810	54330	26700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	359	65.7	40.5	3.83	30.1	116	605	1428	1387	1463	1352	719
MEAN	359	65.7	40.5	3.83	30.1	116	605	1428	1387	1463	1352	719
MAX	661	256	224	28.8	374	571	1294	1815	1643	1709	1608	890
(WY)	1975	1991	1990	1990	1977	1976	1968	1975	1975	1981	1982	1981
MIN	77.2	.000	.000	.000	.000	.000	.000	519	826	834	776	283
(WY)	1978	1975	1971	1969	1969	1978	1983	1977	1992	1991	1991	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1968 - 1992
ANNUAL TOTAL	135691.90	146689.00	
ANNUAL MEAN	372	401	631
HIGHEST ANNUAL MEAN			765
LOWEST ANNUAL MEAN			401
HIGHEST DAILY MEAN	1080 May 5	1380 May 14	2110 Apr 22 1968
LOWEST DAILY MEAN	.00 Jan 4	.00 Jan 4	.00 Jan 8 1968
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 4	.00 Jan 4	.00 Jan 8 1968
ANNUAL RUNOFF (AC-FT)	269100	291000	457300
10 PERCENT EXCEEDS	866	947	1570
50 PERCENT EXCEEDS	217	213	401
90 PERCENT EXCEEDS	.00	.00	.00

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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 113.47 ft above National Geodetic Vertical Datum of 1929 (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 ft³/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, 2,480 ft³/s, Dec. 20, gage height, 3.27 ft; minimum daily, 17 ft³/s, July 5, 8, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1880	407	433	616	409	395	202	254	2190	601	1890	1890
2	1880	409	437	466	406	389	203	753	2190	448	1970	1890
3	1890	409	431	426	403	397	203	741	2190	396	1990	1880
4	1890	405	427	434	402	399	204	743	2190	323	1790	1880
5	1900	408	429	436	402	395	210	753	2190	17	1540	1890
6	1880	409	431	425	402	302	213	761	2190	18	1280	1880
7	1830	409	436	426	404	207	207	1030	2190	18	1290	1880
8	1660	413	430	434	405	196	204	1380	1960	17	1880	1890
9	1490	415	428	426	403	203	205	1390	1330	17	1890	1890
10	1290	415	431	432	404	210	208	1390	835	338	1890	1890
11	1090	416	614	431	404	199	211	1390	686	993	1880	1880
12	901	421	1550	428	396	195	212	1390	689	994	1880	1870
13	705	421	1910	429	400	203	212	1530	687	1240	1890	1870
14	510	419	1900	437	393	208	204	1690	683	1990	1890	1880
15	426	422	1900	440	401	202	203	1690	689	1990	1880	1880
16	430	423	1900	440	397	206	203	1680	603	2150	1880	1880
17	429	424	2420	437	396	209	203	1680	453	2390	1880	1890
18	425	428	2430	431	399	207	200	1690	396	2390	1880	1890
19	419	430	2430	429	402	204	203	1690	396	2390	1890	1890
20	414	431	2440	429	405	202	203	1690	395	2390	1880	1890
21	415	429	2420	416	404	198	203	1690	398	2390	1890	1890
22	415	428	2410	424	403	203	203	1690	399	2390	1880	1890
23	415	434	2160	423	396	204	203	1690	397	2390	1880	1890
24	431	427	1900	423	392	205	203	1690	400	2390	1880	1890
25	437	421	1900	421	394	207	198	1690	853	2390	1880	1880
26	436	422	1810	416	392	212	198	1690	893	2390	1880	1890
27	436	425	1640	417	391	213	193	1690	894	2390	1880	1890
28	437	421	1420	395	401	215	201	1940	893	2390	1880	1890
29	436	433	1220	390	395	209	234	2190	894	2390	1880	1900
30	432	440	1020	403	---	204	250	2190	811	2390	1880	1890
31	424	---	824	392	---	200	---	2190	---	2390	1880	---
TOTAL	28053	12614	42531	13372	11601	7398	6199	45655	31964	47400	56930	56580
MEAN	905	420	1372	431	400	239	207	1473	1065	1529	1836	1886
MAX	1900	440	2440	616	409	399	250	2190	2190	2390	1990	1900
MIN	414	405	427	390	391	195	193	254	395	17	1280	1870
AC-FT	55640	25020	84360	26520	23010	14670	12300	90560	63400	94020	112900	112200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	MEAN	2010	2726	4204	4562	4495	5291	4289	3202	2727	3381	3237	2887
	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	399	345	239	207	549	337	.13	116	398
	(WY)	1978	1978	1968	1968	1968	1992	1992	1977	1990	1968	1968	1968

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1968 - 1992		
ANNUAL TOTAL	307694			360297					
ANNUAL MEAN	843			984					
HIGHEST ANNUAL MEAN							9352		
LOWEST ANNUAL MEAN							970		
HIGHEST DAILY MEAN	2860			2440			21200		
LOWEST DAILY MEAN	205			17			.00		
ANNUAL SEVEN-DAY MINIMUM	218			107			.00		
INSTANTANEOUS PEAK FLOW				2480			21600		
INSTANTANEOUS PEAK STAGE				3.27			23.30		
ANNUAL RUNOFF (AC-FT)	610300			714600			2679000		
10 PERCENT EXCEEDS	1900			1980			8300		
50 PERCENT EXCEEDS	431			436			2180		
90 PERCENT EXCEEDS	231			204			447		

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1968 to current year.

INSTRUMENTATION.--Temperature recorder since May 1968.

REMARKS.--Temperature is listed only when water is released from Thermalito Afterbay. Because of the complete regulation of the Feather River below Oroville Dam, the temperature of the water released from Thermalito Afterbay affects the temperature of the Feather River downstream from the Oroville project.

COOPERATION.--Records provided by California Department of Water Resources and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 28.5°C, June 23, 1977; minimum recorded, 1.5°C, Dec. 13, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 25.5°C, May 3, June 24, July 13, 14; minimum recorded, 6.0°C, Jan. 27.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	23.0	21.5	12.0	11.5	8.5	7.0	9.5	9.5	7.0	7.0	14.5	13.0
2	22.0	21.5	13.0	12.0	8.5	8.0	9.5	9.5	8.0	7.0	15.0	14.5
3	22.0	21.5	13.0	13.0	8.5	8.5	9.5	9.5	8.0	8.0	15.0	14.0
4	21.5	21.0	13.5	13.0	8.5	8.0	9.5	9.5	8.0	8.0	15.0	14.5
5	21.0	20.0	13.5	13.5	8.5	8.5	9.5	9.5	8.5	8.0	15.0	14.5
6	20.5	19.5	14.0	13.5	8.5	8.5	9.5	9.5	9.0	8.5	14.5	14.0
7	20.5	19.5	14.0	14.0	8.5	8.5	9.5	9.5	9.0	9.0	14.0	14.0
8	20.5	19.0	14.0	14.0	8.5	8.5	9.5	9.0	9.5	9.0	14.0	14.0
9	21.5	20.0	16.5	14.0	8.5	8.0	9.0	9.0	10.0	9.5	14.0	14.0
10	20.5	19.5	16.5	15.5	8.0	8.0	9.0	9.0	10.0	10.0	15.5	14.0
11	20.0	18.5	15.5	15.0	8.0	8.0	9.0	9.0	10.0	10.0	16.0	14.5
12	20.0	18.5	15.5	15.0	8.0	8.0	9.0	8.5	10.5	10.0	15.5	15.0
13	19.5	19.0	15.5	15.0	8.0	8.0	8.5	8.5	10.5	10.5	15.5	15.0
14	19.0	19.0	15.5	14.0	8.0	7.0	8.5	8.5	10.5	10.5	15.5	15.0
15	19.0	18.5	14.0	13.0	8.0	7.0	8.5	8.0	10.5	10.5	15.5	15.0
16	18.5	18.5	13.0	12.0	7.0	7.0	8.0	8.0	10.5	10.5	15.0	14.5
17	18.5	18.0	12.0	12.0	7.0	7.0	8.0	8.0	10.5	10.5	15.0	14.5
18	18.5	18.0	12.0	11.5	9.0	7.0	8.0	7.0	10.5	10.5	15.0	14.5
19	21.0	18.0	11.5	11.5	9.0	9.0	7.0	7.0	10.5	10.5	15.5	14.5
20	21.0	20.0	11.5	11.5	9.0	9.0	7.0	7.0	11.0	10.5	15.5	15.0
21	20.0	19.0	11.5	11.0	9.0	9.0	7.0	7.0	11.0	11.0	15.5	15.0
22	19.0	18.5	11.0	10.5	9.0	9.0	7.0	6.5	12.0	11.0	15.5	15.5
23	18.5	18.0	10.5	10.5	9.0	8.5	6.5	6.5	12.0	12.0	16.0	15.5
24	18.0	17.0	11.0	10.5	9.0	9.0	6.5	6.5	12.0	12.0	16.0	16.0
25	17.0	16.0	11.0	10.5	9.0	9.0	6.5	6.5	13.0	12.0	16.0	16.0
26	16.0	15.5	11.0	11.0	9.0	9.0	6.5	6.5	13.0	12.0	16.0	16.0
27	16.0	15.0	11.0	10.5	9.0	8.5	6.5	6.0	13.0	12.0	17.0	16.0
28	15.0	14.0	11.0	10.0	9.0	9.0	7.0	6.5	13.0	12.0	16.0	16.0
29	14.5	14.0	10.0	9.5	9.0	9.0	7.0	7.0	13.0	13.0	16.5	16.0
30	14.5	12.0	9.5	8.5	9.5	9.0	7.0	6.5	---	---	16.5	16.5
31	12.0	12.0	---	---	9.5	9.5	7.0	6.5	---	---	18.0	16.5
MONTH	23.0	12.0	16.5	8.5	9.5	7.0	9.5	6.0	13.0	7.0	18.0	13.0

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	18.5	18.0	23.5	21.0	22.0	19.0	23.5	20.5	20.5	19.0	22.0	20.0
2	18.5	18.0	24.0	22.0	23.0	20.5	22.0	21.0	23.0	19.5	21.0	20.0
3	18.0	18.0	25.5	23.0	21.5	20.0	21.5	20.5	21.5	20.0	20.0	18.5
4	19.0	18.0	24.5	21.5	21.0	20.0	20.5	19.5	22.0	20.5	19.5	18.0
5	19.0	18.5	24.0	21.5	20.0	17.0	20.5	20.5	22.0	20.5	18.0	17.0
6	19.5	18.5	23.0	21.0	19.0	17.0	21.0	20.5	21.5	20.5	19.0	17.0
7	19.5	18.5	22.0	20.5	21.0	18.5	21.0	21.0	21.0	20.5	20.0	18.5
8	18.5	18.0	23.0	20.0	23.0	20.0	21.5	21.0	21.5	21.0	20.5	18.5
9	18.0	18.0	21.5	19.0	21.0	19.5	21.5	21.5	24.0	21.5	20.0	18.5
10	18.5	18.0	19.5	18.0	21.0	20.0	21.5	21.0	25.0	22.0	18.5	17.0
11	18.5	18.5	18.0	18.0	20.0	19.5	21.5	21.0	25.0	22.0	17.0	17.0
12	18.5	18.0	18.0	17.0	20.0	19.0	23.0	21.0	23.0	21.5	19.5	17.0
13	18.0	18.0	18.0	15.5	21.0	19.0	25.5	23.0	22.0	21.5	20.0	18.5
14	18.0	17.0	16.5	14.5	21.5	19.0	25.5	23.5	22.0	21.0	18.5	18.0
15	18.0	17.0	18.0	14.5	21.5	20.0	25.0	23.5	22.0	21.0	19.0	18.0
16	18.0	18.0	15.5	14.0	23.5	20.5	24.5	23.0	22.0	21.0	19.0	18.0
17	19.0	18.0	18.0	15.0	23.0	20.0	23.0	20.5	22.0	20.5	18.0	17.0
18	19.0	18.5	18.0	16.5	20.0	19.5	21.5	20.5	22.0	21.0	18.0	16.0
19	19.5	18.5	18.0	16.5	20.0	19.5	22.0	20.5	21.0	20.5	16.5	16.0
20	19.0	19.0	18.0	16.5	24.5	19.5	22.0	21.0	20.5	20.0	17.0	16.0
21	19.5	18.5	18.0	17.0	23.0	21.0	23.5	21.5	20.5	19.0	19.0	16.5
22	20.0	19.0	18.5	16.5	23.0	21.0	23.0	21.0	21.0	19.5	18.0	16.5
23	20.5	19.5	18.0	16.5	23.5	21.5	23.5	21.5	21.5	20.0	18.0	16.5
24	20.5	20.0	19.0	16.0	25.5	21.5	23.5	21.0	22.0	20.5	19.0	16.5
25	20.5	19.5	21.5	16.0	24.5	23.0	23.0	21.0	23.0	20.5	19.0	17.0
26	20.0	19.5	21.0	19.0	24.0	23.5	24.5	21.5	23.0	21.0	18.5	16.5
27	21.0	19.5	22.0	20.0	23.5	23.0	23.5	21.5	22.0	21.0	18.5	16.5
28	21.5	20.5	21.5	19.0	23.5	22.0	23.0	21.0	22.0	19.5	19.5	18.0
29	21.5	20.5	19.5	18.5	23.0	21.0	21.5	20.0	21.5	19.5	19.0	18.5
30	21.5	20.5	18.5	17.0	21.0	20.0	20.0	19.5	20.5	19.5	18.5	18.0
31	---	---	20.0	17.0	---	---	20.5	19.5	21.0	20.0	---	---
MONTH	21.5	17.0	25.5	14.0	25.5	17.0	25.5	19.5	25.0	19.0	22.0	16.0

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 mi².

WATER-DISCHARGE RECORDS

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."

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 National Geodetic Vertical Datum of 1929 (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 ft³/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 ft³/s Mar. 19, 1907, elevation, 167.5 ft above National Geodetic Vertical Datum of 1929, site and datum then in use; minimum, 300 ft³/s, estimated, Nov. 9, 1931.

Combined flow (since completion of Oroville Dam): Maximum discharge, 134,000 ft³/s, Feb. 18, 1986, gage height, 23.22 ft; minimum daily, 222 ft³/s, Sept. 19, 1972.

EXTREMES FOR CURRENT YEAR.--River only: Maximum daily discharge, 933 ft³/s, July 6; minimum daily, 324 ft³/s, Aug. 3, 4.

Combined flow: Maximum daily discharge, 1,030 ft³/s, July 6; minimum daily, 419 ft³/s, Aug. 3, 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	668	622	626	624	621	621	617	625	643	612	632	615
2	628	621	623	617	622	622	618	626	643	613	499	625
3	630	621	625	621	618	613	623	621	635	616	419	628
4	636	625	622	621	619	616	618	620	636	868	419	621
5	624	621	623	624	617	617	619	620	632	1010	480	623
6	631	621	623	624	619	623	618	620	631	1030	619	624
7	634	622	622	623	611	619	617	625	626	1020	663	619
8	623	622	618	621	618	614	615	619	625	1020	620	615
9	621	622	622	620	612	614	618	621	626	1020	624	615
10	621	622	624	621	631	619	618	620	631	1020	625	619
11	621	622	625	621	627	633	620	619	636	1010	629	622
12	630	622	622	620	658	618	621	623	630	1010	627	625
13	632	641	627	616	646	617	623	622	627	1010	627	624
14	627	622	628	618	700	618	619	620	629	1010	631	621
15	631	622	632	621	666	614	618	619	635	1010	627	623
16	629	621	629	623	647	617	622	618	635	751	622	628
17	631	626	631	622	629	619	619	618	632	621	621	624
18	632	622	625	625	614	620	620	616	629	618	616	627
19	629	622	623	620	618	618	618	618	632	626	621	629
20	628	621	621	630	622	618	622	623	631	626	621	639
21	629	626	625	616	619	618	616	623	635	627	621	617
22	632	626	626	620	618	617	620	621	630	628	624	629
23	628	622	624	627	612	620	618	621	629	627	627	622
24	627	628	620	631	623	616	617	622	636	626	620	623
25	631	622	623	623	615	611	620	621	672	622	622	621
26	630	622	622	621	617	618	619	617	616	625	622	624
27	630	621	629	626	611	622	614	616	619	624	623	631
28	629	623	631	619	611	623	619	615	614	625	621	621
29	626	622	622	618	622	622	616	616	615	627	629	623
30	626	620	621	618	---	623	615	618	617	630	621	625
31	626	---	620	621	---	621	---	621	---	631	613	---
TOTAL	19520	18692	19354	19272	18163	19181	18557	19224	18927	24013	18685	18702
MEAN	630	623	624	622	626	619	619	620	631	775	603	623
MAX	668	641	632	631	700	633	623	626	672	1030	663	639
MIN	621	620	618	616	611	611	614	615	614	612	419	615
AC-FT	38720	37080	38390	38230	36030	38050	36810	38130	37540	47630	37060	37100
MEAN a	1290	1310	1340	1480	5520	4760	4840	2100	1170	1340	1430	1830
AC-FTa	79450	78200	82710	90900	317600	292800	288200	129000	69600	82300	88200	108700

a Adjusted for diversions in and out of, change in contents, and unreviewed evaporation from 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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	472	697	1042	2780	2187	1556	1046	456	476	472	455	456
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1969 - 1992

ANNUAL TOTAL	227883	232290	
ANNUAL MEAN	624	635	1003
ANNUAL MEAN ADJUSTED a	2637	2352	b5824
HIGHEST ANNUAL MEAN			3014
LOWEST ANNUAL MEAN			404
HIGHEST DAILY MEAN	681	Mar 13	1030
LOWEST DAILY MEAN	594	Sep 3	419
ANNUAL SEVEN-DAY MINIMUM	608	Jan 19	528
INSTANTANEOUS PEAK FLOW			134000
INSTANTANEOUS PEAK STAGE			23.22
ANNUAL RUNOFF (AC-FT)	452000	460700	726500
ANNUAL RUNOFF (AC-FT) ADJUSTED a	1909000	1708000	b4219000
10 PERCENT EXCEEDS	633	632	639
50 PERCENT EXCEEDS	623	622	414
90 PERCENT EXCEEDS	613	616	400

a Adjusted for diversions in and out of, change in contents, and unreviewed evaporation from Lake Oroville, Thermalito diversion pool, Thermalito Forebay, and Thermalito Afterbay.

b Includes water year 1968.

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-7, 1951 to current year.

CHEMICAL DATA: Water years 1906-7, 1951-77.

SPECIFIC CONDUCTANCE: Water years 1972-78.

WATER TEMPERATURE: Water years 1954 to current year.

SEDIMENT DATA: Water years 1957-79.

PERIOD OF DAILY RECORD.--

CHEMICAL DATA: January to December 1906.

SPECIFIC CONDUCTANCE: March 1972 to September 1978.

WATER TEMPERATURE: October 1953 to September 1954, November 1956 to current year.

SEDIMENT DATA: November 1956 to September 1979.

REVISED RECORDS.--WDR CA-74-2: 1966, sediment.

INSTRUMENTATION.--Water-temperature recorder October 1953 to September 1954, and since November 1956.

REMARKS.--Extremes affected by construction of Oroville Dam in 1967, and are given for two separate periods--water years 1954, 1957-67, and 1969 to current year.

COOPERATION.--Records provided by California Department of Water Resources and reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: (water years 1954, 1957-67) Maximum, 27.0°C, Sept. 10, 12, 1959; minimum, 1.5°C, Dec. 27, 1959, Jan. 23-25, 1962.

WATER TEMPERATURE: (water years 1969-92) Maximum recorded, 20.0°C, several days in 1977; minimum recorded, 6.5°C, many days in 1971-73, 1974-75, 1979, and Feb. 19, 1990.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 17.0°C, June 28, 29, July 20, Aug. 3, 9-12; minimum recorded, 8.5°C, several days in January and February.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.0	11.5	13.5	13.0	13.0	13.0	10.5	10.5	9.0	9.0	13.0	10.0
2	13.5	12.0	13.5	13.5	13.0	12.0	10.5	10.5	9.0	9.0	13.0	11.0
3	13.0	11.5	13.5	13.5	13.5	13.0	10.5	10.0	9.0	9.0	12.0	11.0
4	12.0	11.5	14.0	13.5	13.5	13.0	10.0	10.0	9.0	9.0	11.5	10.5
5	13.0	11.5	14.0	13.5	13.5	13.0	10.5	10.0	9.0	9.0	11.0	10.5
6	12.0	11.5	14.0	13.5	13.0	13.0	10.0	10.0	9.5	9.0	11.0	10.5
7	12.0	11.5	14.0	13.5	13.0	13.0	10.0	10.0	9.5	9.0	10.5	10.0
8	12.0	11.5	14.0	13.5	13.0	13.0	10.0	9.5	9.5	9.0	12.0	10.5
9	13.0	11.5	14.0	13.5	13.0	13.0	10.0	10.0	9.5	9.0	12.0	11.0
10	13.0	11.5	14.0	13.5	13.0	12.0	10.0	9.5	9.5	9.0	12.0	11.0
11	13.0	11.5	14.0	14.0	12.0	12.0	9.5	9.5	9.5	9.0	11.5	10.5
12	13.5	12.0	14.0	13.5	12.0	11.5	9.5	9.0	9.0	9.0	11.0	10.0
13	13.0	12.0	14.0	14.0	12.0	11.5	9.0	8.5	9.5	9.0	10.5	10.0
14	13.0	11.5	14.0	13.5	12.0	11.5	9.0	9.0	9.0	9.0	10.5	10.0
15	13.5	11.5	13.5	13.5	11.5	11.5	9.0	9.0	9.0	9.0	12.0	10.0
16	13.5	13.0	13.5	13.5	11.5	11.5	9.0	9.0	9.0	9.0	13.0	11.5
17	13.5	12.0	14.0	13.5	11.5	11.5	9.0	9.0	9.5	9.0	12.0	10.0
18	13.0	12.0	14.0	13.5	11.5	11.0	9.0	9.0	9.5	9.0	11.0	10.0
19	13.0	12.0	14.0	13.5	11.0	11.0	9.0	9.0	9.5	9.0	10.5	10.0
20	13.5	13.0	14.0	13.5	11.5	11.0	9.0	8.5	9.5	8.5	10.5	10.0
21	13.0	12.0	14.0	13.5	11.5	11.0	8.5	8.5	9.5	9.0	10.5	10.0
22	13.0	12.0	14.0	13.5	11.0	11.0	8.5	8.5	10.0	9.0	11.0	10.0
23	13.0	12.0	14.0	14.0	11.0	11.0	8.5	8.5	9.5	9.0	11.5	10.5
24	13.0	12.0	14.0	14.0	11.0	11.0	8.5	8.5	10.0	9.0	11.0	10.0
25	13.0	12.0	14.0	13.5	11.0	11.0	8.5	8.5	10.5	9.0	11.0	10.0
26	13.5	12.0	13.5	13.5	11.0	10.5	8.5	8.5	10.5	9.5	10.5	9.5
27	13.5	13.0	13.5	13.5	10.5	10.5	8.5	8.5	10.5	9.5	10.0	9.5
28	13.5	13.0	13.5	13.5	10.5	10.5	9.0	8.5	10.5	9.5	10.5	10.0
29	13.5	13.0	13.5	13.5	10.5	10.5	8.5	8.5	11.0	10.0	13.5	10.0
30	13.5	13.0	13.5	13.0	10.5	10.5	8.5	8.5	---	---	14.0	11.0
31	13.5	13.0	---	---	10.5	10.5	9.0	8.5	---	---	11.5	9.5
MONTH	13.5	11.5	14.0	13.0	13.5	10.5	10.5	8.5	11.0	8.5	14.0	9.5

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.0	9.5	12.0	10.5	14.5	13.0	15.5	14.5	16.0	16.0	15.0	13.0
2	10.5	9.5	12.0	10.5	13.0	12.0	15.5	15.5	16.0	15.5	14.0	13.0
3	10.5	9.5	11.0	10.0	13.0	13.0	15.5	15.5	17.0	16.0	14.0	12.0
4	12.0	10.0	10.5	10.0	13.5	13.0	16.0	15.5	16.5	16.5	14.0	13.0
5	12.0	10.5	10.5	10.0	13.5	13.0	16.5	16.0	16.5	16.5	13.0	13.0
6	12.0	10.5	10.5	10.0	13.5	13.5	16.5	15.5	16.5	16.0	13.0	13.0
7	13.0	11.0	10.5	10.0	14.0	13.5	16.0	15.5	16.5	16.0	13.0	12.0
8	12.0	11.0	10.5	10.0	15.0	13.5	16.0	15.0	16.5	16.0	13.5	12.0
9	12.0	10.5	10.5	10.0	15.0	14.0	16.0	15.5	17.0	15.5	13.5	11.5
10	11.0	10.5	10.5	10.0	15.0	14.0	16.0	15.5	17.0	16.0	13.0	11.0
11	12.0	10.5	11.0	10.0	14.5	14.5	16.0	15.5	17.0	16.5	11.5	11.0
12	12.0	10.5	10.5	10.0	14.5	13.5	16.0	15.5	17.0	16.0	11.5	11.0
13	13.0	11.0	10.5	10.0	14.0	13.5	16.5	15.0	16.0	14.5	11.5	11.5
14	13.0	11.5	10.5	10.0	14.0	14.0	16.5	16.0	15.0	14.0	12.0	11.0
15	13.0	11.5	12.0	10.5	15.0	14.0	16.5	16.5	14.5	14.0	12.0	11.0
16	13.0	11.5	12.0	11.5	15.0	14.0	16.5	16.0	15.5	14.0	13.0	11.5
17	12.0	10.5	11.5	11.5	15.0	14.5	16.0	15.0	15.0	14.0	13.0	12.0
18	13.5	11.0	13.0	11.5	15.0	14.0	16.0	15.5	15.0	14.5	13.0	12.0
19	13.0	11.0	12.0	11.5	15.0	14.0	16.0	16.0	16.0	14.5	13.0	12.0
20	13.0	11.5	13.0	11.5	15.0	14.5	17.0	16.0	16.5	15.5	13.0	12.0
21	12.0	10.5	13.5	12.0	16.0	15.0	16.5	14.5	15.5	14.5	13.0	12.0
22	13.0	10.5	13.5	12.0	16.5	15.0	15.0	14.0	15.0	14.5	13.0	11.5
23	13.0	11.0	13.5	13.0	15.5	15.0	15.0	14.5	15.0	14.5	13.5	12.0
24	13.0	11.0	13.5	13.0	15.5	14.5	15.0	14.5	15.5	14.5	13.0	12.0
25	11.5	11.0	14.0	13.0	15.5	14.5	15.5	14.5	15.0	14.5	13.0	11.5
26	11.5	11.0	15.0	13.5	15.5	15.0	16.0	14.5	15.5	15.0	12.0	11.5
27	13.0	10.5	14.0	13.0	15.5	15.0	15.5	15.0	16.0	15.0	12.0	11.5
28	12.0	10.5	14.0	13.0	17.0	15.5	15.5	14.5	15.0	14.0	12.0	11.0
29	12.0	11.0	14.0	13.0	17.0	15.0	15.5	15.5	14.5	14.0	13.0	11.5
30	11.0	10.5	13.5	13.0	15.0	14.5	16.0	15.5	14.5	14.5	13.0	12.0
31	---	---	14.0	13.0	---	---	16.0	16.0	15.0	14.0	---	---
MONTH	13.5	9.5	15.0	10.0	17.0	12.0	17.0	14.0	17.0	14.0	15.0	11.0

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. January 1944 to September 1964 are published in reports by California Department of Water Resources.

REVISED RECORDS.--WDR CA-80-4: 1967(M), 1968(M).

GAGE.--Water-stage recorder. Datum of gage is 2.91 ft below National Geodetic Vertical Datum of 1929. 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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Oroville since November 1967 (station 11406800) and Thermalito Afterbay release to the 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 ft³/s, Dec. 23, 1964, gage height, 100.43 ft, present datum; minimum daily, 117 ft³/s, June 27, 1966. Since completion of Oroville Dam in 1967, maximum discharge, 150,000 ft³/s, Feb. 19, 1966, gage height, 100.06 ft; minimum daily, 366 ft³/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, 3,090 ft³/s, July 19, 22, gage height, 76.13 ft; minimum daily, 822 ft³/s, Apr. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2610	959	1030	1180	922	980	840	879	2810	1190	2610	2510
2	2560	965	1030	1010	908	967	843	1270	2820	1040	2540	2510
3	2550	959	1030	952	904	979	853	1360	2810	973	2460	2510
4	2560	953	1010	969	897	990	841	1370	2790	999	2250	2500
5	2540	957	1020	1010	902	1030	841	1380	2800	977	2020	2490
6	2550	965	1020	963	902	1010	844	1400	2780	977	1860	2490
7	2500	969	1060	966	900	876	838	1560	2780	977	1880	2480
8	2360	977	994	941	903	850	838	2010	2580	977	2430	2480
9	2160	977	1000	935	910	847	839	2000	1930	978	2510	2480
10	1950	980	995	941	965	854	838	1980	1460	1160	2520	2480
11	1720	989	1090	931	980	862	850	2000	1250	1870	2520	2470
12	1520	995	1920	919	1030	846	920	1990	1250	1930	2530	2470
13	1320	1010	2430	917	1000	842	871	2060	1230	2090	2530	2470
14	1120	984	2470	921	1040	872	854	2250	1240	2890	2530	2470
15	972	985	2470	924	1150	878	849	2250	1250	3000	2520	2460
16	977	1000	2460	917	1070	899	849	2240	1190	3010	2530	2470
17	977	1040	2900	917	1020	932	859	2230	1050	3070	2530	2470
18	976	1040	3030	924	997	913	822	2240	980	3060	2520	2480
19	964	1040	3010	921	1010	908	831	2240	979	3060	2530	2480
20	947	1060	3020	918	1050	896	838	2230	980	3070	2520	2500
21	960	1050	3020	924	1030	879	837	2220	982	3070	2520	2480
22	968	1040	2990	908	1000	883	830	2220	978	3060	2510	2490
23	954	1050	2790	906	976	872	827	2220	978	3060	2510	2480
24	959	1080	2440	906	971	870	827	2230	981	3060	2500	2470
25	999	1050	2420	916	973	860	832	2230	1390	3040	2500	2430
26	1020	1030	2360	906	962	860	838	2220	1430	3050	2510	2460
27	982	1000	2190	907	960	861	826	2220	1430	3050	2510	2480
28	976	1030	2030	896	952	874	824	2410	1440	3040	2510	2480
29	989	1030	1840	887	970	865	856	2770	1450	3030	2510	2470
30	969	1030	1590	899	---	857	883	2780	1390	3020	2510	2490
31	976	---	1390	893	---	847	---	2790	---	3010	2500	---
TOTAL	46585	30194	60049	29024	28254	27759	25338	63249	49408	70788	75930	74400
MEAN	1503	1006	1937	936	974	895	845	2040	1647	2283	2449	2480
MAX	2610	1080	3030	1180	1150	1030	920	2790	2820	3070	2610	2510
MIN	947	953	994	887	897	842	822	879	978	973	1860	2430
AC-FT	92400	59890	119100	57570	56040	55060	50260	125500	98000	140400	150600	147600

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2438	3379	5490	7658	6935	7124	5505	3676	3224	3972	3776	3427
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1969 - 1992	
ANNUAL TOTAL	516288		580978			
ANNUAL MEAN	1414		1587		4709	
HIGHEST ANNUAL MEAN					11880	
LOWEST ANNUAL MEAN					1394	
HIGHEST DAILY MEAN	3420	Jun 11	3070	Jul 17	146000	Feb 19 1986
LOWEST DAILY MEAN	764	Apr 10	822	Apr 18	602	May 21 1977
ANNUAL SEVEN-DAY MINIMUM	776	Apr 7	829	Apr 22	611	May 18 1977
INSTANTANEOUS PEAK FLOW			3090	Jul 19	150000	Feb 19 1986
INSTANTANEOUS PEAK STAGE			76.13	Jul 19	100.06	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	1024000		1152000		3412000	
10 PERCENT EXCEEDS	2560		2610		9400	
50 PERCENT EXCEEDS	1030		1040		2660	
90 PERCENT EXCEEDS	843		861		1060	

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

CHEMICAL DATA: Water years 1979-81.

WATER TEMPERATURE: Water years 1965 to current year.

SEDIMENT DATA: Water years 1965 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1964 to June 1978.

SUSPENDED-SEDIMENT DISCHARGE: October 1964 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE (water years 1965-69, 1971-78): Maximum recorded, 29.5°C, June 25, 1977; minimum recorded, 4.0°C, several days during December and January of most years.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,340 mg/L, Dec. 25, 1964; minimum daily mean, 0 mg/L, many days during the 1989 water year.

SEDIMENT LOAD: Maximum daily, 527,000 tons, Dec. 23, 1964; minimum daily, 0 tons, many days during the 1989 water year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 18 mg/L, May 7; minimum daily mean, 1 mg/L, several days during year.

SEDIMENT LOAD: Maximum daily (estimated), 89 tons, May 8; minimum daily, 2.7 tons, Nov. 16.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.0	---	9.5	8.0	14.0	15.0	17.0	21.0	---	21.0	20.5
2	---	---	---	---	---	---	---	---	---	---	---	---
3	20.0	13.0	10.0	9.5	9.0	14.5	15.0	17.0	21.0	22.0	21.0	19.5
4	19.0	---	---	---	---	---	---	---	---	---	---	---
5	20.0	13.0	11.0	9.0	10.0	14.0	15.0	17.5	21.0	---	21.5	19.5
6	---	---	---	---	---	---	---	---	---	---	---	---
7	20.0	12.0	11.0	9.0	10.0	13.5	15.0	17.5	21.5	22.0	21.5	19.5
8	---	---	---	---	---	---	---	---	---	---	---	---
9	20.0	12.0	10.0	---	10.5	13.0	15.5	18.0	---	22.0	22.0	19.5
10	---	---	---	---	---	---	---	---	---	---	---	---
11	20.0	12.0	10.5	---	11.0	14.0	15.5	18.0	---	22.5	22.0	19.5
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	11.5	10.0	---	11.0	13.0	16.0	---	19.0	22.5	21.5	19.5
14	20.0	---	---	8.0	---	---	---	---	---	---	---	---
15	---	10.0	9.5	8.5	11.0	13.0	16.0	---	19.0	22.5	21.5	19.5
16	---	---	---	---	---	---	---	---	20.5	---	---	---
17	19.0	8.5	11.0	8.5	11.0	13.0	16.5	---	19.0	---	21.0	19.5
18	---	---	9.5	---	---	---	---	18.0	20.0	---	---	---
19	19.5	10.0	---	8.5	12.0	12.5	16.5	18.0	20.0	---	20.5	19.0
20	---	---	10.0	---	---	---	---	---	---	---	---	---
21	18.0	13.0	---	8.0	12.0	13.0	16.5	18.0	---	---	20.0	19.0
22	---	---	10.0	---	---	---	---	18.5	---	---	---	---
23	17.0	13.0	---	7.5	12.0	13.0	16.5	---	---	---	20.0	19.0
24	---	---	10.0	---	---	---	---	18.5	---	---	---	---
25	15.0	12.0	---	7.0	12.0	14.0	17.0	---	---	---	---	19.0
26	---	---	10.0	---	---	---	---	19.0	---	---	---	---
27	13.0	11.0	---	7.0	12.5	14.0	17.0	19.5	---	---	---	19.0
28	---	---	10.0	---	13.0	---	---	19.5	---	22.5	---	---
29	13.0	11.0	---	7.0	14.0	14.5	17.0	---	---	---	---	19.0
30	12.5	---	10.0	---	---	---	17.0	20.0	---	---	---	19.0
31	13.0	---	10.0	7.0	---	15.0	---	20.0	---	21.5	---	---

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	2610	2	16	959	3	7.1	1030	5	14
2	2560	3	21	965	3	8.9	1030	6	17
3	2550	4	29	959	4	10	1030	4	9.6
4	2560	6	39	953	4	10	1010	2	6.7
5	2540	3	17	957	4	10	1020	3	8.1
6	2550	3	20	965	4	10	1020	3	9.0
7	2500	4	26	969	4	11	1060	3	9.1
8	2360	4	25	977	5	12	994	3	8.0
9	2160	4	24	977	5	12	1000	3	8.4
10	1950	5	24	980	3	8.0	995	4	9.5
11	1720	5	23	989	2	5.2	1090	6	18
12	1520	5	19	995	1	3.7	1920	14	72
13	1320	4	15	1010	1	3.0	2430	4	26
14	1120	4	12	984	1	3.9	2470	2	12
15	972	4	11	985	2	5.3	2470	1	7.5
16	977	5	12	1000	1	2.7	2460	1	9.9
17	977	5	13	1040	1	2.8	2900	2	18
18	976	3	9.1	1040	1	2.8	3030	4	29
19	964	2	6.0	1040	2	5.6	3010	3	22
20	947	3	7.2	1060	2	5.7	3020	2	17
21	960	4	10	1050	2	5.7	3020	2	16
22	968	4	10	1040	1	2.8	2990	2	17
23	954	4	10	1050	1	2.8	2790	3	19
24	959	4	10	1080	1	2.9	2440	3	19
25	999	4	10	1050	1	2.8	2420	2	15
26	1020	3	9.3	1030	1	2.8	2360	2	13
27	982	3	8.5	1000	2	5.4	2190	2	12
28	976	4	11	1030	3	8.3	2030	2	12
29	989	5	12	1030	5	14	1840	3	13
30	969	3	8.5	1030	5	14	1590	3	14
31	976	2	5.9	---	---	---	1390	4	15
TOTAL	46585	---	473.5	30194	---	201.2	60049	---	495.8
JANUARY			FEBRUARY			MARCH			
1	1180	4	13	922	3	7.5	980	6	16
2	1010	4	11	908	2	5.8	967	6	16
3	952	4	10	904	2	4.9	979	6	16
4	969	4	10	897	2	4.8	990	6	16
5	1010	4	11	902	2	4.9	1030	8	21
6	963	4	10	902	2	4.9	1010	6	18
7	966	4	10	900	2	4.9	876	4	9.9
8	941	3	8.6	903	2	4.9	850	5	10
9	935	3	7.3	910	2	5.1	847	5	12
10	941	2	6.1	965	3	8.4	854	8	17
11	931	2	5.1	980	3	7.4	862	9	22
12	919	2	5.0	1030	3	8.7	846	7	17
13	917	2	5.4	1000	2	5.6	842	6	14
14	921	3	7.1	1040	3	7.5	872	6	14
15	924	3	7.5	1150	3	11	878	6	14
16	917	3	7.4	1070	2	6.8	899	6	16
17	917	3	7.1	1020	2	5.5	932	7	17
18	924	2	5.9	997	2	5.4	913	4	11
19	921	2	5.0	1010	3	8.8	908	4	10
20	918	2	5.0	1050	7	21	896	5	11
21	924	2	5.0	1030	6	17	879	5	12
22	908	2	4.9	1000	6	16	883	5	12
23	906	2	5.1	976	6	16	872	5	12
24	906	3	6.2	971	6	16	870	6	13
25	916	3	8.2	973	5	13	860	6	14
26	906	5	13	962	5	13	860	5	13
27	907	8	18	960	8	19	861	5	11
28	896	7	16	952	7	17	874	4	10
29	887	6	14	970	6	16	865	4	9.6
30	899	6	15	---	---	---	857	5	11
31	893	8	19	---	---	---	847	5	12
TOTAL	29024	---	281.9	28254	---	286.8	27759	---	427.5

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	840	6	14	879	9	21	2810	7	50
2	843	8	17	1270	14	47	2820	5	39
3	853	9	20	1360	10	37	2810	4	31
4	841	8	19	1370	9	35	2790	4	30
5	841	8	18	1380	9	35	2800	4	30
6	844	7	15	1400	17	64	2780	4	30
7	838	6	14	1560	18	78	2780	4	30
8	838	8	17	2010	16	89	2580	4	29
9	839	9	20	2000	13	70	1930	5	24
10	838	8	19	1980	12	66	1460	5	19
11	850	8	18	2000	12	64	1250	5	18
12	920	8	20	1990	11	61	1250	6	19
13	871	8	19	2060	13	72	1230	6	19
14	854	8	18	2250	13	79	1240	5	16
15	849	8	19	2250	12	76	1250	4	15
16	849	9	21	2240	9	54	1190	5	17
17	859	10	22	2230	8	46	1050	5	13
18	822	9	19	2240	7	44	980	6	15
19	831	8	18	2240	9	53	979	5	13
20	838	8	18	2230	6	36	980	5	13
21	837	8	18	2220	5	30	982	5	13
22	830	8	18	2220	9	54	978	5	13
23	827	8	18	2220	8	45	978	5	13
24	827	8	18	2230	6	38	981	5	13
25	832	8	18	2230	8	45	1390	9	34
26	838	9	19	2220	8	50	1430	9	34
27	826	9	20	2220	8	45	1430	8	31
28	824	10	21	2410	10	64	1440	8	30
29	856	9	21	2770	8	62	1450	7	29
30	883	8	18	2780	6	46	1390	7	26
31	---	---	---	2790	6	47	---	---	---
TOTAL	25338	---	554	63249	---	1653	49408	---	706
JULY			AUGUST			SEPTEMBER			
1	1190	6	20	2610	4	29	2510	4	27
2	1040	6	17	2540	4	27	2510	3	23
3	973	6	16	2460	4	26	2510	2	16
4	999	7	18	2250	4	24	2500	4	26
5	977	7	19	2020	4	22	2490	6	38
6	977	8	20	1860	4	20	2490	5	36
7	977	8	21	1880	4	20	2480	5	34
8	977	8	21	2430	6	37	2480	6	37
9	978	8	21	2510	4	28	2480	6	38
10	1160	9	27	2520	4	27	2480	5	32
11	1870	5	23	2520	4	26	2470	4	28
12	1930	6	29	2530	3	20	2470	5	30
13	2090	8	43	2530	2	15	2470	5	33
14	2890	9	73	2530	3	19	2470	5	33
15	3000	7	58	2520	4	27	2460	5	34
16	3010	7	57	2530	5	31	2470	6	37
17	3070	7	58	2530	5	34	2470	6	38
18	3060	7	58	2520	5	34	2480	5	31
19	3060	7	58	2530	5	32	2480	4	28
20	3070	7	57	2520	4	25	2500	5	31
21	3070	7	56	2520	3	21	2480	5	32
22	3060	7	55	2510	4	24	2490	4	29
23	3060	7	54	2510	4	26	2480	4	28
24	3060	6	53	2500	4	25	2470	5	30
25	3040	6	52	2500	3	23	2430	5	33
26	3050	6	51	2510	3	22	2460	5	33
27	3050	6	50	2510	3	20	2480	5	34
28	3040	6	49	2510	3	19	2480	6	37
29	3030	6	46	2510	3	17	2470	5	31
30	3020	5	44	2510	2	16	2490	2	16
31	3010	5	40	2500	2	14	---	---	---
TOTAL	70788	---	1264	75930	---	750	74400	---	933
YEAR	580978		8026.7						

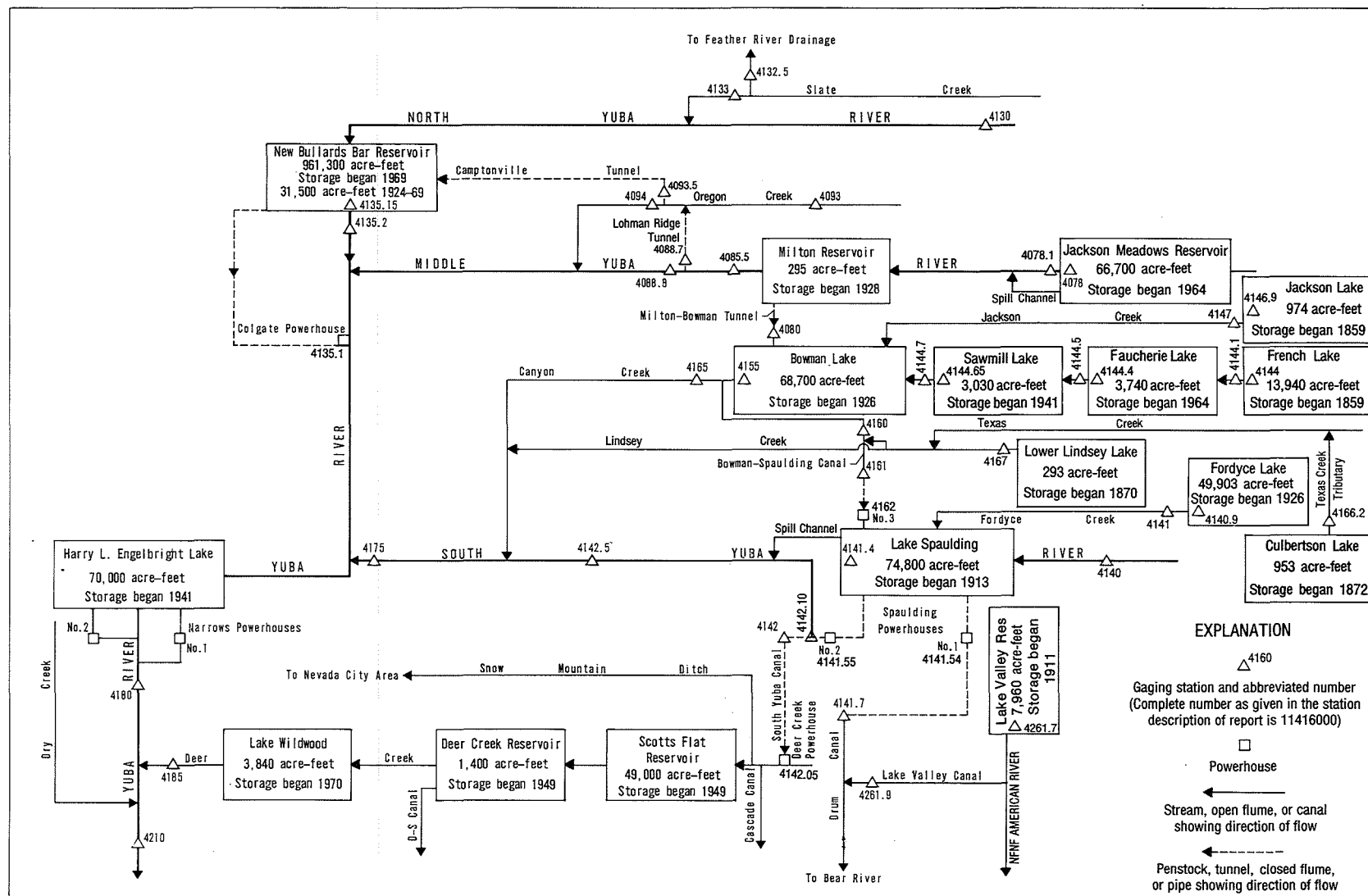


Figure 35. Diversions and storage in Yuba River basin.

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 mi².

PERIOD OF RECORD.--November 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 71,000 acre-ft, several days in 1969-71, elevation, 6,037.7 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, 57,500 acre-ft, May 13, elevation, 6,024.43 ft; minimum, 24,200 acre-ft, Sept. 30, elevation, 5,984.79 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43900	36300	e34600	e34700	e34500	e36400	40500	54100	51500	40200	37200	e30400
2	43600	36000	34700	e34700	e34500	e36500	40900	54500	51200	39800	37100	e30200
3	43400	35800	34700	e34700	e34500	e36600	41300	54800	50800	39400	37100	e30000
4	43100	35500	34700	e34700	e34500	e36600	41800	55100	50400	39000	37100	e29800
5	42800	35600	34700	e34700	e34500	e36700	42100	55500	50000	38700	37000	e29600
6	42600	35300	34700	e34700	e34500	e36800	42400	55800	49600	38300	36600	e29400
7	42300	34900	34700	e34700	e34500	e37000	42600	56200	49200	37900	36200	e29200
8	42100	34800	34700	e34700	e34600	e37100	43000	56600	48800	e37600	35900	e29000
9	41800	34800	34700	e34700	e34600	e37200	43300	56800	48400	e37600	35500	e28700
10	41500	34700	34700	e34700	e34600	e37300	43700	57000	48000	37600	35100	e28500
11	41300	34700	34700	e34700	e34600	e37400	44000	57200	47600	37600	34800	e28300
12	41000	34700	34700	e34700	e34600	e37400	44600	57400	47200	37600	34600	e28100
13	40700	34600	34700	e34700	e34600	37400	45400	57500	46800	37600	34400	e27900
14	40500	34600	34600	e34700	e34600	37400	45900	57400	46400	37500	34200	e27600
15	40200	34600	34600	e34700	e34600	37600	46400	57200	46100	37500	34000	e27400
16	39900	34600	34600	e34700	e34600	37800	46800	56900	45700	37500	33800	e27200
17	39700	34600	34600	e34700	e34600	38000	47700	56600	45300	37500	e33500	e27000
18	e39300	34600	34700	e34600	e34600	38100	48300	56300	45000	37500	e33200	e26800
19	e39000	34600	34700	e34600	e35000	38200	48900	56000	44600	37500	e33200	e26500
20	e38700	34700	34700	e34600	e35700	38300	49400	55700	44200	37400	33000	e26300
21	e38500	34700	34700	e34600	e35800	38400	49800	55400	43800	37400	32700	e26100
22	38200	34700	34700	e34600	e35900	38500	50300	55100	43500	37400	32500	25900
23	38100	34600	34700	e34600	e36000	38600	50600	54700	43100	37300	32300	e25600
24	37800	34600	34700	e34600	e36000	38700	51000	54400	42700	37400	32100	e25400
25	37700	34600	34700	e34600	e36000	38800	51500	54000	42400	37300	31900	e25200
26	37800	34600	e34600	e34600	e36100	38900	51900	53700	42000	37300	31700	e25000
27	37500	34700	e34600	e34600	e36200	39100	52400	53300	41600	37300	31500	e24800
28	37300	34700	e34600	e34600	e36200	39300	52800	53000	41200	37300	31300	e24600
29	37100	34700	e34700	e34600	e36300	39500	53300	52600	40900	37200	31100	24400
30	36800	e34700	e34700	e34600	---	39800	53800	52300	40600	37200	30900	24200
31	36600	---	e34700	e34500	---	40100	---	51900	---	37200	30600	---
MAX	43900	36300	34700	34700	36300	40100	53800	57500	51500	40200	37200	30400
MIN	36600	34600	34600	34500	34500	36400	40500	51900	40600	37200	30600	24200
a	6001.41	5999.16	5999.20	5999.00	6001.20	6005.48	6020.60	6018.63	6006.06	6002.15	5993.91	5984.79
b	-7600	-1900	0	-200	+1800	+3800	+13700	-1900	-11300	-3400	-6600	-6400

CAL YR 1991 MAX 60200 MIN 23000 b +11400
WTR YR 1992 MAX 57500 MIN 24200 b -20000

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Differential-pressure recorder and orifice control in outlet pipe. Elevation of gage is 5,910 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--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, 8.0 ft³/s, many days in 1989; minimum daily, 5.3 ft³/s, Jan. 19, 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	6.9	6.6	6.6	6.6	6.7	6.9	7.4	7.4	7.0	6.8	6.4
2	7.2	6.9	6.6	6.6	6.6	6.7	6.9	7.5	7.3	6.9	6.8	6.4
3	7.2	6.9	6.6	6.6	6.6	6.7	7.0	7.5	7.3	6.9	6.8	6.4
4	e7.2	6.9	6.6	6.6	6.6	6.7	7.0	7.5	7.3	6.9	6.8	6.4
5	7.2	6.9	6.6	6.6	6.6	6.7	7.0	7.5	7.3	6.8	6.8	6.4
6	7.2	6.9	6.6	6.6	6.6	6.7	7.0	7.5	7.3	6.8	6.7	6.4
7	7.1	6.7	6.6	6.6	6.5	6.7	7.0	7.5	7.2	6.8	6.7	6.4
8	7.1	6.7	6.6	6.6	6.5	6.7	7.0	7.5	7.2	6.8	6.7	6.4
9	7.1	6.7	6.6	6.6	6.5	6.7	7.0	7.5	7.2	6.8	6.7	6.4
10	7.1	6.6	6.6	6.6	6.5	6.7	7.0	7.5	7.2	6.8	6.7	6.4
11	7.1	6.6	6.6	6.6	6.6	6.7	7.0	7.6	7.2	6.8	6.7	6.4
12	7.1	6.6	6.6	6.6	6.6	6.7	7.0	7.6	7.1	6.8	6.7	6.4
13	7.1	6.6	6.6	6.6	6.6	6.7	7.0	7.6	7.1	6.8	6.6	6.4
14	7.1	6.6	6.6	6.6	6.6	6.7	7.1	7.6	7.1	6.8	6.6	6.4
15	e7.1	6.6	6.6	6.6	6.6	6.7	7.1	7.6	7.1	6.8	6.6	6.4
16	7.1	6.6	6.6	6.6	6.6	6.8	7.1	7.6	7.1	6.8	6.6	6.3
17	7.1	6.6	6.6	6.6	6.6	6.8	7.1	7.6	7.1	6.8	6.6	6.3
18	7.0	6.6	6.6	6.6	6.6	6.8	7.2	7.6	7.1	6.8	6.6	6.3
19	7.0	6.6	6.6	6.6	6.6	6.8	7.2	7.6	7.1	6.8	6.5	6.3
20	7.0	6.6	6.6	6.6	6.6	6.8	7.2	7.5	7.1	6.8	6.5	6.3
21	7.0	6.6	6.6	6.6	6.6	6.8	7.2	7.5	7.1	6.8	6.5	6.3
22	7.0	6.6	6.6	6.6	6.6	6.8	7.2	7.5	7.1	6.8	6.5	6.3
23	7.0	6.6	6.6	6.6	6.6	6.8	7.3	7.5	7.1	6.8	6.5	6.2
24	6.9	6.6	6.6	6.6	6.6	6.8	7.3	7.5	7.0	6.8	6.5	6.2
25	6.9	6.6	6.6	6.6	6.6	6.7	7.3	7.5	7.0	6.8	6.5	6.2
26	6.9	6.6	6.6	6.6	6.6	6.7	7.3	7.4	7.0	6.8	6.5	6.2
27	6.9	6.6	6.6	6.6	6.6	6.7	7.4	7.4	7.0	6.8	6.5	6.2
28	6.9	6.6	6.6	6.6	6.7	6.8	7.4	7.4	7.0	6.8	6.5	6.2
29	6.9	6.6	6.6	6.6	6.7	6.8	7.4	7.4	7.0	6.8	6.4	6.2
30	6.9	6.6	6.6	6.6	---	6.8	7.4	7.4	7.0	6.8	6.4	6.2
31	6.9	---	6.6	6.6	---	6.8	---	7.4	---	6.8	6.4	---
TOTAL	218.5	200.1	204.6	204.6	191.2	209.0	214.0	232.7	214.1	211.3	204.7	189.7
MEAN	7.05	6.67	6.60	6.60	6.59	6.74	7.13	7.51	7.14	6.82	6.60	6.32
MAX	7.2	6.9	6.6	6.6	6.7	6.8	7.4	7.6	7.4	7.0	6.8	6.4
MIN	6.9	6.6	6.6	6.6	6.5	6.7	6.9	7.4	7.0	6.8	6.4	6.2
AC-FT	433	397	406	406	379	415	424	462	425	419	406	376

e Estimated.

11407810 MIDDLE YUBA RIVER AT JACKSON MEADOWS DAM, NEAR SIERRA CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.62	6.42	6.31	6.32	6.26	6.56	7.01	7.53	7.63	7.55	7.28	6.77
MAX	7.29	7.28	6.93	6.79	6.80	6.92	7.26	7.94	7.96	7.86	7.62	7.35
(WY)	1990	1990	1990	1990	1990	1990	1989	1989	1989	1989	1989	1991
MIN	5.77	5.43	5.42	5.66	5.43	6.17	6.52	7.08	7.14	6.82	6.60	6.15
(WY)	1989	1989	1989	1989	1989	1989	1991	1991	1992	1992	1992	1988

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1988 - 1992	
ANNUAL TOTAL	2532.1		2494.5			
ANNUAL MEAN	6.94		6.82		6.87	
HIGHEST ANNUAL MEAN					7.18	
LOWEST ANNUAL MEAN					6.66	
HIGHEST DAILY MEAN	7.8	Jun 30	7.6	May 11	8.0	May 13 1989
LOWEST DAILY MEAN	6.2	Jan 5	6.2	Sep 23	5.3	Jan 19 1989
ANNUAL SEVEN-DAY MINIMUM	6.2	Jan 5	6.2	Sep 23	5.4	Nov 5 1988
ANNUAL RUNOFF (AC-FT)	5020		4950		4980	
10 PERCENT EXCEEDS	7.7		7.3		7.8	
50 PERCENT EXCEEDS	6.9		6.7		6.8	
90 PERCENT EXCEEDS	6.2		6.5		5.9	

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 National Geodetic Vertical Datum of 1929. Prior to Sept. 22, 1964, at datum 0.56 ft higher.

REMARKS.--Records excellent except for estimated discharges, which are fair. 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 ft³/s, Feb. 11, 1941; minimum daily, 0.4 ft³/s, Oct. 7, 1944.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	123	8.6	8.5	9.0	22	32	20	195	190	7.7	99
2	127	123	8.7	8.5	8.7	20	e38	19	199	188	7.7	101
3	127	123	8.6	8.5	8.7	20	e36	18	199	187	7.6	99
4	126	122	8.6	8.7	8.5	21	e35	18	202	186	7.7	99
5	126	122	8.5	9.4	8.8	22	e35	17	201	185	26	99
6	126	122	8.5	8.8	9.0	21	e35	17	201	185	124	98
7	126	107	9.6	8.7	9.1	19	e35	18	201	184	176	98
8	126	64	8.5	8.5	10	19	e35	17	200	147	177	98
9	126	66	8.4	8.5	10	18	e35	16	200	35	177	98
10	125	55	8.4	8.7	11	18	e35	15	199	7.3	177	98
11	125	12	8.3	8.7	11	18	e38	14	198	4.2	163	99
12	125	8.7	8.2	8.5	11	19	e42	14	199	3.9	123	98
13	125	8.2	8.2	8.8	11	20	e41	9.4	199	3.7	118	98
14	125	7.9	8.2	8.7	11	20	e40	92	199	3.2	102	98
15	124	7.8	8.1	8.8	12	20	e36	200	201	2.8	102	98
16	124	7.8	8.2	8.7	11	20	e38	200	197	3.3	102	98
17	124	10	8.2	8.4	10	19	e40	199	198	8.6	101	100
18	124	9.5	12	8.3	10	19	e37	199	202	8.7	101	104
19	124	8.4	9.9	8.3	14	18	e32	200	198	8.4	101	104
20	122	11	8.9	8.2	39	18	e31	200	196	7.9	101	103
21	123	11	8.8	8.3	27	19	e27	199	194	7.9	100	103
22	124	9.5	8.8	8.2	27	19	e26	198	194	7.8	100	103
23	124	8.9	8.7	8.2	23	19	24	197	193	7.8	100	103
24	124	8.8	8.6	8.2	21	19	23	197	194	8.0	100	102
25	128	8.7	8.8	8.2	21	20	23	196	193	8.0	100	101
26	145	8.7	8.6	8.3	22	21	22	195	190	7.9	100	101
27	127	11	8.5	8.3	22	22	22	195	189	7.8	100	101
28	125	9.9	9.7	8.8	22	23	22	194	189	7.8	100	101
29	125	9.3	9.5	8.5	22	25	22	194	194	7.8	100	101
30	124	8.9	8.9	8.5	---	26	21	193	192	7.8	100	100
31	123	---	8.5	8.5	---	28	---	193	---	7.7	100	---
TOTAL	3896	1213.0	272.0	264.2	439.8	632	958	3653.4	5906	1635.3	3101.7	3003
MEAN	126	40.4	8.77	8.52	15.2	20.4	31.9	118	197	52.8	100	100
MAX	145	123	12	9.4	39	28	42	200	202	190	177	104
MIN	122	7.8	8.1	8.2	8.5	18	21	9.4	189	2.8	7.6	98
AC-FT	7730	2410	540	524	872	1250	1900	7250	11710	3240	6150	5960

e Estimated.

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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	157	134	57.2	40.4	37.1	41.5	39.8	83.5	71.6	61.7	87.5	159
MAX	310	368	357	211	197	265	128	333	197	174	253	300
(WY)	1981	1973	1973	1985	1985	1986	1975	1969	1992	1976	1968	1974
MIN	1.52	1.34	1.25	1.17	1.20	1.68	5.38	7.69	5.23	3.95	2.30	1.72
(WY)	1977	1977	1977	1977	1977	1977	1977	1986	1976	1977	1966	1981

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	16967.7	24974.4	
ANNUAL MEAN	46.5	68.2	81.0
HIGHEST ANNUAL MEAN			133
LOWEST ANNUAL MEAN			14.5
HIGHEST DAILY MEAN	161	Mar 4	438
LOWEST DAILY MEAN	6.7	Jan 1	1.1
ANNUAL SEVEN-DAY MINIMUM	6.9	Jan 1	1.1
ANNUAL RUNOFF (AC-FT)	33660	49540	58710
10 PERCENT EXCEEDS	126	194	261
50 PERCENT EXCEEDS	20	24	24
90 PERCENT EXCEEDS	8.6	8.2	4.8

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1987, nonrecording gage 450 ft downstream at different datum.

REMARKS.--Records excellent. 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, 324 ft³/s, May 14, June 9, 1989, gage height, 7.16 ft; minimum daily, 0.77 ft³/s, Nov. 3, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 105 ft³/s, May 13, gage height, 6.22 ft; minimum daily, 2.8 ft³/s, Aug. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	3.8	3.3	3.3	3.3	3.7	3.2	3.9	6.6	9.0	3.0	3.8
2	4.4	3.8	3.3	3.3	3.3	3.7	3.0	3.9	6.6	9.0	3.0	3.8
3	4.4	3.8	3.3	3.3	3.3	3.7	3.0	3.9	6.6	9.0	2.9	3.8
4	4.3	3.8	3.3	3.3	3.3	3.7	3.1	3.9	6.7	9.0	2.8	3.8
5	4.3	3.7	3.3	3.3	3.3	3.7	3.0	4.0	6.7	9.3	2.9	3.8
6	4.3	3.6	3.3	3.3	3.3	3.7	3.0	4.0	6.7	9.3	3.4	3.8
7	4.3	3.7	3.3	3.3	3.3	3.7	3.1	4.1	6.7	9.3	3.8	3.8
8	4.2	3.7	3.3	3.3	3.3	3.7	3.1	4.0	6.7	9.3	3.8	3.8
9	4.2	3.7	3.3	3.3	3.3	3.7	3.1	4.0	6.7	9.3	3.8	3.8
10	4.2	3.6	3.3	3.3	3.4	3.7	3.2	4.0	6.7	9.3	3.8	3.8
11	4.2	3.5	3.3	3.3	3.4	3.7	3.2	4.0	6.7	9.3	3.8	3.8
12	4.2	3.5	3.3	3.3	3.4	3.7	3.2	4.0	6.6	9.3	3.8	3.8
13	4.2	3.5	3.3	3.3	3.4	3.7	3.3	29	6.5	9.5	3.8	3.8
14	4.2	3.5	3.3	e3.3	3.4	3.7	3.3	15	6.5	9.7	3.8	3.8
15	4.2	3.5	3.3	e3.3	3.5	3.7	3.8	5.6	6.5	9.7	3.8	3.8
16	4.2	3.5	3.3	e3.3	3.5	3.7	4.1	5.6	6.6	6.7	3.8	3.8
17	4.2	3.5	3.3	e3.3	3.5	3.7	4.1	5.8	7.0	3.0	3.8	3.8
18	4.2	3.6	3.4	e3.3	3.5	3.7	4.2	5.7	7.2	3.0	3.8	3.8
19	4.2	3.6	3.4	e3.3	3.6	3.7	4.2	5.6	7.4	3.2	3.8	3.8
20	4.2	3.6	3.3	e3.3	3.8	3.7	4.1	5.5	7.3	3.4	3.8	3.8
21	4.2	3.7	3.3	e3.3	3.8	3.7	4.1	5.5	7.3	3.4	3.8	3.8
22	4.1	3.6	3.3	e3.3	3.8	3.7	4.1	5.5	7.3	3.3	3.8	3.8
23	3.8	3.6	3.3	3.3	3.7	3.7	4.1	5.5	7.3	3.3	3.8	3.8
24	3.8	3.6	3.3	3.3	3.7	3.7	4.1	5.6	7.3	3.3	3.8	4.2
25	3.8	3.6	3.2	3.3	3.7	3.7	4.1	5.7	7.6	3.3	3.8	4.3
26	4.0	3.6	3.2	3.3	3.7	3.8	4.1	6.3	8.8	3.2	3.8	4.4
27	3.8	3.7	3.3	3.3	3.7	3.8	4.0	6.4	9.0	3.2	3.8	4.4
28	3.8	3.4	3.3	3.3	3.7	3.8	3.9	6.5	9.0	3.1	3.8	4.4
29	3.8	3.3	3.3	3.3	3.7	3.8	3.9	6.6	9.0	3.0	3.8	4.4
30	3.8	3.3	3.3	3.3	---	3.7	3.9	6.6	9.0	3.0	3.8	4.4
31	3.8	---	3.3	3.3	---	3.7	---	6.6	---	3.0	3.8	---
TOTAL	127.7	107.9	102.3	102.3	101.6	115.1	108.6	192.3	216.6	193.7	113.0	117.9
MEAN	4.12	3.60	3.30	3.30	3.50	3.71	3.62	6.20	7.22	6.25	3.65	3.93
MAX	4.4	3.8	3.4	3.3	3.8	3.8	4.2	29	9.0	9.7	3.8	4.4
MIN	3.8	3.3	3.2	3.3	3.3	3.7	3.0	3.9	6.5	3.0	2.8	3.8
AC-FT	253	214	203	203	202	228	215	381	430	384	224	234

e Estimated.

11408550 MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.75	3.60	3.52	3.46	3.60	3.75	3.68	18.5	23.5	4.22	3.81	3.81
MAX	4.12	3.86	3.92	3.95	4.01	4.09	4.14	74.8	99.1	6.25	4.56	4.45
(WY)	1992	1990	1988	1988	1988	1988	1991	1989	1989	1992	1991	1991
MIN	3.55	3.34	3.26	3.30	3.19	3.45	3.47	3.58	3.38	3.37	3.46	3.42
(WY)	1989	1991	1989	1989	1989	1990	1989	1990	1990	1988	1988	1990

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1988 - 1992	
ANNUAL TOTAL	1475.9		1599.0			
ANNUAL MEAN	4.04		4.37		6.60	
HIGHEST ANNUAL MEAN					17.4	
LOWEST ANNUAL MEAN					3.53	
HIGHEST DAILY MEAN	5.6	Mar 4	29	May 13	310	May 14 1989
LOWEST DAILY MEAN	3.2	Dec 25	2.8	Aug 4	.77	Nov 3 1990
ANNUAL SEVEN-DAY MINIMUM	3.3	Dec 20	2.9	Jul 30	2.8	Oct 29 1990
INSTANTANEOUS PEAK FLOW			105	May 13	324	May 14 1989
INSTANTANEOUS PEAK STAGE			6.22	May 13	7.16	May 14 1989
ANNUAL RUNOFF (AC-FT)	2930		3170		4780	
10 PERCENT EXCEEDS	4.5		6.7		4.4	
50 PERCENT EXCEEDS	4.2		3.8		3.7	
90 PERCENT EXCEEDS	3.4		3.3		3.3	

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 1989-88.

GAGE.--Water-stage recorder. Datum of gage is 2,014.77 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. 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 ft³/s, Mar. 25, 1989; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.48	12	32	25	321	289	145	2.4	30	.00	.00
2	.00	.28	12	26	27	289	291	129	1.1	20	.00	.00
3	.00	.15	13	22	20	264	291	118	.41	17	.00	.00
4	.00	.10	9.0	33	18	255	282	111	.26	15	.00	.00
5	.00	.02	6.0	90	17	344	260	106	.09	13	.00	.00
6	.00	.00	5.3	87	17	447	226	101	.09	12	.00	.00
7	.00	.00	31	78	21	391	206	99	.09	12	.00	.00
8	.00	.00	22	44	36	334	197	106	.07	11	.00	.00
9	.00	6.3	13	35	56	293	194	90	.00	9.5	.00	.00
10	.00	10	9.4	39	138	261	193	76	.00	7.4	.00	.00
11	.00	2.0	7.4	33	275	242	193	66	.00	7.3	.00	.00
12	.00	.39	6.1	29	453	234	298	58	.00	9.2	.00	.00
13	.00	.13	5.0	25	368	229	519	53	.06	10	.00	.00
14	.00	.01	4.2	22	366	236	376	76	.17	7.6	.00	.00
15	.00	.00	3.6	21	402	239	306	57	12	5.8	.00	.00
16	.00	.00	3.0	21	324	296	269	41	23	4.1	.00	.00
17	.00	60	2.7	21	289	290	381	37	19	5.7	.00	.00
18	.00	132	43	20	267	264	383	32	17	1.5	.00	.00
19	.00	39	64	19	439	236	309	29	17	.08	.00	.00
20	.00	31	30	17	823	220	270	28	17	.00	.00	.00
21	.00	50	23	16	716	215	257	27	13	.00	.00	.00
22	.00	32	19	15	631	221	240	23	11	.00	.00	.00
23	.12	21	16	13	508	218	217	19	8.9	.00	.00	.00
24	.02	15	14	13	420	202	192	17	9.7	.00	.00	.00
25	3.1	13	13	13	396	199	184	16	16	.00	.00	.00
26	197	12	11	13	420	215	183	14	11	.00	.00	.00
27	79	27	10	14	387	215	179	13	9.8	.00	.00	.00
28	18	44	25	22	367	220	172	10	9.4	.00	.00	.00
29	7.7	23	77	22	337	225	173	8.2	23	.00	.00	.00
30	4.0	16	84	18	---	240	165	6.5	95	.00	.00	.00
31	.85	---	47	17	---	258	---	4.3	---	.00	.00	---
TOTAL	309.79	534.86	640.7	890	8563	8113	7695	1716.0	316.54	198.18	0.00	0.00
MEAN	9.99	17.8	20.7	28.7	295	262	256	55.4	10.6	6.39	.000	.000
MAX	197	132	84	90	823	447	519	145	95	30	.00	.00
MIN	.00	.00	2.7	13	17	199	165	4.3	.00	.00	.00	.00
AC-FT	614	1060	1270	1770	16980	16090	15260	3400	628	393	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	1989	1989	1989	1990	1990	1990	1990	1990	1990	1990	1990	1990
MEAN	15.4	35.4	31.5	76.3	172	298	384	224	118	16.1	1.82	1.73
MAX	51.4	72.1	66.4	148	295	335	596	344	168	22.4	3.31	5.92
(WY)	1990	1989	1989	1990	1992	1990	1989	1991	1989	1991	1991	1989
MIN	.000	1.42	1.36	2.18	16.6	262	256	55.4	10.6	6.39	.000	.000
(WY)	1989	1991	1991	1991	1991	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1989 - 1992
ANNUAL TOTAL	37508.86	28977.07	
ANNUAL MEAN	103	79.2	114
HIGHEST ANNUAL MEAN			160
LOWEST ANNUAL MEAN			79.2
HIGHEST DAILY MEAN	731	823	839
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	74400	57480	82480
10 PERCENT EXCEEDS	357	284	345
50 PERCENT EXCEEDS	15	13	27
90 PERCENT EXCEEDS	.00	.00	.00

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 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1970, water-stage recorder at datum 10 ft higher. Prior to Oct. 1, 1987, at site 75 ft downstream.

REMARKS.--No estimated daily discharges. 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 ft³/s, Feb. 17, 1986, gage height, 27.4 ft, from floodmark, present datum, from rating curve extended above 8,600 ft³/s on basis of theoretical rating of Our House Dam spillway; minimum daily, 2.1 ft³/s, Jan. 10, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft³/s, Feb. 20, gage height, 20.04; minimum daily, 18 ft³/s, Aug. 17, 18 and Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	34	34	35	33	34	34	52	51	32	23	22
2	25	34	32	35	33	33	34	52	51	32	23	22
3	25	33	31	35	33	33	34	52	51	32	22	22
4	25	32	33	35	33	33	33	52	50	32	22	22
5	25	32	35	36	33	34	33	52	48	32	22	22
6	25	32	35	36	33	35	33	53	47	32	22	21
7	25	32	35	35	33	34	33	52	47	32	22	21
8	24	31	35	35	33	34	33	53	47	32	22	21
9	25	33	35	35	34	33	33	52	46	32	22	18
10	25	34	35	35	33	33	33	53	44	32	25	21
11	24	34	35	35	36	33	33	52	44	32	23	22
12	24	34	35	35	38	33	34	52	44	32	23	22
13	25	33	35	35	35	33	36	52	45	32	22	22
14	25	32	34	35	35	33	44	52	46	32	21	22
15	24	31	34	35	35	33	53	52	49	32	20	22
16	24	32	34	35	35	33	52	53	41	32	19	22
17	24	35	34	35	34	33	54	52	34	32	18	22
18	24	38	35	35	34	33	54	52	34	32	18	23
19	24	36	35	35	59	33	53	52	34	29	20	23
20	24	36	35	35	892	33	52	52	33	27	20	22
21	24	36	35	35	86	32	52	52	33	27	20	22
22	24	35	35	35	41	33	51	52	33	27	20	22
23	27	35	34	35	39	32	51	52	34	27	21	22
24	28	35	35	35	37	32	52	52	33	26	21	21
25	27	35	34	35	37	32	52	52	33	26	21	21
26	33	35	34	35	36	33	52	52	33	26	21	21
27	33	35	34	33	34	33	52	52	33	25	21	21
28	34	35	35	33	34	33	52	51	33	24	20	21
29	34	34	35	33	34	33	52	51	33	24	21	21
30	34	34	36	33	---	33	51	51	33	24	21	21
31	34	---	35	33	---	33	---	51	---	24	22	---
TOTAL	824	1017	1068	1077	1942	1025	1315	1612	1217	912	658	647
MEAN	26.6	33.9	34.5	34.7	67.0	33.1	43.8	52.0	40.6	29.4	21.2	21.6
MAX	34	38	36	36	892	35	54	53	51	32	25	23
MIN	24	31	31	33	33	32	33	51	33	24	18	18
AC-FT	1630	2020	2120	2140	3850	2030	2610	3200	2410	1810	1310	1280

11408880 MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.7	87.7	158	293	220	228	168	166	90.2	32.6	29.3	29.3
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1969 - 1992	
ANNUAL TOTAL	17420		13314			
ANNUAL MEAN	47.7		36.4		127	
HIGHEST ANNUAL MEAN					481	
LOWEST ANNUAL MEAN					26.3	
HIGHEST DAILY MEAN	2830	Mar 4	892	Feb 20	17000	Feb 17 1986
LOWEST DAILY MEAN	24	Oct 8	18	Aug 17	2.1	Jan 10 1982
ANNUAL SEVEN-DAY MINIMUM	24	Oct 15	19	Aug 15	3.2	Oct 21 1970
INSTANTANEOUS PEAK FLOW			1300	Feb 20	20600	Feb 17 1986
INSTANTANEOUS PEAK STAGE			20.04	Feb 20	27.40	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	34550		26410		92280	
10 PERCENT EXCEEDS	55		52		126	
50 PERCENT EXCEEDS	34		33		34	
90 PERCENT EXCEEDS	27		22		25	

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 mi².

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,230 ft above National Geodetic Vertical Datum of 1929, 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 ft³/s, Feb. 17, 1986, gage height, 11.56 ft, from rating curve extended above 1,600 ft³/s; minimum daily, 0.53 ft³/s, Aug. 14-16, 1977, Sept. 6, 1988.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	0330	*833	*7.08				

Minimum daily, 1.0 ft³/s, several days during August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	4.1	6.2	16	14	102	62	24	6.4	6.7	1.7	1.2
2	1.5	3.9	5.9	13	16	94	61	22	6.1	5.2	1.6	1.2
3	1.5	3.7	5.6	12	14	87	59	21	5.8	4.6	1.6	1.2
4	1.5	3.5	5.4	17	13	82	56	20	5.6	4.2	1.5	1.1
5	1.5	3.5	5.2	37	12	117	53	20	5.4	4.0	1.5	1.2
6	1.5	3.4	5.1	33	12	162	48	19	5.3	7.4	1.5	1.1
7	1.5	3.3	9.9	31	12	148	44	18	5.3	11	1.5	1.1
8	1.5	3.2	8.3	26	17	124	41	18	5.2	3.4	1.5	1.1
9	1.5	3.6	6.7	22	20	108	38	17	5.0	3.2	1.4	1.0
10	1.4	3.6	6.2	19	46	97	37	16	4.8	3.0	1.4	1.1
11	1.4	3.3	5.8	18	96	89	35	15	4.6	3.2	1.4	1.1
12	1.4	3.1	5.5	16	194	79	58	15	4.7	3.6	1.5	1.1
13	1.5	3.1	5.3	14	144	78	96	14	5.0	3.7	2.1	1.1
14	1.5	3.1	5.1	13	156	77	80	14	5.0	3.5	2.0	1.1
15	1.4	3.1	5.0	12	143	78	70	13	7.9	3.1	1.8	1.0
16	1.4	3.1	4.8	12	111	107	62	13	7.6	2.9	1.2	1.1
17	1.4	24	4.8	12	109	124	71	12	5.9	2.8	1.7	1.1
18	1.5	43	13	12	111	108	65	11	5.3	2.7	2.5	1.2
19	1.5	17	18	12	240	97	59	11	4.9	2.5	1.9	1.1
20	1.4	15	13	11	579	89	53	11	4.5	2.3	1.1	1.1
21	1.3	17	10	11	290	83	48	10	4.1	2.3	1.0	1.1
22	1.5	13	9.0	10	249	82	44	9.8	3.8	2.2	1.0	1.1
23	1.9	9.7	8.0	9.6	196	78	40	9.3	3.7	2.2	1.1	1.1
24	1.9	8.1	7.3	9.2	156	73	36	8.9	3.7	2.1	1.1	1.1
25	4.3	7.3	6.9	9.3	138	71	33	8.5	4.2	2.1	1.2	1.1
26	87	6.6	6.5	9.0	131	72	30	8.3	3.8	2.1	1.1	1.0
27	19	8.8	6.3	8.8	123	69	28	8.0	3.6	2.0	1.1	1.0
28	8.4	9.3	9.5	12	115	66	26	7.6	3.6	1.9	1.1	1.0
29	6.0	7.5	23	12	107	63	25	7.3	6.5	1.8	1.1	1.0
30	5.3	6.6	27	11	---	64	25	7.0	14	1.7	1.1	1.0
31	4.4	---	20	10	---	65	---	6.7	---	1.7	1.2	---
TOTAL	170.3	247.5	278.3	469.9	3564	2833	1483	415.4	161.3	105.1	44.5	32.8
MEAN	5.49	8.25	8.98	15.2	123	91.4	49.4	13.4	5.38	3.39	1.44	1.09
MAX	87	43	27	37	579	162	96	24	14	11	2.5	1.2
MIN	1.3	3.1	4.8	8.8	12	63	25	6.7	3.6	1.7	1.0	1.0
AC-FT	338	491	552	932	7070	5620	2940	824	320	208	88	65

11409300 OREGON CREEK AT CAMPTONVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.78	39.2	83.2	140	153	166	111	54.9	15.6	5.27	2.67	2.86
MAX	16.9	214	407	547	664	453	391	176	47.8	12.2	5.83	9.12
(WY)	1982	1974	1984	1970	1986	1989	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1968 - 1992	
ANNUAL TOTAL	11198.3		9805.1		64.6	
ANNUAL MEAN	30.7		26.8		146	
HIGHEST ANNUAL MEAN					5.38	
LOWEST ANNUAL MEAN					1982	
HIGHEST DAILY MEAN	858	Mar 4	579	Feb 20	3200	Feb 17 1986
LOWEST DAILY MEAN	1.3	Oct 21	1.0	Aug 21	.53	Aug 14 1977
ANNUAL SEVEN-DAY MINIMUM	1.4	Oct 15	1.0	Sep 24	.54	Aug 11 1977
INSTANTANEOUS PEAK FLOW			833	Feb 20	4550	Feb 17 1986
INSTANTANEOUS PEAK STAGE			7.08	Feb 20	11.56	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	22210		19450		46770	
10 PERCENT EXCEEDS	92		84		164	
50 PERCENT EXCEEDS	6.0		7.1		13	
90 PERCENT EXCEEDS	1.7		1.2		2.0	

ALAN LUMB
VMT
(703) 648-5313

SACRAMENTO RIVER BASIN

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 National Geodetic Vertical Datum of 1929 (from contractor's drawings).

REMARKS.--No estimated daily discharges. Records good. 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 ft³/s, Mar. 25, 1989; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	9.5	40	30	430	353	146	.33	31	.00	.00
2	.00	.00	9.1	31	36	389	355	129	.00	18	.00	.00
3	.00	.00	9.2	24	27	357	349	116	.00	13	.00	.00
4	.00	.00	6.2	40	22	344	339	109	.00	10	.00	.00
5	.00	.00	2.8	115	21	456	317	104	.00	7.8	.00	.00
6	.00	.00	2.3	111	21	625	275	99	.00	6.0	.00	.00
7	.00	.00	29	101	24	555	245	96	.00	7.0	.00	.00
8	.00	.00	24	84	42	475	230	101	.00	6.8	.00	.00
9	.00	1.2	12	65	66	415	223	88	.00	5.3	.00	.00
10	.00	4.8	7.6	51	168	372	217	76	.00	3.6	.00	.00
11	.00	.15	5.5	43	401	344	217	66	.00	3.1	.00	.00
12	.00	.00	3.9	36	667	328	345	60	.00	5.0	.00	.00
13	.00	.00	2.5	30	565	315	626	54	.00	6.3	.00	.00
14	.00	.00	1.6	27	534	318	460	71	.00	4.2	.00	.00
15	.00	.00	.88	24	583	323	376	57	7.1	2.6	.00	.00
16	.00	.00	.36	23	477	412	330	40	19	.74	.00	.00
17	.00	69	.01	23	445	431	439	35	15	1.4	.00	.00
18	.00	167	39	23	413	386	447	30	12	.57	.00	.00
19	.00	48	78	22	637	349	366	27	11	.00	.00	.00
20	.00	34	37	20	1080	322	321	26	12	.00	.00	.00
21	.00	57	24	17	928	303	302	25	7.4	.00	.00	.00
22	.00	35	19	16	828	306	280	20	4.9	.00	.00	.00
23	.00	21	16	14	706	298	244	16	3.6	.00	.00	.00
24	.00	14	13	13	588	275	214	13	3.9	.00	.00	.00
25	.12	11	11	14	542	271	200	10	10	.00	.00	.00
26	288	10	47	13	553	285	194	8.6	5.6	.00	.00	.00
27	87	25	32	15	519	281	186	8.6	4.2	.00	.00	.00
28	17	46	22	25	491	285	174	6.9	4.6	.00	.00	.00
29	4.5	21	85	27	453	288	176	5.4	17	.00	.00	.00
30	1.3	14	103	20	---	306	165	3.9	79	.00	.00	.00
31	.00	---	61	19	---	330	---	1.9	---	.00	.00	---
TOTAL	397.92	578.15	713.45	1126	11867	11174	8965	1649.3	216.63	132.41	0.00	0.00
MEAN	12.8	19.3	23.0	36.3	409	360	299	53.2	7.22	4.27	.000	.000
MAX	288	167	103	115	1080	625	626	146	79	31	.00	.00
MIN	.00	.00	.01	13	21	271	165	1.9	.00	.00	.00	.00
AC-FT	789	1150	1420	2230	23540	22160	17780	3270	430	263	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

MEAN	16.9	47.3	32.6	96.2	232	476	461	254	130	14.0	.75	1.39
MAX	54.9	105	70.8	186	409	735	686	414	191	21.7	1.71	5.33
(WY)	1990	1989	1989	1990	1992	1989	1989	1991	1990	1991	1989	1989
MIN	.000	1.28	.83	1.16	16.7	360	299	53.2	7.22	4.27	.000	.000
(WY)	1989	1991	1991	1991	1991	1992	1992	1992	1992	1992	1992	1991

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1989 - 1992

ANNUAL TOTAL	47071.78	36819.86	
ANNUAL MEAN	129	101	146
HIGHEST ANNUAL MEAN			218
LOWEST ANNUAL MEAN			101
HIGHEST DAILY MEAN	987	Mar 4	1090
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 17	.00
ANNUAL RUNOFF (AC-FT)	93370	73030	105900
10 PERCENT EXCEEDS	451	360	469
50 PERCENT EXCEEDS	12	12	29
90 PERCENT EXCEEDS	.00	.00	.00

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 mi².

PERIOD OF RECORD.--August 1968 to current year.

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 National Geodetic Vertical Datum of 1929 (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.--No estimated daily discharges. Records good. Lohman Ridge tunnel (station 11408870) diverts water into the basin from the Middle Yuba River. Camptonville tunnel (station 11409350), maximum capacity, about 1,000 ft³/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 ft³/s, Feb. 17, 1986, gage height, 11.24 ft, datum then in use, from rating curve extended above 50 ft³/s based on flow-over-dam computation; minimum daily, 0.34 ft³/s, Sept. 18, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 620 ft³/s, Feb. 20, gage height, 9.84 ft; minimum daily, 1.9 ft³/s, several days during August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	6.4	11	12	10	11	11	13	11	9.1	2.6	2.3
2	2.3	5.8	11	11	10	11	11	14	9.9	9.4	2.5	2.4
3	2.2	5.4	11	11	10	11	11	14	8.8	9.8	2.4	2.3
4	2.0	5.2	11	11	10	11	11	14	7.9	9.7	2.4	2.3
5	2.0	5.1	11	13	9.9	11	11	13	7.4	9.6	2.4	2.4
6	2.0	5.1	10	13	9.9	13	11	14	7.1	9.6	2.4	2.4
7	2.0	5.0	11	13	9.9	12	10	14	7.2	9.0	2.3	2.3
8	2.0	4.9	11	12	10	12	10	14	7.2	8.4	2.3	2.3
9	2.0	6.7	11	12	10	11	10	13	7.0	8.4	2.3	2.3
10	2.1	11	11	12	11	11	10	13	6.5	8.4	2.4	2.1
11	2.1	9.4	11	11	13	11	10	13	6.2	8.3	2.3	2.0
12	2.1	5.7	11	11	16	11	11	13	6.4	8.3	2.4	2.0
13	2.1	4.9	11	11	15	11	12	13	6.6	8.4	2.2	2.0
14	2.2	4.7	11	11	14	11	12	13	6.7	8.4	2.1	2.0
15	2.1	4.6	11	11	14	11	13	13	10	8.3	2.7	2.0
16	2.1	4.6	10	11	13	11	13	13	12	8.2	6.0	1.9
17	2.1	10	10	11	13	11	14	13	11	8.3	5.3	2.0
18	2.1	15	11	11	13	11	14	13	11	7.5	5.1	2.1
19	2.2	13	12	11	27	11	14	13	9.8	4.4	4.0	2.0
20	2.2	13	11	11	313	11	14	13	9.2	3.6	1.9	2.0
21	2.1	13	11	11	18	11	14	13	9.0	3.5	2.0	2.0
22	2.0	13	11	11	16	11	14	13	9.0	3.5	2.0	1.9
23	2.5	13	11	11	15	11	14	13	8.8	3.4	2.0	1.9
24	2.8	12	11	11	14	11	14	13	8.6	3.4	2.1	1.9
25	4.4	11	11	11	14	11	14	14	8.8	3.4	2.2	1.9
26	17	11	11	11	14	11	14	14	8.7	3.3	2.2	1.9
27	14	11	11	10	13	11	14	12	8.6	3.4	2.2	1.9
28	12	11	11	10	12	11	14	12	8.3	3.0	2.1	2.0
29	12	11	12	10	11	11	13	11	8.5	2.8	2.1	2.0
30	11	11	13	10	---	11	13	11	9.7	2.8	2.1	1.9
31	8.7	---	12	9.9	---	11	---	11	---	2.7	2.3	---
TOTAL	130.7	262.5	343	345.9	678.7	345	371	403	256.9	200.3	81.3	62.4
MEAN	4.22	8.75	11.1	11.2	23.4	11.1	12.4	13.0	8.56	6.46	2.62	2.08
MAX	17	15	13	13	313	13	14	14	12	9.8	6.0	2.4
MIN	2.0	4.6	10	9.9	9.9	11	10	11	6.2	2.7	1.9	1.9
AC-FT	259	521	680	686	1350	684	736	799	510	397	161	124

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.37	17.9	51.1	87.5	65.1	45.9	33.1	17.1	11.1	8.27	6.32	5.55
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1968 - 1992	
ANNUAL TOTAL	3870.3		3480.7			
ANNUAL MEAN	10.6		9.51		29.5	
HIGHEST ANNUAL MEAN					128	
LOWEST ANNUAL MEAN					4.20	
HIGHEST DAILY MEAN	564	Mar 4	313	Feb 20	5340	Feb 17 1986
LOWEST DAILY MEAN	2.0	Oct 4	1.9	Aug 20	.34	Sep 18 1972
ANNUAL SEVEN-DAY MINIMUM	2.0	Oct 4	1.9	Sep 21	.74	Sep 18 1972
INSTANTANEOUS PEAK FLOW			620	Feb 20	6400	Feb 17 1986
INSTANTANEOUS PEAK STAGE			9.84	Feb 20	11.24	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	7680		6900		21370	
10 PERCENT EXCEEDS	14		13		17	
50 PERCENT EXCEEDS	9.9		11		9.6	
90 PERCENT EXCEEDS	2.6		2.1		3.2	

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 mi².

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 National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--No estimated daily discharges. Records good. Several small diversions upstream for station for irrigation and mining. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s, Feb. 1, 1963, gage height, 25.8 ft, from floodmarks, from rating curve extended above 8,500 ft³/s on basis of one float measurement at 17,900 ft³/s and slope-area measurements at gage heights 19.15 and 23.8 ft; minimum daily, 60 ft³/s, Sept. 7-14, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	0430	*3,390	*8.13				

Minimum daily, 72 ft³/s, Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	131	144	159	167	742	968	762	199	179	92	82
2	95	129	146	153	160	679	988	705	194	161	91	80
3	94	129	142	151	153	648	1010	669	189	153	90	80
4	93	128	139	178	149	635	994	662	184	148	89	82
5	94	127	137	246	148	781	899	641	179	144	89	81
6	94	126	136	222	151	818	779	623	175	140	89	79
7	94	124	177	206	158	726	723	664	174	138	88	78
8	94	123	153	187	205	663	738	701	169	135	88	77
9	93	147	142	174	244	611	753	604	167	131	88	76
10	92	147	141	168	301	581	758	528	163	129	87	75
11	91	130	141	162	420	575	762	486	161	129	86	75
12	92	124	140	156	636	587	1120	452	162	134	85	76
13	91	121	140	153	556	608	1610	427	166	135	84	75
14	90	120	139	151	577	643	1190	406	167	127	84	74
15	90	120	139	150	562	636	1060	383	187	123	84	75
16	90	117	139	152	489	684	957	358	189	120	85	74
17	91	226	139	152	449	655	1590	340	173	122	83	74
18	91	258	236	151	443	616	1370	321	170	114	80	75
19	91	167	212	147	821	580	1100	308	169	109	78	76
20	88	184	169	146	2570	567	1030	304	159	107	78	76
21	91	205	160	146	1380	560	1040	290	151	106	78	76
22	94	174	154	143	1220	569	986	273	145	106	79	75
23	101	158	149	142	987	556	869	259	144	105	81	75
24	100	153	145	142	815	539	830	248	147	105	80	75
25	118	151	143	142	790	556	852	241	151	104	80	75
26	708	152	141	143	845	578	881	234	144	102	79	74
27	275	198	139	142	820	618	876	227	139	100	78	73
28	170	194	163	162	811	659	869	220	140	98	78	73
29	153	164	194	156	768	720	921	213	178	97	78	72
30	142	147	194	152	---	771	842	210	265	95	81	72
31	133	---	170	151	---	801	---	204	---	94	84	---
TOTAL	3929	4574	4803	4985	17795	19962	29365	12963	5100	3790	2594	2280
MEAN	127	152	155	161	614	644	979	418	170	122	83.7	76.0
MAX	708	258	236	246	2570	818	1610	762	265	179	92	82
MIN	88	117	136	142	148	539	723	204	139	94	78	72
AC-FT	7790	9070	9530	9890	35300	39590	58250	25710	10120	7520	5150	4520

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	189	370	640	806	925	1021	1364	1746	1080	353	182	149
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1931 - 1992	
ANNUAL TOTAL	149624		112140			
ANNUAL MEAN	410		306		734	
HIGHEST ANNUAL MEAN					1566	
LOWEST ANNUAL MEAN					141	
HIGHEST DAILY MEAN	7980	Mar 4	2570	Feb 20	26500	Jan 13 1980
LOWEST DAILY MEAN	88	Oct 20	72	Sep 29	60	Sep 7 1977
ANNUAL SEVEN-DAY MINIMUM	90	Oct 14	73	Sep 24	60	Sep 7 1977
INSTANTANEOUS PEAK FLOW			3390	Feb 20	40000	Feb 1 1963
INSTANTANEOUS PEAK STAGE			8.13	Feb 20	25.80	Feb 1 1963
ANNUAL RUNOFF (AC-FT)	296800		222400		531700	
10 PERCENT EXCEEDS	1030		784		1820	
50 PERCENT EXCEEDS	155		152		322	
90 PERCENT EXCEEDS	103		80		126	

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 Fenev 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 National Geodetic Vertical Datum of 1929.

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 ft³/s, Apr. 6, 1963; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	9.6	14	28	351	371	133	16	14	.00	.00
2	.00	.00	7.7	14	25	328	368	120	15	10	.00	.00
3	.00	.00	6.3	14	24	311	362	111	13	7.6	.00	.00
4	.00	.00	4.9	27	21	302	340	105	12	6.3	.00	.00
5	.00	.00	4.2	54	20	501	296	101	11	5.4	.00	.00
6	.00	.00	4.7	41	22	475	257	95	11	4.7	.00	.00
7	.00	.00	12	33	29	391	232	95	10	4.2	.00	.00
8	.00	.00	8.2	27	98	342	225	91	9.8	3.4	.00	.00
9	.00	.00	5.4	24	108	299	219	80	9.0	2.8	.00	.00
10	.00	.00	4.8	22	134	270	248	69	8.2	2.5	.00	.00
11	.00	.00	5.4	20	169	259	247	63	7.8	2.5	.00	.00
12	.00	.00	3.9	19	315	264	509	60	7.6	4.2	.00	.00
13	.00	.00	1.3	18	270	274	585	56	8.5	1.8	.00	.00
14	.00	.00	.00	16	273	290	410	53	8.6	.00	.00	.00
15	.00	.00	.00	17	198	306	346	49	19	.00	.00	.00
16	.00	.00	.00	17	144	360	308	46	14	.00	.00	.00
17	.00	.00	.00	17	112	329	497	43	10	.00	.00	.00
18	.00	15	102	19	103	301	398	40	9.1	.00	.00	.00
19	.00	14	62	17	321	268	323	38	8.0	.00	.00	.00
20	.00	28	33	16	503	252	292	37	6.8	.00	.00	.00
21	.00	35	24	16	580	243	275	34	5.6	.00	.00	.00
22	.00	18	19	13	595	248	247	31	4.8	.00	.00	.00
23	.00	12	15	14	449	251	215	29	4.4	.00	.00	.00
24	.00	9.6	12	14	351	245	195	27	5.2	.00	.00	.00
25	.00	8.5	11	15	353	246	187	26	6.0	.00	.00	.00
26	67	8.4	10	15	390	253	181	25	4.3	.00	.00	.00
27	17	46	9.1	15	381	264	171	23	3.6	.00	.00	.00
28	.55	26	17	21	371	284	164	21	3.7	.00	.00	.00
29	.00	15	19	22	350	303	167	20	16	.00	.00	.00
30	.00	6.6	19	21	---	327	149	19	42	.00	.00	.00
31	.00	---	16	22	---	340	---	18	---	.00	.00	---
TOTAL	84.55	242.10	446.50	634	6737	9477	8784	1758	310.0	69.40	0.00	0.00
MEAN	2.73	8.07	14.4	20.5	232	306	293	56.7	10.3	2.24	.000	.000
MAX	67	46	102	54	595	501	585	133	42	14	.00	.00
MIN	.00	.00	.00	13	20	243	149	18	3.6	.00	.00	.00
AC-FT	168	480	886	1260	13360	18800	17420	3490	615	138	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	9.90	72.4	90.7	105	126	186	208	194	98.0	21.3	2.99	1.88
MEAN	9.90	72.4	90.7	105	126	186	208	194	98.0	21.3	2.99	1.88
MAX	43.5	321	302	347	459	586	582	638	291	144	24.2	21.1
(WY)	1983	1984	1967	1986	1986	1972	1966	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1963 - 1992

ANNUAL TOTAL	30953.34	28542.55	
ANNUAL MEAN	84.8	78.0	
HIGHEST ANNUAL MEAN			92.7
LOWEST ANNUAL MEAN			176
HIGHEST DAILY MEAN	612	595	863
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	61400	56610	67150
10 PERCENT EXCEEDS	336	304	301
50 PERCENT EXCEEDS	11	12	14
90 PERCENT EXCEEDS	.00	.00	.00

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Slate Creek tunnel (station 11413250) diverts up to 900 ft³/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 ft³/s, Feb. 17, 1986, gage height, 16.89 ft, from rating curve extended above 5,500 ft³/s on basis of computed flow over dam at gage heights 12.75, 15.90, and 16.89 ft; minimum, 0.3 ft³/s, Mar. 4, 5, 1962.

Combined flow: Maximum discharge, 13,900 ft³/s, Dec. 22, 1964; minimum daily, 2.3 ft³/s, Nov. 23, 1961.

EXTREMES FOR CURRENT YEAR.--Creek only: Maximum discharge, 1,760 ft³/s, Feb. 20, gage height, 8.87 ft; minimum daily, 5.6 ft³/s, Sept. 29, 30.

Combined flow: Maximum discharge, 1,930 ft³/s, Feb. 20; minimum daily, 5.6 ft³/s, Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	13	10	10	11	11	11	10	10	11	9.4	7.3
2	8.1	13	10	10	11	11	11	10	11	11	9.1	7.2
3	8.1	12	10	10	10	11	11	10	11	11	8.9	7.1
4	7.9	12	10	11	10	11	10	10	11	11	8.7	7.2
5	7.9	12	10	11	10	11	10	10	11	11	8.7	7.3
6	7.9	12	10	11	10	11	10	10	11	11	8.6	7.1
7	7.9	11	10	11	10	11	10	10	11	11	8.6	7.1
8	7.9	11	10	11	11	11	10	10	11	11	8.6	6.9
9	7.9	12	10	11	11	11	10	10	11	11	8.6	6.8
10	7.7	12	10	11	11	11	10	10	11	11	8.5	6.7
11	7.7	11	10	11	11	11	10	10	11	11	8.3	6.7
12	7.7	10	10	11	12	11	11	10	11	11	8.0	6.7
13	7.7	10	13	11	11	11	11	10	11	14	7.8	6.7
14	7.7	10	16	11	11	11	11	10	11	15	7.7	6.7
15	7.7	9.9	15	11	11	11	11	10	11	14	7.7	6.7
16	7.7	9.9	14	10	11	11	11	10	11	14	7.7	6.6
17	7.7	37	16	10	11	11	11	10	11	14	7.7	6.6
18	7.7	34	48	10	11	11	11	10	11	13	7.5	6.6
19	7.7	10	11	10	76	11	11	10	11	12	7.3	6.6
20	7.5	10	10	10	854	11	11	10	11	12	7.2	6.5
21	7.3	10	10	10	90	11	11	10	11	12	7.1	6.4
22	8.1	10	10	10	11	11	11	10	11	12	7.1	6.4
23	8.9	10	10	10	11	11	10	10	11	12	7.3	5.9
24	8.8	10	10	10	11	11	10	10	11	11	7.3	5.7
25	17	10	10	10	11	11	10	10	11	11	7.3	5.8
26	92	10	10	10	11	11	10	10	11	11	7.2	5.7
27	23	10	10	10	11	11	10	10	11	11	7.0	5.7
28	20	10	11	11	11	10	10	10	11	10	6.9	5.7
29	18	10	11	10	11	10	10	10	11	10	6.9	5.6
30	15	10	11	10	---	10	10	10	11	9.8	7.1	5.6
31	14	---	11	10	---	11	---	10	---	9.6	7.2	---
TOTAL	388.3	371.8	377	323	1302	338	314	310	329	359.4	243.0	195.6
MEAN	12.5	12.4	12.2	10.4	44.9	10.9	10.5	10.0	11.0	11.6	7.84	6.52
MAX	92	37	48	11	854	11	11	10	11	15	9.4	7.3
MIN	7.3	9.9	10	10	10	10	10	10	10	9.6	6.9	5.6
AC-FT	770	737	748	641	2580	670	623	615	653	713	482	388
Mean a	15.3	20.5	26.5	30.9	277	317	303	66.7	21.3	13.8	7.84	6.52
AC-FT a	938	1220	1630	1900	15940	19470	18040	4100	1270	851	482	388

a Adjusted for diversion to Slate Creek Tunnel.

11413300 SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.8	62.5	147	239	203	211	193	191	50.1	11.7	11.0	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1963 - 1992	
ANNUAL TOTAL	8471.2		4851.1			
ANNUAL MEAN	23.2		13.3		113	
ANNUAL MEAN ADJUSTED a	108		91.2			
HIGHEST ANNUAL MEAN					352	
LOWEST ANNUAL MEAN					10.4	
HIGHEST DAILY MEAN	2880	Mar 4	854	Feb 20	10600	Dec 22 1964
LOWEST DAILY MEAN	7.3	Oct 21	5.6	Sep 29	.86	Feb 18 1975
ANNUAL SEVEN-DAY MINIMUM	7.6	Oct 15	5.7	Sep 24	.95	Feb 21 1975
INSTANTANEOUS PEAK FLOW			1760	Feb 20	13600	Feb 17 1986
INSTANTANEOUS PEAK STAGE			8.87	Feb 20	16.89	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	16800		9620		1630	
ANNUAL RUNOFF (AC-FT) ADJUSTED a	78190		66230			
10 PERCENT EXCEEDS	14		12		331	
50 PERCENT EXCEEDS	11		10		11	
90 PERCENT EXCEEDS	8.9		7.2		8.0	

a Adjusted for diversion to Slate Creek Tunnel.

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 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2780	817	716	1190	1010	204	519	923	1710	938	1050	923
2	2020	636	973	711	205	473	650	968	907	1020	413	731
3	2140	529	923	822	862	309	196	218	1450	443	1150	321
4	1900	1020	756	1010	1100	61	292	1650	1080	731	686	625
5	1250	605	887	449	350	108	544	1050	1590	696	660	741
6	1860	715	1260	615	691	183	993	1280	786	1150	792	319
7	2590	859	923	968	686	158	335	1210	1520	434	1150	304
8	2120	781	902	539	842	72	867	1800	1430	620	701	605
9	2560	1040	832	852	184	30	241	1070	1470	1060	650	339
10	1410	712	988	716	484	118	416	1260	998	560	1170	427
11	1950	1060	1090	1060	172	.00	560	1540	1510	1180	655	445
12	1970	659	493	696	160	.00	367	1060	1370	681	645	340
13	1080	814	852	887	147	.00	37	1490	1280	958	1070	185
14	1620	838	958	1030	126	.00	.00	1310	1310	625	686	4.5
15	585	922	907	857	126	51	993	1380	1390	333	1040	.00
16	973	792	897	1090	192	4.0	555	1340	1360	1090	595	253
17	746	741	746	847	276	.00	209	1090	1420	822	620	253
18	847	882	827	620	402	31	409	1460	802	676	1230	353
19	620	565	701	756	686	645	123	1150	1540	605	519	.00
20	660	668	837	953	157	80	696	887	1430	1290	635	126
21	953	752	766	802	192	365	605	1530	1010	433	741	85
22	665	710	907	776	315	456	792	1220	1010	923	464	250
23	948	839	736	1160	315	245	416	1260	1100	625	973	105
24	1020	849	837	467	1040	104	585	827	560	1190	610	.00
25	812	763	650	766	1320	570	452	1580	807	756	907	108
26	.00	813	1040	832	1130	405	539	1350	1130	615	463	70
27	555	1170	928	1040	316	256	807	963	963	877	746	29
28	902	230	741	600	766	311	1500	1280	978	716	1050	282
29	817	508	882	701	239	288	145	1550	1450	1150	415	660
30	887	526	555	862	---	383	1070	797	539	595	1070	877
31	1120	---	529	872	---	189	---	1150	---	847	406	---
TOTAL	40360.00	22815	26039	25546	14491	6099.00	15913.00	37643	35900	24639	23962	9760.50
MEAN	1302	760	840	824	500	197	530	1214	1197	795	773	325
MAX	2780	1170	1260	1190	1320	645	1500	1800	1710	1290	1230	923
MIN	.00	230	493	449	126	.00	.00	218	539	333	406	.00
AC-FT	80050	45250	51650	50670	28740	12100	31560	74660	71210	48870	47530	19360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1992, BY WATER YEAR (WY)

	MEAN	1201	1496	1469	1425	1403	1498	1354	1522	1679	1878	1499
MAX	2497	2433	3262	3496	3428	3519	3503	3565	3629	3057	3130	2995
(WY)	1976	1976	1975	1984	1980	1980	1989	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1971 - 1992

ANNUAL TOTAL	340946.00	283167.50	
ANNUAL MEAN	934	774	1476
HIGHEST ANNUAL MEAN			2686
LOWEST ANNUAL MEAN			316
HIGHEST DAILY MEAN	2780	2780	4200
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	1.6	7.9	.00
ANNUAL RUNOFF (AC-FT)	676300	561700	1069000
10 PERCENT EXCEEDS	2060	1350	3300
50 PERCENT EXCEEDS	766	756	1170
90 PERCENT EXCEEDS	132	168	107

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 mi².

PERIOD OF RECORD.--January 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 716,124 acre-ft, May 3, elevation, 1,898.75 ft; minimum, 457,507 acre-ft, Feb. 8, elevation, 1,823.80 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	721,137
1,720	211,768	1,960	985,477

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	614492	552926	524465	491605	462680	556320	644041	714212	677626	624969	586604	545259
2	610809	551921	523136	490703	462920	558780	646368	714646	676369	623450	585909	544053
3	606786	551185	521875	489645	461631	561224	649587	716124	674013	622945	583999	543621
4	603309	549379	520744	488528	459895	564095	652594	715118	672419	622078	582647	542627
5	601117	548578	519486	489521	459805	568791	654679	714803	669882	620888	581505	541203
6	597838	547644	517168	489739	458938	573754	655908	714212	668899	619123	580156	540905
7	592781	546212	516301	489335	458253	578120	657851	713857	666522	618583	578258	540541
8	588868	545082	514953	489242	457507	581782	658784	712479	664187	617612	577053	539484
9	584103	543455	513864	488528	458313	584901	660845	712282	661858	616033	576055	539022
10	581297	542627	512457	487907	459158	587717	662608	711496	660433	615209	573925	538297
11	577776	540839	510606	486421	461841	591172	664337	710003	657851	613453	572931	537704
12	574131	539913	510032	485647	467527	593938	668408	709179	655647	612417	571732	537177
13	572246	538791	508600	484443	471675	596852	674696	707610	653413	610916	569851	536946
14	569372	537341	507361	483147	476733	600234	679075	706357	651405	609989	568860	537177
15	568382	535992	505807	481946	481086	603486	681023	704950	649624	609704	566951	537243
16	566746	534907	504445	480378	484813	606573	683587	703582	647402	608102	565930	536913
17	565284	534809	503432	479151	487907	610346	688272	702451	645259	606680	564978	536781
18	563959	534612	503591	478478	490392	613596	692282	700620	644410	605755	562602	536222
19	562805	534153	503306	477283	496040	615316	695803	699297	642236	604869	561789	536518
20	561823	533628	502170	476122	514441	618008	697976	698597	639882	602637	560672	536386
21	560199	533070	501350	475115	523622	620095	700465	696424	638232	602106	559387	536353
22	559286	532317	500184	473957	531205	622006	702451	694951	636729	600764	558611	536156
23	557633	531172	499399	472070	536617	624209	704598	693248	634972	599775	556825	536091
24	555814	529963	498204	471645	539319	626600	706240	692321	634315	597662	555848	536189
25	555243	528985	497200	470614	540475	628014	708238	690005	633110	596395	554602	536123
26	559185	528072	495790	469462	542792	629904	710042	688195	631543	595447	553597	536156
27	559556	526217	494351	467738	546545	631907	710828	686887	630014	593938	552189	536320
28	558375	526673	493788	467104	549212	634133	710710	685121	628487	592781	550349	535959
29	557296	526087	493351	466470	553060	636619	713030	682744	626491	590788	549713	534842
30	555814	525503	493351	465325	---	638891	713857	681940	626491	589810	547678	533169
31	554101	---	493133	464031	---	641354	---	680181	---	588589	547045	---
MAX	614492	552926	524465	491605	553060	641354	713857	716124	677626	624969	586604	545259
MIN	554101	525503	493133	464031	457507	556320	644041	680181	626491	588589	547045	533169
a	1854.31	1845.65	1835.48	1825.98	1854.00	1879.12	1898.16	1889.48	1875.05	1864.39	1852.20	1848.00
b	-65490	-28598	-32370	-29102	+89029	+88294	+72503	-33676	-53690	-37902	-41544	-13876

CAL YR 1991 b -65410
WTR YR 1992 b -86422

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

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Auxiliary water-stage recorder for high flow 0.9 mi downstream at different datum.

REMARKS.--No estimated daily discharges. 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 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 ft³/s, Jan. 22, 1970, gage height, 35.29 ft, at auxiliary gage, from rating curve extended above 40,000 ft³/s on basis of computation of flow over old Colgate Dam; minimum daily, 0.42 ft³/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 ft³/s, at auxiliary gage, from computation of flow over old Colgate Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17 ft³/s, Oct. 26, gage height, 7.29 ft; minimum daily, 5.9 ft³/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	6.1	6.9	7.3	6.4	6.0	5.9	5.9	5.9	6.3	6.3	6.3
2	6.3	6.1	6.3	7.3	6.3	5.9	5.9	5.9	5.9	6.3	6.3	6.3
3	6.3	6.1	6.3	7.3	6.3	5.9	5.9	5.9	6.0	6.3	6.3	6.3
4	6.3	6.1	6.3	7.8	6.3	5.9	5.9	6.0	6.1	6.3	6.3	6.3
5	6.3	6.1	6.3	7.5	6.3	6.6	5.9	6.0	6.1	6.3	6.3	6.3
6	6.3	6.1	6.3	6.6	6.3	6.9	5.9	6.0	6.1	6.3	6.3	6.3
7	6.3	6.1	6.7	6.8	6.1	6.5	5.9	6.5	6.1	6.3	6.3	6.3
8	6.3	6.1	6.4	6.5	6.3	6.3	5.9	5.9	6.1	6.3	6.3	6.3
9	6.3	6.1	6.5	6.4	6.2	6.3	5.9	5.9	6.1	6.3	6.3	6.3
10	6.3	6.3	6.5	6.3	6.5	6.1	5.9	5.9	6.1	6.3	6.3	6.3
11	6.5	6.3	6.6	6.3	6.9	6.2	5.9	5.9	6.1	6.3	6.3	6.3
12	6.7	6.4	6.8	6.3	7.9	5.9	6.6	5.9	6.1	6.3	6.3	6.3
13	6.9	6.5	7.0	6.3	7.0	5.9	6.1	5.9	6.1	6.6	6.3	6.3
14	6.8	6.5	7.1	6.3	7.6	6.0	5.9	5.9	6.1	6.3	6.3	6.3
15	6.3	6.7	7.1	6.3	7.6	6.0	5.9	5.9	6.1	6.3	6.3	6.3
16	6.3	6.7	7.1	6.3	7.5	6.1	5.9	5.9	6.6	6.3	6.3	6.3
17	6.4	7.4	7.1	6.3	6.9	6.1	6.1	5.9	6.3	6.3	6.3	6.3
18	6.5	7.2	7.8	6.3	6.6	5.9	5.9	5.9	6.3	6.3	6.3	6.3
19	6.3	6.7	7.7	6.3	7.4	5.9	5.9	6.1	6.3	6.3	6.3	6.3
20	6.7	6.5	8.4	6.3	8.0	5.9	5.9	6.1	6.3	6.3	6.3	6.3
21	6.7	6.7	7.4	6.3	6.5	5.9	5.9	6.1	6.3	6.3	6.3	6.3
22	6.7	6.5	7.3	6.3	6.3	6.1	5.9	6.1	6.3	6.3	6.3	6.3
23	6.7	6.5	7.5	6.3	6.1	5.9	5.9	6.1	6.3	6.3	6.3	6.4
24	6.7	6.5	7.5	6.3	6.1	5.9	6.0	6.1	6.3	6.3	6.3	6.3
25	7.6	6.5	7.5	6.3	6.0	5.9	6.1	6.1	6.3	6.4	6.3	6.3
26	10	6.5	7.4	6.3	5.9	6.1	6.1	6.3	6.3	7.1	6.3	6.3
27	6.2	6.5	7.3	6.3	5.9	6.5	5.9	6.3	6.3	6.3	6.3	6.3
28	6.1	6.6	7.3	6.4	5.9	6.5	5.9	6.2	6.3	6.3	6.3	6.3
29	6.1	6.6	7.9	6.3	5.9	6.5	5.9	6.1	6.5	6.3	6.3	6.3
30	6.1	6.5	7.5	6.3	---	6.5	5.9	6.0	6.3	6.3	6.3	6.3
31	6.1	---	7.3	6.3	---	6.2	---	5.9	---	6.3	6.3	---
TOTAL	203.4	193.5	219.1	202.2	191.0	190.3	178.6	186.6	186.0	196.5	195.3	189.1
MEAN	6.56	6.45	7.07	6.52	6.59	6.14	5.95	6.02	6.20	6.34	6.30	6.30
MAX	10	7.4	8.4	7.8	8.0	6.9	6.6	6.5	6.6	7.1	6.3	6.4
MIN	6.1	6.1	6.3	6.3	5.9	5.9	5.9	5.9	5.9	6.3	6.3	6.3
AC-FT	403	384	435	401	379	377	354	370	369	390	387	375

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.4	28.2	217	569	573	498	352	167	90.1	11.8	6.41	5.93
MAX	381	271	3570	8990	7457	4369	4144	2123	1891	120	9.49	8.02
(WY)	1975	1975	1984	1970	1986	1983	1982	1983	1983	1983	1984	1973
MIN	2.60	3.41	4.97	4.65	2.10	5.32	3.09	4.12	1.92	3.48	3.21	2.91
(WY)	1971	1971	1978	1981	1971	1976	1970	1970	1970	1977	1977	1970

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1970 - 1992	
ANNUAL TOTAL	2410.3		2331.6			
ANNUAL MEAN	6.60		6.37		210	
HIGHEST ANNUAL MEAN					929	
LOWEST ANNUAL MEAN					4.62	
HIGHEST DAILY MEAN	10	Mar 4	10	Oct 26	48200	Feb 19 1986
LOWEST DAILY MEAN	5.9	Feb 1	5.9	Feb 26	1.3	Jun 25 1970
ANNUAL SEVEN-DAY MINIMUM	5.9	Feb 14	5.9	Apr 1	1.4	Jun 21 1970
INSTANTANEOUS PEAK FLOW			17	Oct 26	56200	Jan 22 1970
INSTANTANEOUS PEAK STAGE			7.29	Oct 26	35.29	Jan 22 1970
ANNUAL RUNOFF (AC-FT)	4780		4620		152200	
10 PERCENT EXCEEDS	7.1		6.9		10	
50 PERCENT EXCEEDS	6.4		6.3		6.5	
90 PERCENT EXCEEDS	6.1		5.9		4.2	

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 mi².

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 National Geodetic Vertical Datum of 1929 (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, 904 acre-ft, July 3, 4, 1991, gage height, 19.80 ft; minimum, 112 acre-ft, Dec. 3, 4, 6, 1991, gage height, 3.84 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 720 acre-ft, May 7, gage height, 17.07 ft; minimum, 112 acre-ft, Dec. 3, 4, 6, gage height, 3.84 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	593	301	120	132	149	264	431	710	697	679	643	598
2	564	292	113	133	150	273	444	710	695	678	642	596
3	552	285	112	133	150	278	458	712	693	676	640	596
4	542	276	112	135	150	281	472	713	693	677	637	595
5	533	267	113	137	151	289	484	717	692	676	636	593
6	520	260	112	138	152	297	491	718	691	674	636	593
7	510	252	117	140	152	299	499	720	689	672	633	590
8	498	246	117	140	154	303	508	717	687	670	631	589
9	487	240	116	140	156	306	520	718	685	668	630	586
10	476	233	118	140	159	307	527	717	685	665	628	586
11	467	225	118	142	163	310	539	719	684	668	627	584
12	457	218	117	142	168	313	558	717	684	670	624	584
13	448	212	118	142	170	317	574	719	689	670	622	582
14	438	205	118	142	174	323	586	719	687	668	622	581
15	426	198	118	142	180	328	598	715	684	667	622	580
16	417	189	118	143	187	334	609	714	685	667	621	579
17	407	192	118	143	190	339	633	715	683	666	619	578
18	396	188	124	144	192	342	647	716	681	665	618	578
19	385	181	125	144	201	346	654	713	678	664	615	576
20	375	177	125	144	214	348	664	711	677	662	614	573
21	366	170	125	144	225	351	672	709	678	660	613	572
22	357	164	125	145	233	356	683	708	680	660	613	570
23	348	159	126	145	239	359	682	707	679	659	611	569
24	339	151	126	145	241	362	686	706	679	657	609	571
25	338	145	126	146	246	367	691	704	678	654	607	569
26	351	139	126	146	250	373	696	704	676	653	605	568
27	343	136	126	146	254	379	696	702	676	651	603	568
28	335	130	129	147	256	387	700	701	679	649	601	568
29	329	129	131	148	259	395	704	700	686	648	600	568
30	320	122	132	147	---	408	709	699	682	647	600	568
31	310	---	132	148	---	418	---	699	---	645	599	---
MAX	593	301	132	148	259	418	709	720	697	679	643	598
MIN	310	122	112	132	149	264	431	699	676	645	599	568
a	9.31	4.16	4.47	4.93	8.01	11.74	16.90	16.73	16.46	15.85	15.09	14.55
b	-295	-188	+10	+16	+111	+159	+291	-10	-17	-37	-46	-31

WTR YR 1992 MAX 720 MIN 112 b -37

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

b Change in contents, in acre-feet.

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 mi².

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 National Geodetic Vertical Datum of 1929 (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. No records collected during winter months. 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, 480 acre-ft, Aug. 19, 20, 1991, gage height, 21.39 ft; minimum, 0 acre-ft, Nov. 29, 1991, gage height, 0.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 437 acre-ft, May 7-16, gage height, 20.07 ft; minimum, 0 acre-ft, Nov. 29, 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		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	252	183	---	---	---	---	---	430	430	408	380	282
2	248	177	---	---	---	---	---	431	429	406	385	276
3	248	172	---	---	---	---	---	433	428	404	390	270
4	248	167	---	---	---	---	---	434	427	401	394	264
5	247	162	---	---	---	---	---	434	427	399	399	258
6	247	157	---	---	---	---	---	435	427	396	402	252
7	246	152	---	---	---	---	---	437	426	393	405	246
8	245	148	---	---	---	---	---	437	426	390	408	241
9	244	144	---	---	---	---	302	437	424	386	410	237
10	243	138	---	---	---	---	307	437	424	382	412	232
11	242	134	---	---	---	---	312	437	423	379	413	226
12	241	129	---	---	---	---	323	437	422	379	414	221
13	239	124	---	---	---	---	334	437	421	376	415	216
14	237	119	---	---	---	---	341	437	421	373	415	211
15	235	115	---	---	---	---	347	437	422	369	415	205
16	232	110	---	---	---	---	353	437	422	367	414	197
17	230	111	---	---	---	---	372	436	421	364	413	189
18	228	108	---	---	---	---	380	436	421	359	412	182
19	225	106	---	---	---	---	385	436	420	356	410	174
20	222	103	---	---	---	---	391	436	420	352	406	166
21	219	100	---	---	---	---	397	435	419	349	391	159
22	215	97	---	---	---	---	401	435	418	345	378	152
23	211	93	---	---	---	---	404	434	418	341	366	145
24	207	88	---	---	---	---	408	434	417	338	353	138
25	206	82	---	---	---	---	412	433	417	332	341	130
26	212	74	---	---	---	---	416	433	416	330	320	123
27	207	43	---	---	---	---	420	432	413	340	313	117
28	203	13	---	---	---	---	422	432	410	350	307	110
29	198	e0	---	---	---	---	426	431	411	358	301	104
30	193	---	---	---	---	---	428	430	410	367	294	97
31	188	---	---	---	---	---	---	430	---	372	288	---
MAX	252	---	---	---	---	---	---	437	430	408	415	282
MIN	188	---	---	---	---	---	---	430	410	330	288	97
a	10.63	---	---	---	---	---	19.78	19.83	19.17	17.90	14.84	6.05
b	-75	---	---	---	---	---	---	+2	-20	-38	-84	-191

e Estimated.

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

b Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

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 mi².

PERIOD OF RECORD.--April 1942 to current year. 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 National Geodetic Vertical Datum of 1929, 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 good except for estimated daily discharges, which are fair. 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 ft³/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 ft³/s on basis of slope-area measurement at gage height 15.8 ft; minimum daily, 0.1 ft³/s, Nov. 5-7, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 17	1845	*1,340	*4.88				

Minimum daily, 4.5 ft³/s, June 28 and July 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	e18	e14	22	257	674	416	20	19	9.3	8.3
2	11	14	e18	e15	21	220	657	387	18	14	9.6	8.3
3	11	15	e17	e16	20	229	671	390	15	11	9.6	8.3
4	10	15	e17	16	19	237	641	404	14	8.8	9.6	8.3
5	10	15	e16	e17	19	237	548	401	12	7.5	9.4	7.8
6	10	17	e16	18	20	208	407	395	11	6.6	9.2	7.7
7	10	17	e16	19	21	171	393	399	11	6.1	9.0	7.7
8	10	17	e16	e18	37	165	473	397	10	5.6	9.1	7.5
9	10	36	e16	18	47	161	488	316	9.2	5.2	9.2	7.2
10	10	32	e16	18	42	173	449	240	7.9	5.2	9.1	7.1
11	10	22	e15	e17	39	205	465	227	7.3	5.1	8.9	7.0
12	10	18	e15	e17	42	247	666	198	6.6	6.0	9.2	6.9
13	10	16	e14	e16	41	287	759	176	6.4	9.2	9.2	6.9
14	10	e15	e14	16	38	312	606	164	6.7	8.4	9.2	6.9
15	9.8	e14	e14	16	39	255	553	131	12	6.8	9.2	6.9
16	9.8	e14	e14	17	40	215	453	114	15	16	9.3	7.6
17	10	e14	e14	18	35	184	1080	97	14	24	9.2	8.1
18	10	e14	e16	18	34	177	801	87	12	14	8.6	8.2
19	10	e15	e15	18	102	176	594	79	12	8.8	8.5	7.9
20	9.7	e16	e14	18	596	179	632	78	10	6.8	8.3	7.7
21	9.7	e17	e14	18	373	182	650	64	8.2	5.7	8.3	7.6
22	10	e16	e14	e17	443	189	549	54	6.6	5.2	8.5	7.2
23	10	e16	e14	e17	315	189	445	46	5.8	4.9	8.6	6.9
24	10	e16	e14	17	248	193	478	43	5.5	4.5	8.6	6.9
25	13	e16	e14	17	271	231	565	41	5.5	5.8	8.6	6.8
26	30	e17	e14	18	305	277	593	37	5.0	9.5	8.4	6.6
27	18	e25	e14	18	318	324	588	33	4.8	9.8	7.1	6.6
28	16	e22	e14	20	330	405	616	33	4.5	9.5	5.7	6.6
29	16	e20	e14	20	290	449	643	29	7.0	9.6	5.6	6.4
30	13	e19	e14	20	---	472	514	25	22	9.4	7.2	6.5
31	14	---	e14	21	---	495	---	22	---	9.2	8.3	---
TOTAL	362.0	534	465	543	4167	7701	17651	5523	305.0	277.2	267.6	220.4
MEAN	11.7	17.8	15.0	17.5	144	248	588	178	10.2	8.94	8.63	7.35
MAX	30	36	18	21	596	495	1080	416	22	24	9.6	8.3
MIN	9.7	14	14	14	19	161	393	22	4.5	4.5	5.6	6.4
AC-FT	718	1060	922	1080	8270	15270	35010	10950	605	550	531	437

e Estimated.

11414000 SOUTH YUBA RIVER NEAR CISCO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	38.2	93.9	127	122	136	187	422	713	400	79.6	25.4	25.3
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	2.88	2.10	2.47	2.87	8.89	22.9	92.1	178	10.2	6.91	4.25	4.29
(WY)	1978	1991	1991	1991	1991	1977	1967	1992	1992	1987	1984	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1943 - 1992	
ANNUAL TOTAL	46092.1		38016.2			
ANNUAL MEAN	126		104		198	
HIGHEST ANNUAL MEAN					390	
LOWEST ANNUAL MEAN					41.4	
HIGHEST DAILY MEAN	1830	Mar 4	1080	Apr 17	8840	Dec 22 1964
LOWEST DAILY MEAN	2.4	Jan 10	4.5	Jun 28	.10	Nov 5 1954
ANNUAL SEVEN-DAY MINIMUM	2.6	Jan 26	5.4	Jun 22	.16	Nov 1 1954
INSTANTANEOUS PEAK FLOW			1340	Apr 17	18400	Jan 31 1963
INSTANTANEOUS PEAK STAGE			4.88	Apr 17	19.60	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	91420		75410		143100	
10 PERCENT EXCEEDS	488		404		601	
50 PERCENT EXCEEDS	14		16		55	
90 PERCENT EXCEEDS	5.8		6.9		8.1	

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 mi².

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 National Geodetic Vertical Datum of 1929 (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, 35,700 acre-ft, May 29, gage height, 94.51 ft; minimum, 4,510 acre-ft, Sept. 10, gage height, 27.60 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9960	9330	9470	9290	7160	8160	12900	29100	35500	28400	11700	4570
2	9960	9280	9470	9290	7180	8260	13400	29900	35400	28300	11000	4560
3	9960	9250	9400	9270	7150	8370	14000	30700	35400	28000	10300	4570
4	9900	9230	9400	9270	7180	8480	14600	31500	35400	27700	9560	4610
5	9870	9500	9400	9270	7160	8610	15100	31400	35300	27200	9260	4570
6	9840	9500	9400	9270	7180	8710	15500	32000	35300	26900	9270	4610
7	9820	9490	9400	9270	7180	8800	15800	32300	35300	26900	9210	4580
8	9770	9470	9400	9260	7180	8860	16100	33100	35300	26800	9190	4600
9	9760	9460	9400	9130	7220	8940	16200	33200	35300	26500	9150	4560
10	9730	9440	9350	8990	7250	9010	16600	33800	35100	25600	8890	4510
11	9690	9430	9360	8860	7280	9130	17000	34000	34800	24800	8240	4630
12	9680	9430	9360	8740	7340	9250	17700	34300	34600	24000	7600	4630
13	9630	9420	9360	8600	7370	9250	18000	34600	e34200	23300	6970	4650
14	9620	9410	9360	8480	7420	9600	18500	34800	e33800	22400	6370	4660
15	9590	9400	9360	8400	7450	9740	19000	34900	e33400	21600	5620	4670
16	9550	9390	9320	8290	7480	9870	e19300	35100	33000	20700	5050	4690
17	9520	9390	9290	8200	7510	10000	e20100	35200	32700	19900	4770	4720
18	9490	9390	9330	8200	7540	10100	e21000	35400	32400	19100	4760	4760
19	9470	9430	9290	8020	7640	10200	e21900	35400	32100	18400	4730	4780
20	9420	9430	9330	7950	7780	10300	e22800	35500	31800	17600	4720	4810
21	9400	9410	9320	7840	7780	10400	e23700	35500	31500	16900	4710	4850
22	9500	9410	9320	7760	7860	10500	24600	35500	30900	16200	4710	4880
23	9480	9400	9290	7650	7840	10500	25100	35500	30600	15800	4690	4880
24	9450	9380	9290	7580	7840	10700	25500	35500	30300	15800	4660	4850
25	9450	9360	9270	7480	7720	10800	26100	35600	30300	15800	4650	4900
26	9430	9400	9270	7400	7700	11000	26600	35600	30000	15800	4630	4930
27	9430	9450	9270	7300	7670	11200	27400	35600	29700	15300	4620	4970
28	9400	9470	9270	7230	7880	11400	28200	35600	29400	e14500	4610	5010
29	9380	9470	9290	7160	8020	11800	27300	35700	29100	13800	4600	5040
30	9350	9470	9320	7150	---	12000	29100	35600	28600	13100	4600	5120
31	9330	---	9290	7150	---	12400	---	35500	---	e12400	4580	---
MAX	9960	9500	9470	9290	8020	12400	29100	35700	35500	28400	11700	5120
MIN	9330	9230	9270	7150	7150	8160	12900	29100	28600	13100	4580	4510
a	43.41	43.12	43.30	36.73	39.50	51.49	83.93	94.20	83.10	53.18	27.86	29.82
b	---	+140	-180	-2140	+870	+4380	+16700	+6400	-6900	-16200	-7820	+540

WTR YR 1992 MAX 35700 MIN 4510

e Estimated.

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 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 6,250 ft above National Geodetic Vertical Datum of 1929, 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 ft³/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 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft³/s, Jan. 2-9, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 426 ft³/s, July 10, gage height, 3.72 ft; minimum daily, 6.4 ft³/s, Sept. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	13	12	12	9.2	10	17	37	43	154	346	6.5
2	14	13	12	12	9.2	10	17	37	43	153	341	6.4
3	14	13	12	12	9.2	10	18	38	43	151	335	6.5
4	14	13	12	12	9.2	10	18	38	43	151	329	6.7
5	14	13	12	12	9.2	10	19	39	43	150	150	6.7
6	14	13	12	12	9.2	10	19	39	43	147	13	6.7
7	14	13	12	12	9.2	10	19	40	43	40	13	6.7
8	14	13	12	43	9.4	11	20	41	43	39	13	6.7
9	14	13	12	72	9.3	11	21	40	43	232	13	6.7
10	13	13	12	72	9.2	11	21	40	118	411	197	6.7
11	13	13	12	72	9.2	11	22	41	169	405	315	6.7
12	13	13	12	72	9.2	11	24	42	168	401	309	6.7
13	13	13	12	71	9.2	11	25	42	167	397	304	6.7
14	13	12	12	61	9.3	11	24	42	166	393	297	6.7
15	13	12	12	54	9.5	11	24	42	166	388	291	6.7
16	13	12	12	54	9.5	11	25	42	165	384	287	6.7
17	13	12	12	54	9.5	11	29	42	164	379	128	6.7
18	13	13	12	54	9.5	12	28	42	163	374	6.8	6.7
19	13	12	12	53	11	12	29	43	162	370	6.7	6.7
20	13	13	12	53	46	12	29	43	162	366	6.7	6.7
21	13	13	12	53	100	12	30	43	161	363	6.6	6.8
22	13	13	12	53	100	12	31	43	160	359	6.5	6.7
23	13	13	12	53	99	12	31	43	159	149	6.5	6.8
24	13	13	12	52	100	13	32	43	158	20	6.5	7.0
25	13	13	12	52	99	13	33	43	158	20	6.7	7.0
26	14	13	12	52	99	13	34	43	156	20	7.0	7.0
27	13	13	12	52	66	13	35	43	156	215	6.9	7.0
28	13	13	12	52	10	14	35	43	155	361	6.7	7.1
29	13	12	12	35	10	14	36	43	155	358	6.7	7.2
30	13	12	12	9.2	---	15	37	43	154	353	6.7	7.2
31	13	---	12	9.2	---	16	---	43	---	351	6.6	---
TOTAL	414	383	372	1341.4	907.2	363	782	1283	3729	8054	3774.6	203.1
MEAN	13.4	12.8	12.0	43.3	31.3	11.7	26.1	41.4	124	260	122	6.77
MAX	15	13	12	72	100	16	37	43	169	411	346	7.2
MIN	13	12	12	9.2	9.2	10	17	37	43	20	6.5	6.4
AC-FT	821	760	738	2660	1800	720	1550	2540	7400	15980	7490	403

11414100 FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	81.8	36.4	27.9	31.3	59.2	69.1	61.8	153	337	280	216	144
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	25376.1		21606.3		126	
ANNUAL MEAN	69.5		59.0		288	
HIGHEST ANNUAL MEAN					49.3	
LOWEST ANNUAL MEAN					1790	
HIGHEST DAILY MEAN	451	Jul 9	411	Jul 10	3.5	Jun 12 1974
LOWEST DAILY MEAN	8.6	Feb 23	6.4	Sep 2	3.5	Jan 2 1979
ANNUAL SEVEN-DAY MINIMUM	8.6	Feb 23	6.6	Aug 28	3.5	Jan 2 1979
INSTANTANEOUS PEAK FLOW			426	Jul 10	4660	Jul 9 1974
INSTANTANEOUS PEAK STAGE			3.72	Jul 10	7.90	Jul 9 1974
ANNUAL RUNOFF (AC-FT)	50330		42860		90930	
10 PERCENT EXCEEDS	296		164		406	
50 PERCENT EXCEEDS	14		13		27	
90 PERCENT EXCEEDS	9.5		7.0		6.4	

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 mi².

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,809.6 ft above National Geodetic Vertical Datum of 1929 (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.

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, 67,700 acre-ft, May 17, 18, gage height, 194.51 ft; minimum, 16,100 acre-ft, Feb. 19, gage height, 90.35 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29900	41500	34200	26900	19500	24300	28400	60200	62800	48000	39600	32500
2	30300	41900	33700	27000	19600	24200	29500	61000	62500	47800	39900	32200
3	e30600	42300	33100	27200	19300	24200	30800	61800	e61800	47400	39600	31900
4	30900	42200	32400	27400	18900	24300	32500	62500	e61400	47400	39100	31600
5	31200	41700	31800	27500	18500	24400	33800	e63000	e60900	47500	38600	31300
6	31400	41200	31500	27100	18100	24500	34600	63400	e61100	47300	38100	31000
7	31700	40600	30500	26300	17800	24400	34900	63900	e61200	46600	37600	30500
8	32000	40200	29800	25600	17900	24300	35400	64400	e60400	45800	37700	30200
9	32400	40300	29200	24900	18100	24100	36000	64600	e58800	45300	37800	29800
10	32700	40400	28400	24300	18300	24000	e36700	64700	e58000	45500	37600	29000
11	33000	40500	27900	23600	18100	23900	e38000	64800	57000	46200	37500	28300
12	33400	39900	27500	23000	17800	24000	39900	e65000	56400	46900	37400	27700
13	33700	39100	27200	22400	17600	24100	e42400	65400	56400	47000	37300	27700
14	34000	38200	27400	22000	17500	24300	e43000	65700	56400	e46400	37400	28200
15	34400	37600	27600	21500	17400	24400	43700	66000	55900	45800	38000	28700
16	34700	37600	27400	21000	17400	24400	44000	66900	55300	45200	38700	29200
17	35000	37800	27000	20600	17100	24300	47100	67700	54100	45200	38600	29700
18	35400	37400	26900	20700	16400	24200	49200	67700	53100	45900	37900	30200
19	35700	36700	26600	20700	16100	24100	50500	67200	52400	46300	37200	30700
20	36000	36000	26500	20700	19100	23900	51500	66700	52200	46000	36500	31200
21	36400	35300	26600	20800	20300	23800	52300	66200	51900	45300	35900	31700
22	36700	34900	26800	20800	21600	23700	52800	65700	51100	44600	36000	32200
23	37100	35000	26600	20900	22200	23600	53100	65200	49900	43700	36100	32700
24	37500	35100	26300	20900	22500	23400	53500	64100	49200	42600	35600	33100
25	37900	34800	25900	21000	22900	23200	54500	64100	48800	42300	34900	33600
26	39000	34100	25800	21000	23500	23200	55800	63700	48500	42000	34200	34000
27	39400	33800	26000	20700	e23800	e23200	56600	62900	e48800	41300	33500	34300
28	39900	34000	26200	20400	24100	24200	57200	61900	49100	40700	33000	34800
29	40300	34000	26400	20100	24300	25200	58300	e62300	e48900	40100	33000	35300
30	40700	e34100	26600	19800	---	26200	59300	e62700	e48500	39400	33000	35800
31	41100	---	e26700	19500	---	27000	---	63100	---	39200	32800	---
MAX	41100	42300	34200	27500	24300	27000	59300	67700	62800	48000	39900	35800
MIN	29900	33800	25800	19500	16100	23200	28400	60200	48500	39200	32800	27700
a	149.11	134.95	118.40	99.99	112.47	118.96	181.46	187.51	162.92	145.49	132.16	138.46
b	+11400	-7000	-7400	-7200	+4800	+2700	+32300	+3800	-14600	-9300	-6400	+3000
c	268	16310	14790	11760	10090	16750	14750	18760	24170	21740	20260	7740
d	3150	2520	2770	2450	1350	3750	1080	3630	4010	3620	4040	4140

CAL YR 1991 MAX 74000 MIN 16700 b +9500 c 210900 d 29740

WTR YR 1992 MAX 67700 MIN 16100 b +6100 c 177400 d 36500

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.

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 National Geodetic Vertical Datum of 1929, 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 powerplants Nos. 1 and 2 (stations 11414194 and 11414195) 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 ft³/s, May 17, 1986; no flow for several days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	.00	205	163	118	520	405	70	428	673	127	405
2	106	.00	474	164	115	519	412	13	506	670	128	403
3	128	.00	562	164	243	516	348	13	504	509	471	400
4	143	246	547	165	307	516	113	143	489	353	628	401
5	143	485	555	165	301	517	114	261	508	354	626	403
6	140	501	568	357	299	519	290	262	252	561	622	405
7	88	498	575	494	275	518	407	262	216	666	519	403
8	25	423	570	488	122	517	409	262	468	662	227	516
9	25	209	565	483	122	516	409	263	596	658	228	566
10	25	209	559	503	153	515	221	263	595	361	513	561
11	25	209	473	512	313	514	114	264	598	11	618	557
12	16	507	397	506	405	514	114	265	459	11	617	553
13	.00	630	370	434	402	515	331	265	119	336	616	250
14	.00	625	111	393	306	517	501	265	118	657	534	.00
15	.00	549	111	397	252	518	504	168	444	654	226	.00
16	.00	201	326	402	252	519	505	9.7	600	651	223	.00
17	.00	201	406	348	379	519	368	9.7	596	304	498	.00
18	.00	396	405	135	538	518	117	376	600	11	626	.00
19	.00	617	402	135	617	516	118	605	528	131	621	.00
20	.00	612	344	135	250	515	306	599	263	516	616	.00
21	.00	607	167	128	474	514	408	598	266	653	532	.00
22	.00	521	172	121	487	513	410	599	552	649	228	.00
23	.00	200	333	121	494	512	411	602	685	646	228	.00
24	.00	201	403	122	500	512	310	601	596	522	514	.00
25	.00	421	401	121	505	511	115	600	637	121	605	.00
26	.00	598	282	121	510	510	118	602	539	121	600	58
27	.00	507	149	297	515	450	298	603	262	448	596	104
28	.00	205	162	309	517	225	409	598	263	633	546	12
29	.00	205	163	307	519	221	252	355	546	630	241	1.7
30	.00	205	163	305	---	330	111	13	675	627	240	.00
31	.00	---	163	229	---	403	---	90	---	390	372	---
TOTAL	1017.00	10788.00	11083	8724	10290	15039	8948	9899.4	13908	14189	13986	5998.70
MEAN	32.8	360	358	281	355	485	298	319	464	458	451	200
MAX	153	630	575	512	617	520	505	605	685	673	628	566
MIN	.00	.00	111	121	115	221	111	9.7	118	11	127	.00
AC-FT	2020	21400	21980	17300	20410	29830	17750	19640	27590	28140	27740	11900
a	0	6720	6200	4440	5860	9770	5130	6590	9060	9490	8690	3180
b	770	13060	14810	12290	14580	20590	13250	11340	15620	15800	15660	7290
c	1560	674	407	180	298	0	399	956	781	912	1130	916

a Discharge, in acre-feet, to Drum No. 1 powerplant, provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Drum No. 2 powerplant, provided by Pacific Gas & Electric Co.

c Discharge, in acre-feet, to Alta powerplant, provided by Pacific Gas & Electric Co.

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	413	438	467	469	463	497	590	617	603	593	559	376
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1965 - 1992	
ANNUAL TOTAL	134337.50		128870.10			
ANNUAL MEAN	368		338		507	
HIGHEST ANNUAL MEAN					796	
LOWEST ANNUAL MEAN					101	
HIGHEST DAILY MEAN	829		685		860	
LOWEST DAILY MEAN	.00		.00		.00	
ANNUAL SEVEN-DAY MINIMUM	.00		.00		.00	
ANNUAL RUNOFF (AC-FT)	266500		245700		367600	
ANNUAL DISCHARGE (AC-FT) a	97020		75120			
ANNUAL DISCHARGE (AC-FT) b	162700		155100			
ANNUAL DISCHARGE (AC-FT) c	9590		8210			
10 PERCENT EXCEEDS	730		602		823	
50 PERCENT EXCEEDS	399		369		557	
90 PERCENT EXCEEDS	.00		7.3		31	

a Discharge, in acre-feet, to Drum No. 1 powerplant, provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Drum No. 2 powerplant, provided by Pacific Gas & Electric Co.

c Discharge, in acre-feet, to Alta powerplant, provided by Pacific Gas & Electric Co.

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Aug. 3, 1965; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	45	47	42	43	38	.00	47	67	62	61	68
2	75	45	47	41	42	37	.00	50	66	58	61	68
3	77	46	45	41	41	59	.00	51	67	59	60	69
4	79	46	45	41	42	78	.00	50	66	60	60	69
5	77	46	46	41	41	83	.00	53	70	59	60	69
6	77	45	46	40	40	84	.00	55	79	59	62	69
7	75	47	46	40	40	78	.00	56	72	59	62	69
8	76	47	45	40	41	77	.00	56	70	58	63	70
9	76	46	45	40	40	77	.00	56	68	58	63	71
10	76	46	46	40	40	77	.00	54	67	58	61	70
11	74	47	47	40	39	77	.00	52	67	61	59	70
12	73	47	47	40	39	77	.00	54	67	62	60	69
13	73	47	47	40	39	77	.00	55	69	60	61	71
14	74	49	48	40	41	77	.00	56	69	58	65	73
15	74	42	48	40	41	77	.00	56	71	57	67	73
16	74	41	48	40	40	78	13	58	67	57	67	72
17	74	41	50	40	40	77	36	58	67	58	67	71
18	74	42	44	42	41	77	44	58	67	60	67	66
19	75	42	41	42	38	77	41	57	66	60	67	66
20	74	41	41	42	22	77	38	56	67	60	66	67
21	74	40	43	42	32	77	37	58	67	59	67	66
22	74	40	43	42	32	76	37	56	67	58	68	67
23	73	40	41	42	35	76	37	58	67	57	70	66
24	73	42	40	42	37	55	39	62	65	59	70	64
25	73	42	40	42	37	40	41	63	65	61	71	65
26	74	42	40	42	37	39	40	63	65	61	70	66
27	74	42	43	41	37	39	39	62	66	62	68	66
28	71	42	43	41	37	39	38	64	65	61	68	66
29	54	44	42	41	38	16	41	68	67	58	70	67
30	47	45	42	41	---	1.6	45	69	66	58	69	69
31	45	---	42	42	---	.56	---	70	---	60	69	---
TOTAL	2231	1317	1378	1270	1112	1918.16	566.00	1781	2029	1837	2019	2052
MEAN	72.0	43.9	44.5	41.0	38.3	61.9	18.9	57.5	67.6	59.3	65.1	68.4
MAX	79	49	50	42	43	84	45	70	79	62	71	73
MIN	45	40	40	40	22	.56	.00	47	65	57	59	64
AC-FT	4430	2610	2730	2520	2210	3800	1120	3530	4020	3640	4000	4070
a	3600	2370	2460	2210	2150	3490	815	3240	3690	3510	3670	3580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	MEAN	82.5	71.8	73.8	80.0	78.4	80.1	68.6	105	109	97.9	95.4	92.6
MAX	158	157	157	155	151	147	146	156	163	160	155	152	152
(WY)	1966	1966	1966	1984	1984	1980	1967	1980	1965	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	38.0
(WY)	1978	1978	1978	1991	1988	1977	1979	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

ANNUAL TOTAL	18945.3	19510.16	
ANNUAL MEAN	51.9	53.3	86.3
HIGHEST ANNUAL MEAN			124
LOWEST ANNUAL MEAN			47.2
HIGHEST DAILY MEAN	129	Jun 1	84
LOWEST DAILY MEAN	2.4	Apr 16	.00
ANNUAL SEVEN-DAY MINIMUM	2.6	Apr 11	.00
ANNUAL RUNOFF (AC-FT)	37580	38700	62540
TOTAL DISCHARGE (AC-FT) a	32300	34800	
10 PERCENT EXCEEDS	74	74	142
50 PERCENT EXCEEDS	46	57	81
90 PERCENT EXCEEDS	36	38	40

a Discharge, in acre-feet, to Deer Creek powerplant, provided by Pacific Gas & Electric Co.

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 mi².

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1985-85 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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Apr. 14, June 8, 1986, gage height, 3.37 ft, from rating curve extended above 45 ft³/s, on basis of weir formula; minimum daily, 0.09 ft³/s, Nov. 5-7, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36 ft³/s, June 6, gage height, 1.76 ft; minimum daily, 1.8 ft³/s, Mar. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	4.8	4.6	4.4	2.9	4.1	5.1	4.4	4.7	5.6	5.9	5.6
2	6.2	4.8	4.7	4.3	2.9	3.1	3.6	4.5	4.8	5.6	5.9	5.6
3	5.9	4.9	4.8	4.3	3.0	2.4	3.3	4.2	4.8	5.6	5.9	5.4
4	5.9	5.0	4.8	4.5	3.0	2.4	2.9	4.2	4.8	5.5	5.9	5.3
5	5.9	5.0	4.8	4.8	3.0	2.8	2.9	4.3	4.8	5.3	5.9	5.2
6	5.9	4.8	4.8	4.9	3.1	2.9	3.2	4.3	8.7	5.3	5.9	5.0
7	5.5	5.0	5.2	5.0	3.2	2.5	3.4	4.3	5.6	5.3	5.9	4.9
8	5.0	5.0	5.0	5.0	3.4	2.4	3.3	4.3	5.8	5.3	5.9	5.2
9	5.1	5.0	5.0	4.3	4.7	2.3	3.4	4.3	5.9	5.2	5.9	5.6
10	5.3	5.0	4.9	3.3	7.3	2.2	3.2	4.3	5.9	5.2	5.9	5.6
11	5.3	5.2	4.8	3.2	7.7	2.2	3.1	4.3	5.9	3.9	5.9	5.6
12	5.3	5.3	4.8	3.1	9.4	2.2	5.7	4.3	5.8	3.6	5.9	5.6
13	5.3	5.3	4.8	3.1	8.5	2.2	6.5	4.3	5.6	4.9	5.9	5.6
14	5.3	5.3	4.8	3.0	6.8	2.2	5.9	4.3	5.6	5.0	5.9	5.6
15	5.3	5.0	4.8	3.0	6.8	2.2	5.7	4.2	5.8	5.0	5.9	5.6
16	5.3	5.6	4.7	3.0	6.8	2.6	4.1	4.0	5.9	5.0	5.9	5.6
17	5.3	5.5	4.8	3.0	5.6	2.6	2.7	4.0	5.9	5.0	6.1	5.6
18	5.3	5.6	5.6	2.8	5.6	2.3	2.6	4.5	5.7	5.0	6.2	5.6
19	5.3	6.0	5.1	2.8	7.1	2.2	2.6	4.8	5.5	5.0	6.2	5.6
20	5.3	5.8	4.7	2.8	7.4	2.1	2.7	4.8	5.3	5.5	6.2	5.6
21	5.3	5.5	4.5	2.8	4.0	2.1	2.8	4.8	5.3	5.9	6.2	5.6
22	5.3	5.0	4.5	2.8	4.1	2.2	2.8	4.8	5.3	5.9	6.2	5.6
23	5.3	5.0	4.7	2.8	2.6	2.3	2.7	4.8	5.3	5.9	6.2	5.6
24	5.3	5.1	4.8	2.8	2.5	2.2	2.9	4.8	5.3	5.9	6.0	5.6
25	5.4	5.3	4.8	2.8	2.9	2.1	3.1	4.8	5.3	5.9	5.9	5.6
26	6.0	5.3	4.6	2.8	2.6	2.1	3.5	4.8	5.3	5.9	5.9	5.6
27	5.3	5.0	4.3	3.0	2.5	2.1	4.1	4.8	5.3	5.9	5.9	5.6
28	5.3	5.0	4.3	3.2	2.5	1.9	4.3	4.8	5.3	5.9	5.9	5.6
29	5.3	4.8	4.4	3.1	2.4	1.8	4.1	4.6	5.5	5.9	5.9	5.5
30	5.1	4.8	4.5	3.1	---	6.2	4.2	4.3	5.6	5.9	5.9	5.6
31	4.8	---	4.5	3.0	---	6.7	---	4.3	---	5.9	5.7	---
TOTAL	168.2	154.7	147.4	106.8	134.3	81.6	110.4	138.2	166.3	166.7	184.8	165.3
MEAN	5.43	5.16	4.75	3.45	4.63	2.63	3.68	4.46	5.54	5.38	5.96	5.51
MAX	6.2	6.0	5.6	5.0	9.4	6.7	6.5	4.8	8.7	5.9	6.2	5.6
MIN	4.8	4.8	4.3	2.8	2.4	1.8	2.6	4.0	4.7	3.6	5.7	4.9
AC-FT	334	307	292	212	266	162	219	274	330	331	367	328

11414210 SOUTH YUBA RIVER BELOW SPAULDING NO. 2 POWERPLANT, NEAR EMIGRANT GAP, CA.--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.43	3.31	3.08	2.77	11.5	21.6	24.6	20.6	22.7	3.38	3.93	3.86
MAX	5.43	5.32	5.15	4.97	61.4	111	118	85.8	111	5.38	5.96	5.86
(WY)	1992	1991	1991	1991	1986	1986	1986	1986	1986	1992	1992	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1986 - 1992

ANNUAL TOTAL	1938.8		1724.7		10.3	
ANNUAL MEAN	5.31		4.71		41.3	
HIGHEST ANNUAL MEAN					2.05	
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	51	Jun 4	9.4	Feb 12	166	Jun 14 1986
LOWEST DAILY MEAN	1.2	Mar 6	1.8	Mar 29	.09	Nov 5 1985
ANNUAL SEVEN-DAY MINIMUM	1.5	Mar 6	2.1	Mar 23	.64	Nov 4 1985
INSTANTANEOUS PEAK FLOW			36	Jun 6	194	Apr 14 1986
INSTANTANEOUS PEAK STAGE			1.76	Jun 6	3.37	Apr 14 1986
ANNUAL RUNOFF (AC-FT)	3850		3420		7490	
10 PERCENT EXCEEDS	5.8		5.9		7.0	
50 PERCENT EXCEEDS	5.0		5.0		2.8	
90 PERCENT EXCEEDS	1.8		2.8		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 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 4,432.44 ft above National Geodetic Vertical Datum of 1929 (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 ft³/s, Feb. 18, 1986, gage height, 19.95 ft, from rating curve extended above 8,800 ft³/s on basis of spillway rating at Spaulding Dam; minimum daily, 2.1 ft³/s, on several days during July and September 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 175 ft³/s, Feb. 19, gage height, 3.98 ft; minimum daily, 5.4 ft³/s, Oct. 8, June 3, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	6.6	7.1	7.9	6.3	12	8.8	5.9	5.6	7.2	6.0	6.6
2	6.8	6.4	7.0	8.0	6.3	11	7.6	6.4	5.6	6.5	5.9	6.6
3	6.3	6.3	6.8	7.7	6.3	11	7.2	6.4	5.4	6.2	6.0	6.5
4	6.3	6.3	6.8	9.0	6.3	10	6.3	6.3	5.5	6.1	6.1	6.2
5	6.3	6.3	6.7	11	6.3	13	6.3	6.3	5.4	6.2	6.0	5.9
6	6.6	6.3	6.6	10	6.3	18	6.2	6.3	9.1	6.2	6.0	5.8
7	6.3	6.0	8.4	10	6.3	16	6.2	6.3	6.5	6.1	6.1	5.8
8	5.4	5.8	7.5	9.8	6.6	15	6.2	6.3	6.6	6.0	6.1	6.0
9	5.5	6.2	7.2	9.3	7.6	13	6.2	6.2	6.7	5.9	6.2	6.4
10	6.0	6.2	7.1	8.3	11	11	6.0	6.0	6.5	5.9	6.3	6.4
11	6.0	6.2	7.0	8.0	15	10	5.8	6.0	6.5	23	6.5	6.5
12	6.0	6.3	6.8	7.5	21	9.5	5.7	6.0	6.5	30	6.9	6.7
13	6.0	6.5	6.7	7.2	22	8.9	5.7	6.0	6.4	11	6.9	7.8
14	5.9	6.5	6.5	7.0	20	8.7	5.7	6.0	6.8	9.3	6.9	7.2
15	5.9	6.5	6.5	7.0	17	8.7	5.7	6.0	7.6	14	6.9	6.8
16	5.9	6.2	6.2	7.0	15	9.0	5.7	6.0	7.2	25	6.9	6.7
17	5.9	12	6.2	7.0	14	9.0	7.2	6.1	7.2	9.6	7.1	6.7
18	5.9	16	14	6.7	14	9.0	7.4	6.2	6.8	6.9	7.2	6.7
19	5.9	12	10	6.6	64	9.0	7.0	6.2	6.4	6.2	7.1	6.7
20	5.9	14	9.0	6.5	69	8.9	6.7	6.4	6.1	6.3	7.0	6.6
21	5.9	13	8.4	6.3	40	8.4	6.2	7.0	5.8	6.5	7.1	6.6
22	5.9	11	8.1	6.2	33	8.2	6.0	6.8	5.8	6.4	6.9	6.6
23	5.9	9.2	7.9	6.1	23	8.2	5.8	6.6	5.9	6.5	6.8	6.6
24	5.9	8.6	7.8	6.0	20	7.8	5.6	6.5	5.9	6.6	6.7	6.6
25	8.5	8.2	7.8	6.0	21	7.5	5.6	6.4	5.8	6.4	6.7	6.6
26	19	8.2	7.6	6.0	19	7.1	5.6	6.2	5.9	6.2	6.7	6.4
27	11	9.1	7.2	6.0	16	7.1	5.6	6.0	5.8	6.3	6.7	6.6
28	8.5	8.1	7.5	7.2	15	6.7	5.6	5.9	5.7	6.4	6.6	6.6
29	7.8	7.6	7.9	6.7	13	6.4	5.6	5.8	8.0	6.4	6.4	7.4
30	6.9	7.2	8.0	6.3	---	8.5	5.6	5.5	8.0	6.4	6.6	7.3
31	6.8	---	7.8	6.3	---	11	---	5.5	---	6.2	6.6	---
TOTAL	213.6	244.8	236.1	230.6	540.3	307.6	186.8	191.5	193.0	273.9	203.9	197.9
MEAN	6.89	8.16	7.62	7.44	18.6	9.92	6.23	6.18	6.43	8.84	6.58	6.60
MAX	19	16	14	11	69	18	8.8	7.0	9.1	30	7.2	7.8
MIN	5.4	5.8	6.2	6.0	6.3	6.4	5.6	5.5	5.4	5.9	5.9	5.8
AC-FT	424	486	468	457	1070	610	371	380	383	543	404	393

SACRAMENTO RIVER BASIN

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.30	51.3	51.5	58.1	87.9	70.7	73.0	233	381	59.9	6.05	6.26
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	4372.6		3020.0			
ANNUAL MEAN	12.0		8.25		93.1	
HIGHEST ANNUAL MEAN					369	
LOWEST ANNUAL MEAN					4.35	
HIGHEST DAILY MEAN	260	Mar 4	69	Feb 20	18000	Feb 18 1986
LOWEST DAILY MEAN	5.4	Oct 8	5.4	Oct 8	2.1	Jul 15 1977
ANNUAL SEVEN-DAY MINIMUM	5.7	Feb 19	5.5	May 30	2.1	Sep 22 1977
INSTANTANEOUS PEAK FLOW			175	Feb 19	20400	Feb 18 1986
INSTANTANEOUS PEAK STAGE			3.98	Feb 19	19.95	Feb 18 1986
ANNUAL RUNOFF (AC-FT)	8670		5990		67430	
10 PERCENT EXCEEDS	19		11		57	
50 PERCENT EXCEEDS	6.9		6.6		7.4	
90 PERCENT EXCEEDS	5.9		5.9		5.1	

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	9862	---	---	---	---	---
2	7838	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	12497	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	8001	---	---	---	---	---	---	---	8395	---	---
8	---	---	---	---	---	---	10365	---	---	---	---	---
9	7778	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	9224	---	---	---	---	4716	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	7718	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	11001	---	---	---	---	---
16	---	---	---	---	---	---	---	---	11001	---	---	---
17	---	---	---	---	---	---	---	---	---	7287	---	---
18	---	---	---	---	---	9442	---	---	10659	---	---	---
19	---	---	---	---	---	---	---	13415	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	3897	---
21	---	---	---	---	---	---	---	---	---	---	3817	---
22	---	---	---	---	---	---	11873	---	---	6694	---	---
23	7680	---	---	---	---	---	---	---	---	---	---	2765
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	3361	---
27	---	---	---	---	8097	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	13382	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	2693
30	---	---	---	---	---	---	---	---	---	5813	---	---
31	---	---	8019	---	---	---	---	---	---	---	2968	---

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
2	3.0	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
3	3.0	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
4	3.1	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
5	3.1	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
6	3.1	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
7	3.1	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
8	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
9	3.0	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
10	3.0	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
11	3.0	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
12	3.0	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
13	3.0	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
14	3.0	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
15	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
16	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
17	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
18	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
19	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.1
20	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
21	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
22	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
23	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
24	3.1	3.2	3.2	3.2	3.2	3.2	---	---	---	---	---	3.2
25	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	---	3.2
26	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	---	3.2
27	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	---	3.2
28	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	---	3.2
29	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	---	3.2
30	3.1	3.2	3.2	3.2	---	---	---	---	---	---	---	3.2
31	3.1	---	3.2	3.2	---	---	---	---	---	---	---	---
TOTAL	95.2	95.3	99.2	99.2	92.8	---	---	---	---	---	---	95.0
MEAN	3.07	3.18	3.20	3.20	3.20	---	---	---	---	---	---	3.17
MAX	3.1	3.2	3.2	3.2	3.2	---	---	---	---	---	---	3.2
MIN	3.0	3.1	3.2	3.2	3.2	---	---	---	---	---	---	3.1
AC-FT	189	189	197	197	184	---	---	---	---	---	---	188

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2478	---	---	---	---	---	---	---	---	---	---	2570
2	---	---	---	---	---	---	---	---	1695	---	---	---
3	2222	---	---	---	---	---	---	---	---	---	---	---
4	---	---	2998	---	---	---	---	---	---	---	4032	---
5	---	2377	---	---	---	---	---	---	2109	---	---	---
6	2022	---	---	---	---	---	---	---	---	4034	---	2082
7	2024	---	---	---	---	---	---	4010	2420	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	1823	---	---	---	---	---	---	---	---	---	---	1963
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	3980	---	---	2974	---	---	---
12	---	---	---	---	---	---	---	4010	---	4034	3655	---
13	---	2562	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	3591	3399	---	---	---
15	---	---	---	3469	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	1823	---	---	---	---	---	---	3065	---	4032	---	1795
18	---	---	---	---	---	3980	---	---	3950	---	3371	---
19	---	---	---	---	---	---	---	2640	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	1823	---	---	---	---	---	---	2241	4031	4034	---	1647
22	1806	---	---	---	---	---	4010	---	---	4032	---	---
23	---	---	---	---	---	---	---	---	4069	---	---	1579
24	1797	---	---	---	---	---	3980	1765	---	---	---	1549
25	---	2801	---	---	---	---	---	---	---	---	3001	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	3980	---	---	996	---	---	---	---
28	2315	---	---	---	---	---	---	1015	---	---	---	---
29	---	---	---	---	---	---	---	---	4034	---	---	1328
30	---	---	---	---	---	---	---	---	---	4032	---	---
31	2315	---	---	---	---	---	---	1431	---	---	---	---

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	3.1	3.2	---	---	---	3.2	2.7	3.1	---
2	---	---	---	3.1	3.2	---	---	---	3.0	2.7	3.1	---
3	---	---	---	3.1	3.2	---	---	---	2.8	2.7	3.1	---
4	---	---	---	3.1	3.2	---	---	---	2.8	2.7	---	---
5	---	---	2.9	3.1	3.2	---	---	---	2.9	2.6	---	---
6	---	---	2.9	3.1	3.2	---	---	---	2.9	2.8	---	---
7	2.7	---	2.9	3.1	3.2	---	---	---	2.9	2.9	---	---
8	2.7	---	2.9	3.1	3.2	---	---	---	2.9	2.9	---	---
9	2.7	---	2.9	3.1	3.2	---	---	---	2.9	2.9	---	---
10	2.7	---	2.9	3.1	3.2	---	---	---	3.0	2.9	---	---
11	2.7	---	2.9	3.1	3.2	---	---	---	3.0	2.9	---	---
12	2.6	---	2.9	3.1	3.2	---	---	---	3.0	2.9	---	---
13	2.6	---	2.9	3.1	3.2	---	---	---	2.9	2.9	---	---
14	2.6	---	2.9	3.1	3.2	---	---	---	2.9	2.9	---	---
15	2.6	---	2.9	3.1	3.2	---	---	---	2.9	2.9	---	---
16	2.6	---	2.9	3.1	3.2	---	---	---	2.9	2.9	---	---
17	2.6	---	2.9	3.1	3.2	---	---	---	2.9	2.9	---	---
18	2.6	---	3.0	3.1	3.2	---	---	---	2.9	2.9	---	---
19	2.6	---	3.0	3.1	---	---	---	---	2.9	2.9	---	---
20	2.6	---	3.0	3.2	---	---	---	---	3.0	2.9	---	---
21	2.8	---	3.0	3.2	---	---	---	---	2.9	3.0	---	---
22	3.1	---	3.0	3.2	---	---	---	---	2.8	3.0	---	---
23	3.1	---	3.0	3.2	---	---	---	---	2.8	3.0	---	---
24	3.1	---	3.0	3.2	---	---	---	---	2.7	3.0	---	---
25	3.1	---	3.0	3.2	---	---	---	---	2.7	3.0	---	---
26	---	---	3.0	3.2	---	---	---	---	2.7	3.0	---	---
27	---	---	3.0	3.2	---	---	---	---	2.7	3.0	---	---
28	---	---	3.0	3.2	---	---	---	3.0	2.7	3.0	---	---
29	3.2	---	3.0	3.2	---	---	---	3.1	2.7	3.1	---	---
30	3.2	---	3.1	3.2	---	---	---	3.2	2.7	3.1	---	---
31	3.2	---	3.1	3.2	---	---	---	3.2	---	3.1	---	---
TOTAL	---	---	---	97.3	---	---	---	---	86.0	90.1	---	---
MEAN	---	---	---	3.14	---	---	---	---	2.87	2.91	---	---
MAX	---	---	---	3.2	---	---	---	---	3.2	3.1	---	---
MIN	---	---	---	3.1	---	---	---	---	2.7	2.6	---	---
AC-FT	---	---	---	193	---	---	---	---	171	179	---	---

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 mi².

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1966-86 available in files of the U.S. Geological Survey.

GAGE.--Staff gages, observed approximately weekly during the summer months. Datum of gage is National Geodetic Vertical Datum of 1929 (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 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3065	---	1678	---	---	---	---	---	---	---	---	3072
2	---	---	---	---	---	---	---	---	3042	---	---	---
3	3065	---	---	---	---	---	---	---	---	---	---	3072
4	---	---	1687	---	---	---	---	---	---	---	3076	---
5	---	1478	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	3076	---	2876
7	3042	---	---	---	---	---	---	3076	3048	---	---	---
8	2946	---	---	---	---	---	---	---	---	---	---	---
9	2834	---	---	---	---	---	---	---	---	---	---	2659
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	3030	---	---	3042	---	---	---
12	---	---	---	---	---	---	---	3076	---	3076	3076	---
13	---	1478	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	3042	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	2206	---	---	---	---	---	---	3088	---	3076	---	1870
18	---	---	---	---	---	3030	---	---	---	---	3076	---
19	---	---	---	---	---	---	---	3088	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	1626	---	---	---	---	---	---	3088	3076	3076	---	1504
22	---	---	---	---	---	---	3095	---	---	3076	---	---
23	---	---	---	---	---	---	---	---	3076	---	---	1313
24	1278	1565	---	---	---	---	---	3088	---	---	---	1269
25	---	---	---	---	---	---	---	---	---	---	3072	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	3030	---	---	3076	---	---	---	---
28	1487	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	3076	---	---	1217
30	---	---	---	---	---	---	---	---	---	---	---	---
31	1487	---	1687	---	---	---	---	3042	---	---	---	---

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 mi².

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 National Geodetic Vertical Datum of 1929, 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.--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, 77 ft³/s, Sept. 11, 1992, gage height, 1.78 ft; minimum daily, 2.5 ft³/s, Oct. 7, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 77 ft³/s, Sept. 11, gage height, 1.78 ft; minimum daily, 2.9 ft³/s, June 16-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	5.6	5.6	3.8	3.8	4.6	4.6	4.4	4.4	3.6	e3.3	4.1
2	5.8	5.7	5.6	3.8	3.8	4.6	4.5	4.4	4.2	3.6	e3.3	4.1
3	5.6	5.6	5.6	3.7	3.9	4.6	4.5	4.4	4.0	3.5	e3.2	25
4	5.6	5.6	4.6	3.7	4.0	4.6	4.5	4.4	4.0	3.5	e3.2	55
5	5.6	5.6	3.5	3.7	4.0	4.7	4.5	4.4	4.0	3.5	3.1	55
6	5.6	5.6	3.5	3.7	3.8	4.8	4.5	4.4	4.0	3.5	3.2	60
7	34	5.6	3.5	3.7	3.8	4.8	4.5	4.4	3.7	3.6	3.2	70
8	59	5.6	3.5	3.7	3.8	4.8	4.5	4.4	3.1	3.5	3.2	70
9	59	5.6	3.5	3.7	3.9	4.8	4.5	4.4	3.0	3.5	3.2	70
10	57	5.6	3.6	3.7	4.0	4.8	4.5	4.4	3.0	3.5	3.2	68
11	57	5.6	3.5	3.7	4.1	4.8	4.5	4.4	3.0	3.5	3.2	74
12	56	5.6	3.4	3.7	4.1	4.8	4.5	4.5	3.0	3.5	3.7	70
13	56	5.6	3.5	3.7	4.1	4.8	4.5	4.5	3.0	3.5	5.1	68
14	56	5.6	3.6	3.7	4.1	4.8	4.5	4.5	3.0	3.6	4.6	69
15	54	5.6	3.6	3.7	4.2	4.8	4.5	4.4	3.0	3.6	4.5	70
16	54	5.6	3.6	3.7	4.2	4.8	4.5	4.5	2.9	3.6	4.2	69
17	56	5.6	3.6	3.7	4.2	4.8	4.5	4.5	2.9	3.7	4.1	71
18	57	5.6	3.6	3.7	4.2	4.8	4.4	4.5	2.9	3.7	3.8	70
19	57	5.6	3.6	3.7	4.3	4.8	4.4	4.5	2.9	3.8	3.8	70
20	56	5.6	3.6	3.7	4.6	4.8	4.4	4.5	2.9	3.8	3.8	69
21	57	5.6	3.6	3.8	4.5	4.7	4.4	4.5	3.0	3.8	3.9	66
22	59	5.6	3.6	3.8	4.5	4.6	4.4	4.5	3.4	e3.8	3.9	64
23	59	5.6	3.6	3.7	4.5	4.6	4.4	4.4	3.5	e3.7	4.0	64
24	32	5.6	3.6	3.7	4.5	4.6	4.4	4.4	3.6	e3.7	4.0	41
25	4.7	5.6	3.6	3.7	4.5	4.6	4.4	4.4	3.7	e3.6	4.1	21
26	4.8	5.6	3.7	3.7	4.6	4.6	4.4	4.4	3.7	e3.6	4.1	20
27	4.6	5.6	3.8	3.7	4.6	4.6	4.4	4.4	3.7	e3.6	4.1	20
28	4.6	5.6	3.8	3.8	4.6	4.6	4.4	4.4	3.7	e3.5	4.1	20
29	4.6	5.6	3.8	3.8	4.6	4.6	4.4	4.4	3.7	e3.4	4.1	20
30	4.6	5.6	3.8	3.8	---	4.6	4.4	4.4	3.7	e3.4	4.0	20
31	e5.1	---	3.8	3.8	---	4.6	---	4.4	---	e3.4	4.1	---
TOTAL	1042.3	168.1	118.8	115.5	121.8	145.8	133.8	137.4	102.6	111.1	117.3	1537.2
MEAN	33.6	5.60	3.83	3.73	4.20	4.70	4.46	4.43	3.42	3.58	3.78	51.2
MAX	59	5.7	5.6	3.8	4.6	4.8	4.6	4.5	4.4	3.8	5.1	74
MIN	4.6	5.6	3.4	3.7	3.8	4.6	4.4	4.4	2.9	3.4	3.1	4.1
AC-FT	2070	333	236	229	242	289	265	273	204	220	233	3050

e Estimated.

11414470 CANYON CREEK BELOW SAWMILL LAKE, NEAR GRANITEVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.2	26.5	32.8	21.7	8.80	5.05	4.49	4.13	4.46	4.09	4.78	20.5
MAX	33.6	37.1	61.4	56.7	17.6	5.90	5.60	6.10	6.05	5.60	6.33	51.2
(WY)	1992	1991	1990	1990	1990	1991	1991	1991	1991	1991	1991	1992
MIN	3.72	5.60	3.83	3.73	4.20	4.53	3.40	2.68	3.42	3.10	3.78	4.17
(WY)	1991	1992	1992	1992	1992	1990	1990	1989	1992	1990	1992	1990

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1989 - 1992	
ANNUAL TOTAL	2881.5		3851.7			
ANNUAL MEAN	7.89		10.5		12.7	
HIGHEST ANNUAL MEAN					17.1	
LOWEST ANNUAL MEAN					10.4	
HIGHEST DAILY MEAN	59	Oct 8	74	Sep 11	74	Sep 11 1992
LOWEST DAILY MEAN	3.4	Dec 12	2.9	Jun 16	2.5	Oct 7 1989
ANNUAL SEVEN-DAY MINIMUM	3.5	Dec 6	2.9	Jun 14	2.6	Apr 23 1989
INSTANTANEOUS PEAK FLOW			77	Sep 11	77	Sep 11 1992
INSTANTANEOUS PEAK STAGE			1.78	Sep 11	1.78	Sep 11 1992
ANNUAL RUNOFF (AC-FT)	5720		7640		9190	
10 PERCENT EXCEEDS	6.4		4.5		5.7	
50 PERCENT EXCEEDS	5.6		4.4		4.5	
90 PERCENT EXCEEDS	4.6		3.5		3.2	

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES[illegible]

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 mi².

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 6,570 ft above National Geodetic Vertical Datum of 1929, 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 records computed above 2.9 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.6	1.7	1.7	.03	1.5	e1.2	1.4	1.5	1.6	1.8	1.3
2	1.5	1.7	2.1	1.7	.14	1.4	e1.2	1.4	1.5	1.6	1.8	1.2
3	1.5	1.7	2.1	1.7	.13	1.4	e1.2	1.5	1.5	1.6	1.7	1.2
4	1.6	1.8	2.1	1.6	.04	1.4	e1.2	1.4	1.7	1.6	1.8	1.1
5	1.6	2.0	2.0	1.6	.09	1.4	e1.2	1.4	2.2	1.6	1.8	.99
6	1.6	2.0	2.0	1.6	.25	1.4	e1.2	1.4	2.2	1.6	1.8	.91
7	1.6	2.0	2.0	1.6	.36	1.4	e1.2	1.5	1.9	1.6	1.8	.86
8	1.6	2.0	2.0	1.6	.49	1.4	e.98	1.5	1.7	1.6	1.7	.78
9	1.7	2.0	2.0	1.6	.52	1.3	.85	1.5	1.6	1.6	1.7	.70
10	2.1	2.0	1.9	1.5	.61	1.3	.85	1.5	1.6	1.5	1.7	.66
11	2.1	2.0	1.9	1.5	.13	1.3	.92	1.5	1.6	1.5	1.7	.50
12	2.1	2.0	1.9	1.4	.50	1.3	.98	1.5	1.6	1.6	1.6	.35
13	2.1	1.9	1.9	1.5	.99	1.3	1.0	1.5	1.7	1.6	1.5	.24
14	2.1	1.8	1.9	1.5	1.0	1.3	1.1	1.5	1.7	1.6	1.5	.21
15	2.1	1.6	1.9	1.5	1.1	1.3	1.1	1.5	1.7	1.6	1.5	.20
16	2.0	1.6	1.8	1.3	.95	1.3	1.1	1.5	1.7	1.6	1.4	.19
17	2.0	1.5	1.7	1.3	.96	1.3	1.2	1.5	1.6	1.6	1.4	.17
18	2.0	1.6	1.7	1.2	.93	1.2	1.3	1.5	1.6	1.7	1.3	.18
19	2.0	1.5	1.7	1.1	.93	1.0	1.2	1.5	1.7	1.8	1.5	.15
20	2.0	1.5	1.7	.99	1.2	.99	1.2	1.5	1.7	1.8	1.7	.10
21	2.0	1.5	1.6	.90	1.4	.99	1.3	1.5	1.7	1.9	1.7	.04
22	2.0	1.5	1.6	.80	1.5	.99	1.3	1.5	1.7	1.8	1.7	.01
23	2.0	1.5	1.6	.66	1.6	.98	1.3	1.5	1.7	1.8	1.6	.00
24	2.0	1.5	1.6	.51	1.5	.94	1.3	1.5	1.7	1.8	1.6	.00
25	2.0	1.4	1.6	.38	1.5	.92	1.3	1.5	1.6	1.8	1.7	.00
26	2.0	1.4	1.6	.31	1.5	.92	1.3	1.5	1.6	1.8	1.6	.00
27	2.0	1.4	1.6	.23	1.5	.95	1.3	1.5	1.6	1.8	1.5	.00
28	2.0	1.4	1.5	.21	1.5	.97	1.4	1.5	1.6	1.8	1.5	.00
29	2.0	1.4	1.5	.31	1.5	1.0	1.4	1.5	1.6	1.8	1.5	.00
30	2.0	1.4	1.5	.23	---	1.1	1.4	1.5	1.6	1.8	1.4	.00
31	1.7	---	1.5	.15	---	1.1	---	1.5	---	1.8	1.3	---
TOTAL	58.5	50.2	55.2	34.18	24.85	37.05	35.48	46.0	50.4	52.2	49.8	12.04
MEAN	1.89	1.67	1.78	1.10	.86	1.20	1.18	1.48	1.68	1.68	1.61	.40
MAX	2.1	2.0	2.1	1.7	1.6	1.5	1.4	1.5	2.2	1.9	1.8	1.3
MIN	1.5	1.4	1.5	.15	.03	.92	.85	1.4	1.5	1.5	1.3	.00
AC-FT	116	100	109	68	49	73	70	91	100	104	99	24

CAL YR 1991 TOTAL 548.93 MEAN 1.50 MAX 2.4 MIN .00 AC-FT 1090
WTR YR 1992 TOTAL 505.90 MEAN 1.38 MAX 2.2 MIN .00 AC-FT 1000

e Estimated.

SACRAMENTO RIVER BASIN

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 mi².

PERIOD OF RECORD.--December 1926 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 55,300 acre-ft, Oct. 1, elevation, 5,546.97 ft; minimum, 22,700 acre-ft, Feb. 18, elevation, 5,497.59 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55200	51500	41300	29500	24400	25800	25300	37200	39000	44600	46300	38500
2	55100	51300	40800	29100	24300	25900	25800	37500	38900	44500	46300	38200
3	55000	51100	40500	28700	24100	25900	26200	37700	38700	44400	46200	37900
4	54900	50900	40100	28300	24000	25800	26600	37900	38500	44300	45900	37500
5	54800	50700	39700	28200	23800	25800	26900	38100	38400	44200	45500	37200
6	54700	50500	39300	28000	23700	25700	27100	38300	38200	44100	45300	36900
7	54500	50300	38900	27900	23600	25600	27300	38400	38100	44000	45200	36600
8	54400	50000	38500	27800	23500	25400	27500	38600	38500	43900	45000	36300
9	54300	49700	38100	27600	23400	25200	27800	38800	38900	43700	44900	36000
10	54200	49400	37700	27500	23400	25000	28100	38900	39300	43800	44800	35700
11	54100	49000	37400	27300	23300	24800	28400	38900	39600	43900	44700	35400
12	54000	48600	37000	27200	23300	24700	29100	38800	40000	44000	44400	35200
13	53900	48200	36500	27100	23200	24600	30100	38600	40400	44100	44100	34900
14	53800	47800	36100	26900	23100	24500	30500	38500	40800	44300	43900	34600
15	53700	47400	35800	26800	23000	24400	30900	38600	41200	44400	43600	34300
16	53500	47000	35400	26700	22900	24300	31300	38800	41600	44500	43300	34000
17	53400	46700	35000	26500	22800	24100	32200	38900	42000	44700	43000	33700
18	53300	46300	34700	26400	22700	23900	32900	39000	42400	44800	42700	33400
19	53200	45900	34300	26200	22800	23800	33200	39100	42900	44900	42400	33200
20	53100	45600	34000	26100	23500	23600	33600	39200	43400	45000	42100	32900
21	53000	45200	33600	26000	24000	23400	34000	39300	43900	45100	41700	32600
22	52800	44800	33200	25800	24500	23300	34400	39400	44400	45200	41400	32300
23	52700	44400	32800	25700	24700	23100	34700	39500	44800	45300	41100	32000
24	52600	44000	32400	25500	24900	23100	35000	39600	45000	45500	40800	31600
25	52600	43700	32100	25400	25000	23200	35300	39700	44900	45600	40500	31200
26	52700	43300	31700	25200	25200	23400	35600	39700	44800	45700	40200	30900
27	52500	42900	31300	25100	25400	23600	36000	39700	44700	45800	39900	30500
28	52300	42500	31000	25000	25600	23900	36300	39600	44600	45900	39600	30200
29	52100	42100	30700	24800	25700	24100	36700	39500	44600	46100	39300	29800
30	51900	41700	30300	24700	---	24400	37000	39300	44600	46200	39000	29400
31	51700	---	29900	24500	---	24800	---	39200	---	46200	38800	---
MAX	55200	51500	41300	29500	25700	25900	37000	39700	45000	46200	46300	38500
MIN	51700	41700	29900	24500	22700	23100	25300	37200	38100	43700	38800	29400
a	5542.48	5528.42	5509.87	5500.91	5502.97	5501.42	5521.54	5524.77	5532.71	5535.00	5524.16	5509.00
b	-3600	-10000	-11800	-5400	+1200	-900	+12200	+2200	+5400	+1600	-7400	-9400

CAL YR 1991 MAX 66800 MIN 29900 b -10900

WTR YR 1992 MAX 55200 MIN 22700 b -25900

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 National Geodetic Vertical Datum of 1929. Prior to July 1965 at site 0.3 mi upstream at different datum.

REMARKS.--No estimated daily discharges. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	223	222	212	84	76	57	.14	266	293	51	304
2	225	223	221	210	84	76	57	.13	266	292	51	303
3	227	223	221	210	83	137	58	.12	265	286	69	301
4	227	223	220	210	78	170	58	25	265	285	227	300
5	227	223	219	120	74	177	58	45	264	285	311	300
6	227	223	218	80	74	181	57	45	265	285	306	299
7	226	223	218	78	75	180	50	45	232	285	310	298
8	226	223	218	78	77	179	42	39	.16	283	314	298
9	226	223	217	77	75	189	42	39	.12	195	314	297
10	226	222	179	78	76	196	43	39	.12	53	314	303
11	226	222	218	78	77	194	43	40	.12	.28	303	307
12	226	222	218	77	77	186	46	179	.13	.28	328	306
13	225	221	217	80	76	182	46	254	.16	.28	322	305
14	225	221	217	74	77	182	45	256	.17	.28	324	304
15	225	221	205	76	121	182	19	257	2.4	.28	323	302
16	225	220	219	77	105	183	.17	257	4.6	.20	322	301
17	225	222	219	76	71	182	1.8	257	4.1	.12	320	301
18	225	223	221	76	79	182	.42	257	4.6	.12	319	299
19	225	224	219	76	82	181	.26	258	12	.12	317	307
20	224	225	218	75	86	181	.23	258	8.2	.12	316	314
21	224	224	217	75	81	181	.18	258	8.7	.12	315	310
22	224	223	217	75	81	181	.16	261	9.4	.13	314	308
23	224	222	216	75	78	181	.14	264	10	.13	313	308
24	216	222	216	80	78	102	.13	265	187	.13	312	307
25	226	221	215	84	80	58	.12	265	291	.13	311	305
26	210	221	215	84	77	58	.12	266	298	.13	310	302
27	224	221	214	84	76	49	.12	266	297	.13	298	301
28	224	219	214	84	76	54	.12	266	297	.13	309	299
29	224	222	213	84	76	55	.13	228	294	.14	307	298
30	224	218	213	84	---	56	.15	266	269	.14	306	297
31	223	---	212	83	---	56	---	266	---	27	305	---
TOTAL	6957	6663	6686	3010	2334	4427	725.25	5421.39	3820.98	2572.39	8861	9084
MEAN	224	222	216	97.1	80.5	143	24.2	175	127	83.0	286	303
MAX	227	225	222	212	121	196	58	266	298	293	328	314
MIN	210	218	179	74	71	49	.12	.12	.12	.12	51	297
AC-FT	13800	13220	13260	5970	4630	8780	1440	10750	7580	5100	17580	18020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1992, BY WATER YEAR (WY)

	202	197	172	150	131	133	87.4	70.7	94.0	214	229	234
MEAN	202	197	172	150	131	133	87.4	70.7	94.0	214	229	234
MAX	304	302	299	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1928 - 1992	
ANNUAL TOTAL	49570.61		60562.01			
ANNUAL MEAN	136		165		160	
HIGHEST ANNUAL MEAN					236	
LOWEST ANNUAL MEAN					64.4	
HIGHEST DAILY MEAN	228	Sep 17	328	Aug 12	345	Sep 5 1986
LOWEST DAILY MEAN	.06	Feb 25	.12	Apr 25	.00	Apr 1 1928
ANNUAL SEVEN-DAY MINIMUM	.07	Feb 20	.12	Jul 17	.00	Apr 1 1928
ANNUAL RUNOFF (AC-FT)	98320		120100		116200	
10 PERCENT EXCEEDS	226		304		269	
50 PERCENT EXCEEDS	151		214		200	
90 PERCENT EXCEEDS	.20		.22		1.7	

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Dec. 25, 1983; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	228	223	222	216	97	114	165	75	276	303	.00	302
2	226	224	228	216	97	99	117	37	276	308	.00	303
3	226	223	228	215	96	168	147	.00	276	305	21	302
4	226	221	227	216	95	214	143	63	275	302	140	301
5	227	224	239	168	94	213	145	86	275	301	289	300
6	226	224	231	104	91	218	122	78	274	299	298	299
7	225	222	227	101	90	214	106	92	249	299	303	298
8	226	224	223	98	93	213	107	91	38	298	308	298
9	225	224	221	97	95	211	106	83	13	270	309	299
10	223	223	176	98	96	219	106	82	7.1	150	309	298
11	226	219	223	96	99	224	106	83	5.3	28	298	303
12	226	223	223	96	96	225	124	166	5.3	.00	309	304
13	225	223	223	96	93	222	252	277	6.2	.00	314	304
14	224	215	223	95	94	222	144	280	6.6	.00	315	304
15	225	224	219	92	101	223	104	280	7.1	.00	315	303
16	223	222	215	88	111	222	102	280	14	.00	314	304
17	225	222	222	97	108	219	166	279	16	.00	313	303
18	224	226	230	95	104	218	138	277	14	.00	312	302
19	222	221	231	95	104	217	110	276	12	.00	311	302
20	223	227	227	94	122	216	112	277	30	.00	310	306
21	224	231	225	94	191	216	101	276	11	.00	309	309
22	223	228	225	93	128	216	96	274	8.2	.00	309	310
23	223	227	223	97	113	218	89	280	24	.00	308	310
24	223	224	222	93	148	161	42	281	165	.00	307	308
25	220	223	221	92	100	104	50	280	305	.00	306	307
26	236	222	221	95	160	104	92	281	308	.00	306	305
27	239	226	219	95	118	106	61	280	309	.00	302	304
28	231	224	221	94	98	119	54	280	308	.00	299	303
29	228	210	222	97	159	142	73	263	311	.00	302	302
30	224	224	221	97	---	136	76	258	307	.00	303	162
31	224	---	218	96	---	105	---	274	---	.00	304	---
TOTAL	6996	6693	6896	3516	3191	5718	3356	6189.00	4131.8	2863.00	8443.00	8955
MEAN	226	223	222	113	110	184	112	200	138	92.4	272	298
MAX	239	231	239	216	191	225	252	281	311	308	315	310
MIN	220	210	176	88	90	99	42	.00	5.3	.00	.00	162
AC-FT	13880	13280	13680	6970	6330	11340	6660	12280	8200	5680	16750	17760
a	13830	13100	13580	6840	5630	11260	6680	12370	7230	5510	16190	17610

a Discharge, in acre-feet, through Spaulding No. 3 powerplant, provided by Pacific Gas & Electric Co.

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	196	208	211	197	174	201	211	221	223	217	242	258
MAX	306	308	312	313	309	311	311	319	315	305	310	311
(WY)	1983	1984	1984	1984	1984	1983	1980	1983	1983	1983	1975	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1965 - 1992	
ANNUAL TOTAL	60358.00		66947.80			
ANNUAL MEAN	165		183		214	
HIGHEST ANNUAL MEAN					304	
LOWEST ANNUAL MEAN					77.9	
HIGHEST DAILY MEAN	284	Apr 7	315	Aug 14	335	Dec 25 1983
LOWEST DAILY MEAN	.00	Feb 11	.00	May 3	.00	Oct 29 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 11	.00	Jul 12	.00	Oct 29 1964
ANNUAL RUNOFF (AC-FT)	119700		132800		154700	
ANNUAL TOTAL (AC-FT) a	113100		129800			
10 PERCENT EXCEEDS	230		304		305	
50 PERCENT EXCEEDS	210		221		249	
90 PERCENT EXCEEDS	14		19		57	

a Discharge, in acre-feet, through Spaulding No. 3 powerplant, provided by Pacific Gas & Electric Co.

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Mar. 8, 1986, gage height, 9.08 ft, from rating curve extended above 1,500 ft³/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, 74 ft³/s, Feb. 20, gage height, 3.77 ft; minimum daily, 2.8 ft³/s, Dec. 3, 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.2	3.0	4.2	5.1	9.3	5.3	3.4	3.4	4.7	3.9	4.3
2	4.1	4.2	2.9	4.5	5.0	8.1	5.0	3.9	3.4	4.6	3.8	4.2
3	4.1	4.2	2.8	4.4	4.8	11	4.7	3.9	3.4	4.5	3.9	4.2
4	4.0	3.6	2.8	4.6	4.6	8.6	4.6	3.4	3.4	4.5	4.1	4.2
5	4.0	3.0	3.0	5.3	4.5	18	4.4	3.1	3.4	4.5	4.3	4.2
6	4.1	3.0	3.4	4.6	5.2	10	4.3	3.1	3.4	4.5	4.3	4.2
7	4.1	3.0	3.7	4.5	6.6	7.4	4.1	3.2	3.4	4.5	4.3	4.2
8	4.1	3.1	3.7	4.5	12	6.9	4.0	3.1	3.4	4.5	4.3	4.2
9	4.0	3.3	3.7	4.4	7.3	6.4	3.8	3.1	3.8	4.3	4.3	4.2
10	3.9	3.1	3.7	4.7	6.0	6.0	3.5	3.1	3.9	4.2	4.3	4.2
11	4.0	3.1	3.7	4.7	6.0	6.0	3.5	3.0	3.8	5.6	4.3	4.2
12	4.1	3.1	3.7	4.5	7.6	6.1	11	3.2	3.9	7.4	4.3	4.2
13	4.1	3.1	3.7	4.4	6.6	6.4	11	3.4	4.0	7.1	4.3	4.2
14	4.1	3.1	3.7	4.5	6.2	6.8	4.2	3.4	4.2	7.3	4.3	4.2
15	4.1	3.0	3.7	4.8	5.9	7.4	3.7	3.4	4.5	7.4	4.3	4.3
16	4.1	3.0	3.7	4.9	5.4	9.6	3.6	3.4	4.1	7.4	4.3	4.1
17	4.1	4.9	3.9	4.8	5.2	9.1	6.7	3.4	4.0	7.5	4.3	4.1
18	4.1	4.3	9.9	4.8	5.0	7.0	4.0	3.4	4.2	7.3	4.3	4.1
19	4.1	3.7	4.8	4.8	25	6.0	3.6	3.4	4.1	7.2	4.4	4.1
20	4.1	7.8	4.2	4.8	41	5.7	3.5	3.4	3.8	7.0	4.4	4.1
21	4.0	4.5	4.1	4.8	19	5.6	3.4	3.4	3.7	7.1	4.4	4.1
22	4.1	3.8	4.0	4.6	16	6.6	3.4	3.4	3.7	7.9	4.4	4.1
23	4.2	3.3	4.0	4.4	9.4	6.3	3.3	3.4	3.8	7.3	4.4	4.1
24	4.1	3.3	4.0	4.3	9.4	5.7	3.3	3.4	4.7	6.6	4.4	4.2
25	6.4	3.3	4.0	4.4	14	5.6	3.3	3.4	4.6	6.6	4.4	4.1
26	21	3.1	4.0	4.7	11	5.9	3.3	3.4	4.5	6.4	4.4	4.2
27	5.4	6.6	4.0	4.7	11	5.7	3.3	3.4	4.4	6.4	4.3	4.1
28	4.4	3.5	4.1	6.0	9.5	5.5	3.3	3.4	4.5	6.4	4.3	4.2
29	4.4	3.1	4.2	4.8	8.6	5.3	3.4	3.3	6.2	6.6	4.3	4.2
30	4.3	3.0	4.2	4.6	---	6.1	3.4	3.4	5.4	6.7	4.4	4.2
31	4.4	---	4.2	4.8	---	6.2	---	3.4	---	6.0	4.4	---
TOTAL	148.1	111.1	122.5	144.8	282.9	226.3	131.9	104.0	121.0	190.0	132.8	125.2
MEAN	4.78	3.70	3.95	4.67	9.76	7.30	4.40	3.35	4.03	6.13	4.28	4.17
MAX	21	7.8	9.9	6.0	41	18	11	3.9	6.2	7.9	4.4	4.3
MIN	3.9	3.0	2.8	4.2	4.5	5.3	3.3	3.0	3.4	4.2	3.8	4.1
AC-FT	294	220	243	287	561	449	262	206	240	377	263	248

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.82	6.42	17.2	17.5	15.5	24.3	39.2	121	146	13.5	2.46	2.23
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1927 - 1992	
ANNUAL TOTAL	1606.1		1840.6			
ANNUAL MEAN	4.40		5.03		33.5	
HIGHEST ANNUAL MEAN					165	
LOWEST ANNUAL MEAN					.81	
HIGHEST DAILY MEAN	72	Mar 4	41	Feb 20	3120	Mar 8 1986
LOWEST DAILY MEAN	2.3	Jan 29	2.8	Dec 3	.00	Apr 16 1934
ANNUAL SEVEN-DAY MINIMUM	2.4	Jan 24	2.9	Nov 29	.00	Apr 16 1934
INSTANTANEOUS PEAK FLOW			74	Feb 20	3970	Mar 8 1986
INSTANTANEOUS PEAK STAGE			3.77	Feb 20	9.42	Jan 22 1970
ANNUAL RUNOFF (AC-FT)	3190		3650		24290	
10 PERCENT EXCEEDS	5.3		7.3		34	
50 PERCENT EXCEEDS	4.1		4.2		2.8	
90 PERCENT EXCEEDS	2.6		3.3		.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 mi².

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 National Geodetic Vertical Datum of 1929. 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 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.0	---	---	---	---	---	---	1.1	1.1	.98	.00
2	1.2	1.0	---	---	---	---	---	---	1.2	1.1	.90	.00
3	1.1	1.0	---	---	---	---	---	1.1	1.2	1.1	.90	.00
4	1.1	1.0	---	---	---	---	---	1.0	1.2	1.1	.97	.00
5	1.1	1.0	---	---	---	---	---	1.0	1.2	1.1	1.0	.00
6	1.1	.99	---	---	---	---	---	.98	1.2	1.0	1.0	.00
7	1.1	.99	---	---	---	---	---	.96	1.2	1.0	1.1	.00
8	1.1	1.0	---	---	---	---	---	.95	1.1	1.0	.98	.00
9	1.1	1.1	---	---	---	---	---	.95	1.1	1.0	1.2	.00
10	1.1	1.1	---	---	---	---	---	.95	1.1	1.1	---	.00
11	1.1	1.1	---	---	---	---	---	1.0	1.1	1.1	1.2	.00
12	1.0	1.1	---	---	---	---	---	1.1	1.1	1.1	1.0	.00
13	1.0	1.0	---	---	---	---	---	1.2	1.1	1.1	1.0	.00
14	1.1	1.1	---	---	---	---	---	1.2	1.1	1.0	1.2	.00
15	1.1	1.2	---	---	---	---	---	1.2	1.1	1.0	.72	.00
16	1.1	---	---	---	---	---	---	1.2	1.1	1.0	.32	.00
17	1.1	---	---	---	---	---	---	1.2	1.1	1.0	.18	.00
18	1.0	---	---	---	---	---	---	1.2	1.1	1.0	.10	.00
19	1.1	---	---	---	---	---	---	1.2	1.1	.99	.06	.00
20	1.0	---	---	---	---	---	---	1.2	1.1	.99	.05	.00
21	1.1	---	---	---	---	---	---	1.2	1.1	1.0	.03	.00
22	1.0	---	---	---	---	---	---	1.2	1.1	.99	.00	.00
23	1.0	---	---	---	---	---	---	1.2	1.1	.98	.00	.00
24	1.0	---	---	---	---	---	---	1.1	1.1	1.0	.00	.00
25	1.0	---	---	---	---	---	---	1.1	1.1	1.0	.00	.00
26	1.1	---	---	---	---	---	---	1.1	1.1	1.0	.00	.00
27	1.1	---	---	---	---	---	---	1.1	1.1	.99	.00	.00
28	1.1	---	---	---	---	---	---	1.1	1.1	.92	.00	.00
29	1.1	---	---	---	---	---	---	1.1	1.1	.97	.00	.00
30	1.1	---	---	---	---	---	---	1.1	1.1	1.2	.00	.00
31	1.0	---	---	---	---	---	---	1.1	---	1.0	.00	---
TOTAL	33.4	---	---	---	---	---	---	---	33.6	31.93	---	0.00
MEAN	1.08	---	---	---	---	---	---	---	1.12	1.03	---	.000
MAX	1.2	---	---	---	---	---	---	---	1.2	1.2	---	.00
MIN	1.0	---	---	---	---	---	---	---	1.1	.92	---	.00
AC-FT	66	---	---	---	---	---	---	---	67	63	---	.00

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.

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.

REMARKS.--No estimated daily discharges. Records not computed for winter months or above 1.2 ft³/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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.91	---	---	---	---	---	---	1.2	1.2	1.0	.90
2	---	.93	---	---	---	---	---	---	1.1	.95	1.0	.87
3	---	.91	---	---	---	---	---	---	1.1	.78	1.0	.92
4	1.1	.86	---	---	---	---	---	---	.98	.89	.98	.95
5	.91	1.1	---	---	---	---	---	---	---	1.0	.95	.90
6	.97	1.1	---	---	---	---	---	---	1.1	.90	.92	.89
7	.98	1.0	---	---	---	---	---	---	1.0	.97	.94	.97
8	1.0	.99	---	---	---	---	---	---	.93	.97	.97	.90
9	1.1	.97	---	---	---	---	---	---	.92	.82	.89	.86
10	1.1	.98	---	---	---	---	---	---	.92	.82	.86	.87
11	.92	.99	---	---	---	---	---	---	.88	.97	.94	.85
12	.77	.93	---	---	---	---	---	---	.92	1.1	.99	.83
13	1.0	.93	---	---	---	---	---	---	.89	1.0	.99	.81
14	---	.93	---	---	---	---	---	---	.89	1.0	1.1	.86
15	---	.90	---	---	---	---	---	---	.72	1.0	1.1	.88
16	---	.98	---	---	---	---	---	---	.83	.97	1.2	.85
17	.92	1.1	---	---	---	---	---	---	1.2	.96	1.1	.85
18	.92	1.1	---	---	---	---	---	---	1.1	.95	1.0	.95
19	.93	---	---	---	---	---	---	---	1.0	.95	1.0	1.0
20	1.0	---	---	---	---	---	---	.77	.93	.92	1.1	1.0
21	1.1	---	---	---	---	---	---	.87	1.0	.90	1.2	1.1
22	1.1	---	---	---	---	---	---	.80	1.1	.89	1.2	1.0
23	.89	---	---	---	---	---	---	.67	.93	.85	1.2	.94
24	.87	---	---	---	---	---	---	1.0	1.0	.91	1.2	.87
25	.93	---	---	---	---	---	---	1.1	1.0	.95	1.1	.89
26	.99	---	---	---	---	---	---	.81	1.0	.93	.99	.71
27	.99	---	---	---	---	---	---	.87	.99	.92	.88	.88
28	.98	---	---	---	---	---	---	.99	.75	.90	.97	.87
29	.98	---	---	---	---	---	---	.86	.81	.98	.98	.88
30	1.0	---	---	---	---	---	---	1.0	1.2	1.0	.92	.91
31	.95	---	---	---	---	---	---	1.1	---	1.0	.91	---
TOTAL	---	---	---	---	---	---	---	---	---	29.35	31.58	26.96
MEAN	---	---	---	---	---	---	---	---	---	.95	1.02	.90
MAX	---	---	---	---	---	---	---	---	---	1.2	1.2	1.1
MIN	---	---	---	---	---	---	---	---	---	.78	.86	.71
AC-FT	---	---	---	---	---	---	---	---	---	58	63	53

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Dec. 22, 1964, gage height, 25.0 ft, from floodmarks, from rating curve extended above 23,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 1.0 ft³/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, 3,330 ft³/s, Feb. 20, gage height, 9.80 ft; minimum daily, 22 ft³/s, Aug. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	47	56	97	71	329	230	105	47	74	31	27
2	30	45	55	86	82	305	223	101	46	55	27	27
3	31	44	54	80	72	283	211	95	45	50	23	26
4	31	43	53	80	68	290	201	91	44	47	23	26
5	31	43	51	220	65	410	189	87	43	44	22	26
6	31	42	50	182	64	685	175	84	42	43	23	26
7	31	42	80	175	69	542	164	81	42	42	24	25
8	31	41	87	147	81	423	155	81	46	41	24	24
9	31	48	67	119	110	362	150	79	42	39	24	24
10	30	55	60	105	234	322	146	73	41	38	24	24
11	29	47	57	95	569	299	142	70	40	36	24	25
12	29	44	55	87	1040	283	213	68	40	44	24	25
13	30	43	54	82	627	267	494	67	41	72	24	25
14	30	42	52	77	757	265	325	67	42	55	24	23
15	30	42	52	74	901	278	257	66	46	49	25	27
16	29	42	51	73	714	369	220	64	62	46	25	26
17	29	75	50	73	562	347	255	63	54	57	25	25
18	30	191	90	72	486	315	270	60	48	51	24	25
19	30	111	177	70	680	286	213	59	47	42	24	25
20	30	89	104	68	2300	262	188	60	44	38	24	25
21	30	113	83	66	1010	243	175	62	41	36	24	24
22	29	92	74	64	894	250	164	60	38	37	24	24
23	31	75	69	62	645	258	152	57	36	37	25	24
24	33	66	65	61	506	233	143	55	36	37	25	24
25	36	61	63	60	448	219	135	55	38	36	25	26
26	280	59	61	60	441	219	127	54	42	35	25	25
27	187	62	60	60	400	209	120	53	39	34	26	24
28	82	83	72	68	372	210	117	53	38	32	25	23
29	60	68	183	75	341	205	113	50	45	32	25	23
30	55	60	189	70	---	203	109	50	99	30	26	23
31	49	---	121	66	---	245	---	48	---	31	26	---
TOTAL	1475	1915	2395	2774	14609	9416	5776	2118	1354	1340	764	746
MEAN	47.6	63.8	77.3	89.5	504	304	193	68.3	45.1	43.2	24.6	24.9
MAX	280	191	189	220	2300	685	494	105	99	74	31	27
MIN	29	41	50	60	64	203	109	48	36	30	22	23
AC-FT	2930	3800	4750	5500	28980	18680	11460	4200	2690	2660	1520	1480

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	86.7	221	482	677	753	723	681	822	622	108	37.2	38.0
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1941 - 1992	
ANNUAL TOTAL	60121		44682			
ANNUAL MEAN	165		122		443	
HIGHEST ANNUAL MEAN					1099	
LOWEST ANNUAL MEAN					42.6	
HIGHEST DAILY MEAN	4840		2300		22800	
LOWEST DAILY MEAN	28		22		1.0	
ANNUAL SEVEN-DAY MINIMUM	29		23		1.0	
INSTANTANEOUS PEAK FLOW			3330		53600	
INSTANTANEOUS PEAK STAGE			9.80		25.00	
ANNUAL RUNOFF (AC-FT)	119200		88630		320600	
10 PERCENT EXCEEDS	367		283		1060	
50 PERCENT EXCEEDS	59		58		121	
90 PERCENT EXCEEDS	31		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 mi².

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.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 278.68 ft above National Geodetic Vertical Datum of 1929 (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 ft³/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 ft³/s, Dec. 22, 1964, gage height, 546.14 ft, site and datum then in use, from rating curve extended above 25,000 ft³/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, 2,700 ft³/s, Feb. 20, gage height, 9.52 ft; minimum daily, 239 ft³/s, Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2190	906	919	1010	830	670	642	989	1250	947	827	681
2	2190	906	925	1010	690	670	644	989	1260	881	839	690
3	2180	906	931	1010	637	670	644	992	1310	865	839	669
4	2190	900	936	1010	639	679	644	1210	1350	849	836	623
5	2180	897	977	1010	647	618	644	1360	1360	834	837	611
6	2160	899	960	1010	649	622	644	1390	1370	822	843	549
7	2170	895	940	1030	649	627	646	1390	1360	794	843	435
8	2190	893	927	1020	649	629	647	1410	1350	781	843	387
9	2170	892	916	1020	649	626	648	1400	1310	786	843	429
10	2060	892	918	1020	650	624	645	1370	1290	798	837	461
11	1870	892	921	1010	630	627	644	1420	1300	807	839	335
12	1680	892	919	1020	765	636	644	1450	1300	810	836	281
13	1500	892	914	1020	1770	629	646	1430	1290	808	833	276
14	1340	885	916	1020	1710	629	646	1380	1300	806	824	276
15	1130	884	915	1020	2520	629	644	1360	1300	809	810	276
16	962	889	916	950	2350	629	644	1360	1300	825	792	276
17	885	892	918	915	2160	626	646	1320	1310	840	756	276
18	911	890	921	922	2000	620	645	1290	1310	843	754	261
19	911	892	919	921	1880	620	649	1280	1280	836	753	239
20	909	892	919	921	2440	622	645	1280	1220	822	748	242
21	912	884	918	914	2580	621	644	1280	1140	818	742	248
22	910	890	919	906	2310	620	646	1280	1010	816	732	257
23	908	899	923	903	2080	620	675	1260	978	836	725	269
24	915	903	922	906	1800	620	700	1250	989	866	713	269
25	914	900	921	904	1680	620	704	1250	986	872	694	281
26	900	908	921	906	1420	624	704	1250	993	859	680	292
27	894	917	921	899	1210	633	701	1240	1010	848	828	317
28	902	919	921	906	980	644	733	1240	1030	835	841	359
29	903	915	921	905	743	644	869	1240	1030	834	760	543
30	904	919	923	908	---	644	976	1250	1010	842	746	649
31	905	---	959	906	---	640	---	1250	---	830	714	---
TOTAL	43745	26940	28696	29832	39717	19632	20253	39860	36296	25819	24507	11757
MEAN	1411	898	926	962	1370	633	675	1286	1210	833	791	392
MAX	2190	919	977	1030	2580	679	976	1450	1370	947	843	690
MIN	885	884	914	899	630	618	642	989	978	781	680	239
AC-FT	86770	53440	56920	59170	78780	38940	40170	79060	71990	51210	48610	23320

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	941	1243	2754	3271	3787	3392	3798	3911	2564	1249	1166	994
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1942 - 1992	
ANNUAL TOTAL	421705		347054		2415	
ANNUAL MEAN	1155		948		5251	
HIGHEST ANNUAL MEAN					1982	
LOWEST ANNUAL MEAN					1977	
HIGHEST DAILY MEAN	6850	Mar 4	2580	Feb 21	124000	Dec 23 1964
LOWEST DAILY MEAN	486	Apr 18	239	Sep 19	.00	Nov 8 1941
ANNUAL SEVEN-DAY MINIMUM	509	Apr 18	255	Sep 18	.00	Nov 8 1941
INSTANTANEOUS PEAK FLOW			2700	Feb 20	171000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			9.52	Feb 20	546.14	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	836500		688400		1750000	
10 PERCENT EXCEEDS	2030		1370		5230	
50 PERCENT EXCEEDS	916		898		1170	
90 PERCENT EXCEEDS	664		624		420	

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Feb. 17, 1986, gage height, 14.05 ft, from rating curve extended above 5,200 ft³/s; minimum daily, 0.06 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,030 ft³/s, Feb. 14, gage height, 9.85 ft; minimum daily, 1.9 ft³/s, Oct. 20, 22-24, June 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	7.0	5.1	21	20	53	28	12	2.6	13	2.7	2.7
2	2.8	6.3	3.9	17	19	47	25	12	2.0	8.2	3.2	3.0
3	2.8	5.0	3.5	15	18	42	25	11	2.1	7.6	3.2	2.7
4	2.2	4.0	3.9	20	12	37	24	8.9	2.0	6.4	2.5	2.6
5	2.9	3.7	4.3	350	11	187	23	8.6	1.9	5.6	2.9	2.9
6	2.6	3.7	4.5	88	12	474	21	8.4	2.0	4.2	2.9	3.2
7	2.6	3.7	56	302	13	267	18	8.5	3.4	3.7	2.7	3.4
8	2.5	2.9	28	117	19	121	17	8.9	3.6	3.2	2.9	2.9
9	2.3	3.3	13	41	25	81	19	8.3	2.5	3.5	3.1	2.3
10	2.3	5.7	10	29	100	65	19	6.6	2.4	3.9	3.0	2.3
11	2.7	4.2	7.4	23	471	55	18	5.6	2.4	4.5	2.4	2.4
12	3.0	3.7	6.8	20	1510	49	68	5.1	2.4	5.5	2.5	2.6
13	3.3	3.3	6.2	18	319	45	109	5.0	2.9	5.2	2.5	2.9
14	2.7	3.5	6.0	17	1100	48	37	5.0	3.1	4.8	2.6	2.7
15	2.6	3.3	5.6	16	1150	58	21	4.6	3.9	4.8	2.5	2.3
16	2.8	3.0	5.7	15	700	102	16	5.3	4.2	4.6	3.1	2.6
17	3.2	17	5.9	14	330	122	18	5.4	6.2	4.4	2.8	2.9
18	2.6	36	22	14	197	66	15	5.3	3.7	4.4	2.5	2.9
19	2.0	18	27	13	261	53	12	3.1	3.4	4.7	2.3	2.7
20	1.9	13	16	13	1150	46	10	2.7	3.7	4.8	2.3	3.3
21	2.0	12	12	12	335	42	12	2.7	3.7	4.6	2.4	3.1
22	1.9	9.5	9.7	12	304	48	13	3.0	3.4	4.5	2.4	2.7
23	1.9	7.5	9.1	12	159	45	13	3.9	3.2	4.0	3.1	2.4
24	1.9	6.4	8.1	12	111	38	13	3.6	4.2	3.7	2.9	2.4
25	2.7	5.9	7.6	14	84	36	14	3.1	4.2	4.2	2.7	2.7
26	159	6.0	7.3	13	67	34	13	2.7	3.6	4.4	2.5	2.7
27	41	5.9	7.3	12	57	33	11	2.1	4.5	4.2	2.5	3.2
28	15	6.2	11	19	49	31	11	2.9	4.7	3.6	2.4	3.1
29	10	7.0	181	19	48	30	11	2.1	6.1	3.1	2.4	2.7
30	9.5	4.9	95	15	---	29	12	2.2	21	2.6	2.7	2.3
31	7.3	---	31	13	---	28	---	2.7	---	2.8	3.0	---
TOTAL	305.1	221.6	619.9	1316	8651	2412	666	171.3	119.0	148.7	83.6	82.6
MEAN	9.84	7.39	20.0	42.5	298	77.8	22.2	5.53	3.97	4.80	2.70	2.75
MAX	159	36	181	350	1510	474	109	12	21	13	3.2	3.4
MIN	1.9	2.9	3.5	12	11	28	10	2.1	1.9	2.6	2.3	2.3
AC-FT	605	440	1230	2610	17160	4780	1320	340	236	295	166	164

11418500 DEER CREEK NEAR SMARTVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.2	66.9	167	281	363	322	185	65.0	18.1	6.31	4.94	5.88
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1936 - 1992	
ANNUAL TOTAL	15796.5		14796.8		125	
ANNUAL MEAN	43.3		40.4		327	
HIGHEST ANNUAL MEAN					5.48	
LOWEST ANNUAL MEAN					1977	
HIGHEST DAILY MEAN	2000	Mar 4	1510	Feb 12	10200	Feb 17 1986
LOWEST DAILY MEAN	1.9	Oct 20	1.9	Oct 20	.06	Aug 5 1977
ANNUAL SEVEN-DAY MINIMUM	2.0	Oct 18	2.0	Oct 18	.16	Aug 3 1940
INSTANTANEOUS PEAK FLOW			5030	Feb 14	12100	Feb 17 1986
INSTANTANEOUS PEAK STAGE			9.85	Feb 14	14.05	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	31330		29350		90220	
10 PERCENT EXCEEDS	57		57		303	
50 PERCENT EXCEEDS	5.8		5.7		18	
90 PERCENT EXCEEDS	2.8		2.5		2.5	

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 mi².

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 National Geodetic Vertical Datum of 1929. 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. 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, 1947-92), 180,000 ft³/s, Dec. 22, 1964, gage height, 90.15 ft, from floodmarks, from rating curve extended above 91,000 ft³/s on basis of U.S. Army Corps of Engineers flood-routing study; minimum recorded, 10 ft³/s, July 2, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,100 ft³/s, Feb. 15, gage height, 65.69 ft; minimum daily, 80 ft³/s, July 10, Aug. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2050	651	753	862	933	857	712	304	562	295	95	395
2	2070	645	749	865	787	817	709	323	556	240	92	394
3	2100	639	745	861	704	788	705	326	573	198	143	414
4	2110	634	746	877	689	788	698	386	597	189	94	428
5	2100	629	769	1270	687	848	687	580	e580	169	80	414
6	2080	626	780	1200	688	1440	685	613	e576	150	86	392
7	2080	626	837	1380	686	1260	680	582	e600	131	89	316
8	2080	629	788	1330	691	937	665	565	e610	105	91	248
9	2050	633	735	1150	707	845	648	613	594	86	98	236
10	1950	642	724	1130	751	803	647	596	582	80	97	327
11	1770	660	717	1100	1050	774	634	576	575	87	92	277
12	1610	684	701	1080	3180	758	693	596	573	94	87	203
13	1410	685	697	1070	2660	739	802	596	569	88	88	182
14	1250	685	694	1060	2980	730	711	575	580	82	100	178
15	1050	683	691	1060	5810	744	669	586	568	82	97	172
16	807	694	693	1020	4050	805	651	605	563	85	105	169
17	639	726	699	963	3060	863	660	633	576	93	98	172
18	609	762	730	955	2570	783	656	598	578	103	87	189
19	624	745	739	951	2410	751	653	577	560	111	83	184
20	605	742	722	950	4260	738	646	580	513	104	88	173
21	596	745	711	948	3440	721	630	582	462	102	90	177
22	604	738	709	937	3170	733	591	597	363	99	93	178
23	597	741	705	934	2590	735	548	597	292	104	87	183
24	606	746	693	934	2200	713	549	573	292	108	91	175
25	634	746	682	938	2030	706	464	574	281	125	96	172
26	798	750	705	935	1730	702	412	573	280	121	118	171
27	713	750	709	920	1490	699	346	568	278	123	221	158
28	658	746	742	939	1250	716	301	569	294	117	438	148
29	663	746	859	937	1000	715	303	565	318	97	419	193
30	652	748	904	938	---	714	363	562	325	106	402	382
31	649	---	832	937	---	711	---	576	---	101	415	---
TOTAL	38214	20876	22960	31431	58253	24933	18118	17146	14670	3775	4360	7400
MEAN	1233	696	741	1014	2009	804	604	553	489	122	141	247
MAX	2110	762	904	1380	5810	1440	802	633	610	295	438	428
MIN	596	626	682	861	686	699	301	304	278	80	80	148
AC-FT	75800	41410	45540	62340	115500	49450	35940	34010	29100	7490	8650	14680

e Estimated.

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
LOWEST ANNUAL MEAN	882
HIGHEST DAILY MEAN	136000
LOWEST DAILY MEAN	15
ANNUAL SEVEN-DAY MINIMUM	15
INSTANTANEOUS PEAK FLOW	180000
INSTANTANEOUS PEAK STAGE	90.15
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1224	1599	2559	3622	4043	4069	2759	1737	1614	1208	1443	1479
MAX	2731	4475	11430	17080	20870	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1970 - 1992

ANNUAL TOTAL	376572	262136	
ANNUAL MEAN	1032	716	2271
HIGHEST ANNUAL MEAN			5818
LOWEST ANNUAL MEAN			229
HIGHEST DAILY MEAN	8130	Mar 4	5810
LOWEST DAILY MEAN	223	Jul 12	80
ANNUAL SEVEN-DAY MINIMUM	267	Jul 9	85
INSTANTANEOUS PEAK FLOW			9100
INSTANTANEOUS PEAK STAGE			65.69
ANNUAL RUNOFF (AC-FT)	746900	519900	1645000
10 PERCENT EXCEEDS	1980	1210	4730
50 PERCENT EXCEEDS	746	646	1250
90 PERCENT EXCEEDS	314	103	291

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.

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, 28.5°C, Aug. 11; minimum recorded, 6.5°C, several days in December and January.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

11421000 YUBA RIVER NEAR MARYSVILLE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17.0	11.5	20.0	14.5	22.0	15.0	22.5	15.5	26.5	19.5	21.5	16.5
2	17.5	12.0	20.5	14.5	22.0	15.0	23.0	16.5	26.5	20.0	21.5	16.5
3	17.0	12.5	21.0	14.5	22.0	15.5	22.0	17.5	25.0	19.0	21.0	16.0
4	17.0	12.0	21.0	15.0	22.0	15.0	23.0	16.5	26.0	19.0	21.0	16.5
5	16.5	11.5	21.0	14.5	21.0	15.0	23.5	17.0	27.0	19.5	21.5	16.5
6	16.0	11.0	20.0	14.5	21.0	14.5	23.5	17.5	26.0	19.5	21.0	16.5
7	17.0	11.0	20.5	14.5	21.0	14.5	24.5	17.5	26.5	20.0	21.5	16.5
8	17.0	11.5	20.5	14.5	21.5	14.5	25.5	18.5	26.0	19.5	22.5	17.0
9	16.5	11.5	19.5	14.0	21.5	14.5	26.5	19.0	26.0	20.0	22.5	17.5
10	17.0	13.0	20.5	13.5	20.5	14.5	27.5	19.5	27.0	20.5	20.5	17.0
11	14.5	12.5	20.5	14.0	20.5	14.0	24.0	19.5	28.5	21.0	22.0	17.0
12	13.5	12.5	19.0	13.5	19.5	13.5	25.0	19.0	28.0	21.5	22.5	17.5
13	17.0	11.5	19.5	13.0	20.0	13.5	27.5	19.5	27.5	21.0	22.0	17.5
14	17.5	12.5	20.0	14.0	20.5	14.0	27.5	20.0	27.0	21.0	22.0	17.5
15	16.5	12.5	20.0	13.5	18.5	14.5	27.5	20.0	27.0	21.5	22.0	16.5
16	16.0	13.0	20.0	14.0	20.5	14.0	28.0	20.5	27.5	21.5	22.5	17.0
17	17.5	13.5	20.0	13.5	20.5	14.5	27.0	20.5	27.5	21.0	22.5	17.5
18	17.5	12.0	20.0	14.0	20.0	14.5	25.5	19.0	28.0	20.5	23.0	18.0
19	18.0	12.0	20.0	14.0	21.5	14.5	25.5	19.0	28.0	20.5	23.0	18.0
20	18.0	13.0	20.0	13.5	22.5	15.0	25.5	18.5	28.0	21.0	23.0	18.0
21	18.0	13.0	20.0	13.5	22.5	15.5	26.0	19.0	25.5	20.0	23.0	18.0
22	18.0	12.5	20.5	13.5	22.5	16.0	25.5	18.5	25.0	18.5	22.5	18.0
23	18.0	12.5	21.0	14.0	22.5	17.0	25.5	19.0	25.5	19.0	23.0	18.0
24	18.5	13.0	21.0	14.5	23.5	17.0	25.5	19.5	25.5	19.0	22.5	18.0
25	19.5	13.5	21.0	14.5	23.0	16.5	25.5	19.5	25.0	19.0	21.0	16.5
26	19.0	14.0	21.0	14.5	23.0	16.5	26.0	19.5	25.5	19.5	22.0	17.0
27	20.0	14.0	21.0	14.5	22.5	16.5	26.0	19.5	24.5	19.0	22.5	17.5
28	21.0	15.0	21.0	14.5	19.0	16.0	26.0	20.0	21.5	17.0	22.5	17.5
29	18.5	15.5	21.5	14.5	18.5	16.0	27.0	20.0	21.5	16.5	22.0	18.0
30	20.0	14.0	22.0	15.0	21.5	15.5	25.5	19.5	20.5	16.5	21.0	16.5
31	---	---	22.0	15.0	---	---	26.0	19.0	21.5	16.5	---	---
MONTH	21.0	11.0	22.0	13.0	23.5	13.5	28.0	15.5	28.5	16.5	23.0	16.0

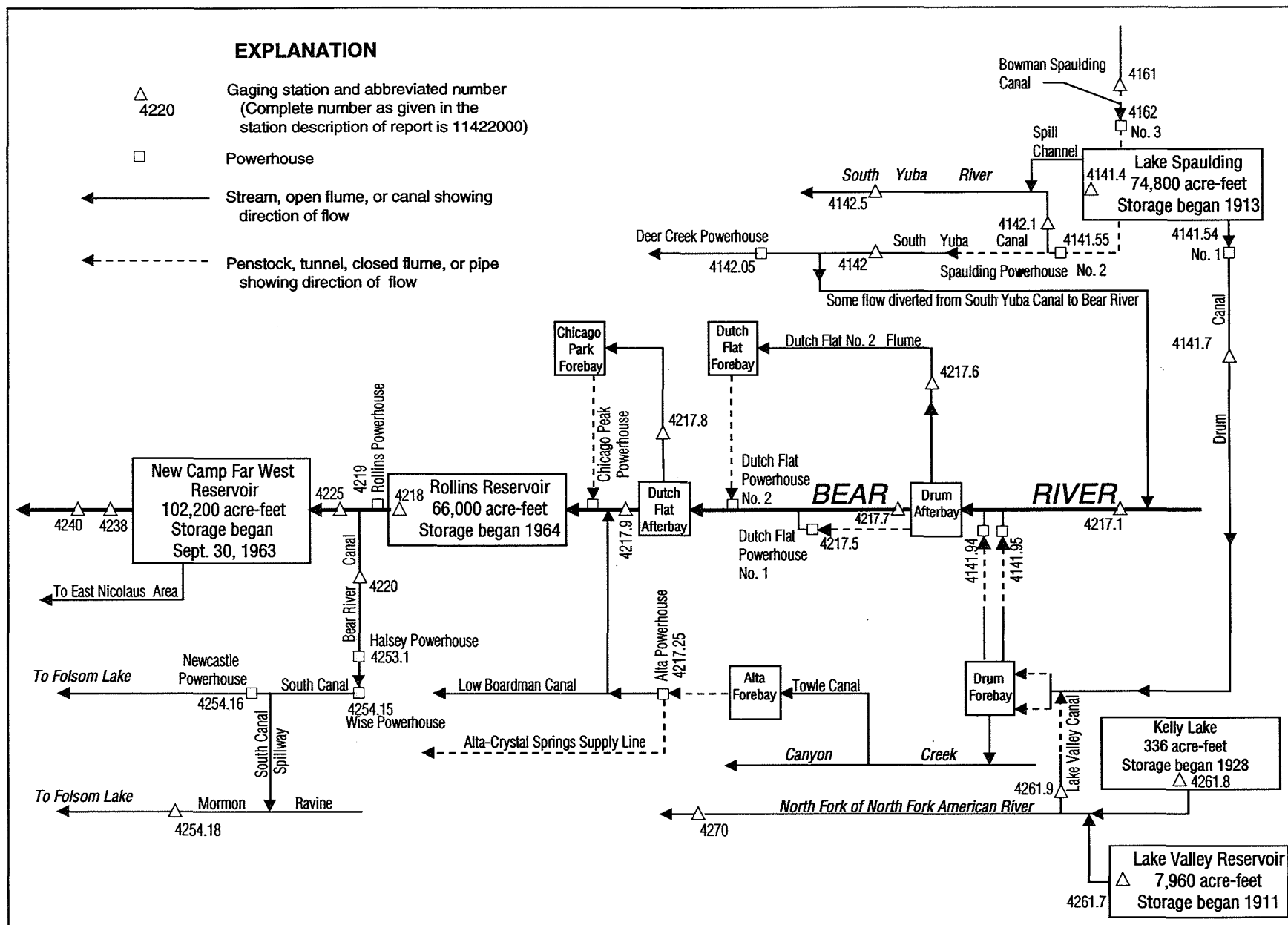


Figure 36. Diversions and storage in Bear River basin.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1987, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. No records computed above 160 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	5.6	5.7	6.3	7.6	12	10	6.5	6.3	6.6	5.3	7.2
2	5.0	5.8	6.1	6.1	6.8	11	10	5.9	5.2	6.3	5.0	6.8
3	5.5	6.1	6.1	6.1	5.8	11	11	5.9	5.3	6.4	5.0	6.6
4	6.3	6.7	6.1	7.2	5.4	11	9.6	6.2	5.4	6.0	5.0	6.3
5	6.4	6.3	6.1	7.7	5.5	14	9.0	6.3	5.4	5.6	5.6	6.3
6	6.5	5.7	6.2	6.9	6.1	15	9.2	6.0	30	5.7	7.0	6.7
7	6.3	5.6	7.3	6.7	7.3	13	9.3	6.2	17	5.6	7.2	7.0
8	5.8	6.0	6.5	6.5	10	12	9.0	5.9	7.5	5.2	6.7	6.8
9	5.8	6.0	6.4	6.4	8.9	11	8.9	5.6	6.6	5.2	6.1	6.6
10	6.1	5.5	6.4	6.5	9.6	10	8.3	5.6	5.9	5.9	5.6	6.6
11	6.2	5.4	6.1	6.4	11	9.5	7.5	5.4	5.8	6.7	5.4	6.5
12	6.3	6.0	5.8	6.1	15	9.2	12	5.3	6.8	5.1	6.4	6.4
13	6.4	5.5	6.2	6.0	14	8.8	14	6.4	6.7	5.5	6.9	7.0
14	6.4	5.4	6.8	5.8	12	8.9	11	6.8	7.0	5.9	7.5	7.4
15	6.4	5.4	6.8	5.9	9.3	10	9.9	6.1	7.0	5.8	6.4	6.8
16	6.3	6.6	6.0	6.1	8.0	13	8.9	6.3	5.6	5.7	7.2	6.3
17	6.4	10	5.6	6.8	7.6	12	9.5	6.2	5.9	6.0	6.9	6.3
18	6.4	7.2	10	7.5	8.0	11	7.1	7.3	5.9	5.2	6.6	6.0
19	6.4	6.7	6.9	7.2	21	9.5	6.1	6.4	6.0	5.7	6.6	6.9
20	6.4	8.4	7.5	7.1	48	8.8	6.3	5.3	6.1	5.9	6.2	7.3
21	6.4	7.4	6.9	6.9	22	8.6	6.6	5.5	6.2	5.6	6.1	7.0
22	6.6	7.4	5.3	6.8	21	9.6	6.4	5.5	6.6	5.5	5.6	7.0
23	7.0	6.9	5.6	6.7	15	9.1	6.3	5.9	6.1	5.4	6.7	6.9
24	6.7	6.4	5.8	6.6	14	8.8	6.2	6.7	6.1	6.1	7.0	6.8
25	7.8	6.1	5.8	6.8	15	8.6	6.3	6.7	5.7	5.5	6.4	6.8
26	10	6.1	6.4	6.8	15	8.9	6.1	6.2	6.0	5.4	6.1	7.0
27	6.1	7.8	7.0	6.4	13	8.8	6.1	5.9	5.2	6.3	6.0	7.0
28	6.2	6.6	6.7	6.4	12	8.1	5.7	5.8	5.2	5.5	6.4	6.4
29	6.2	6.2	6.7	6.0	12	8.4	6.0	6.0	8.0	5.2	6.1	6.2
30	5.9	5.8	6.5	5.8	---	11	7.0	6.4	7.7	5.1	6.9	6.2
31	5.7	---	6.4	6.4	---	11	---	6.6	---	5.5	7.3	---
TOTAL	197.7	192.6	199.7	202.9	365.9	321.6	249.3	188.8	220.2	177.1	195.2	201.1
MEAN	6.38	6.42	6.44	6.55	12.6	10.4	8.31	6.09	7.34	5.71	6.30	6.70
MAX	10	10	10	7.7	48	15	14	7.3	30	6.7	7.5	7.4
MIN	5.0	5.4	5.3	5.8	5.4	8.1	5.7	5.3	5.2	5.1	5.0	6.0
AC-FT	392	382	396	402	726	638	494	374	437	351	387	399

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Apr. 13, May 9, 1982, Nov. 17, 1983, June 24, 1987; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	140	165	115	215	411	82	206	266	88	232
2	.00	.00	249	190	124	294	431	.00	223	257	85	206
3	.00	.00	392	124	140	240	421	.00	257	244	198	166
4	.00	206	473	107	173	173	156	.00	206	246	236	191
5	.00	140	542	99	215	190	140	.00	124	318	242	89
6	.00	140	368	198	107	292	249	.00	118	252	243	89
7	.00	132	206	181	75	198	274	.00	188	269	193	93
8	.00	140	190	190	149	223	274	.00	190	259	140	219
9	.00	156	232	181	99	182	292	.00	226	244	173	223
10	.00	198	223	190	140	.00	140	.00	231	106	300	232
11	.00	156	274	206	266	.00	156	.00	212	.00	249	174
12	.00	165	132	266	99	.00	148	.00	174	.00	267	170
13	.00	292	274	190	83	.00	232	.00	88	198	219	73
14	66	198	66	148	66	.00	250	.00	89	190	223	.00
15	.00	181	165	198	91	.00	223	.00	177	279	99	.00
16	115	173	181	215	.00	.00	313	.00	215	300	176	.00
17	.00	198	266	266	58	.00	190	.00	233	107	281	.00
18	.00	140	190	147	223	.00	165	148	230	87	220	.00
19	.00	257	156	132	266	.00	148	206	191	91	223	.00
20	.00	283	115	115	140	.00	173	212	96	198	300	.00
21	.00	257	124	124	271	.00	140	232	266	255	140	.00
22	.00	240	124	115	246	.00	206	198	181	206	166	.00
23	.00	83	292	132	288	.00	249	215	181	249	176	.00
24	.00	181	156	107	232	.00	203	216	173	182	226	.00
25	.00	206	156	148	347	169	107	190	274	88	277	.00
26	58	206	274	121	327	132	99	283	99	66	232	.00
27	66	198	124	223	198	107	156	190	165	206	198	.00
28	.00	148	190	107	353	242	181	240	232	232	223	.00
29	.00	148	99	107	257	249	206	124	248	251	86	.00
30	.00	206	115	132	---	309	95	89	266	238	223	.00
31	.00	---	156	148	---	421	---	89	---	206	292	---
TOTAL	305.00	5028.00	6644	4972	5148.00	3636.00	6428	2714.00	5759	6090.00	6394	2157.00
MEAN	9.84	168	214	160	178	117	214	87.5	192	196	206	71.9
MAX	115	292	542	266	353	421	431	283	274	318	300	232
MIN	.00	.00	66	99	.00	.00	95	.00	88	.00	85	.00
AC-FT	605	9970	13180	9860	10210	7210	12750	5380	11420	12080	12680	4280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	MEAN	156	207	217	244	217	243	279	292	274	235	207	143
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	9.53	1.16	.000	.000	.000	.000	
(WY)	1987	1987	1977	1991	1991	1968	1968	1976	1968	1970	1965	1965	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

ANNUAL TOTAL	61138.80	55275.00	
ANNUAL MEAN	168	151	226
HIGHEST ANNUAL MEAN			384
LOWEST ANNUAL MEAN			67.6
HIGHEST DAILY MEAN	542	Dec 5	571
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 4	.00
ANNUAL RUNOFF (AC-FT)	121300	109600	163800
10 PERCENT EXCEEDS	324	270	438
50 PERCENT EXCEEDS	197	165	221
90 PERCENT EXCEEDS	.00	.00	.00

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 National Geodetic Vertical Datum of 1929 (levels by Nevada Irrigation District).

REMARKS.--No estimated daily discharges. Records good except discharges less than 5 ft³/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 ft³/s, Sept. 29, 1983; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.3	7.4	2.3	5.2	340	2.5	2.5	174	357	4.7	224
2	2.8	2.3	276	2.3	3.6	220	2.5	2.5	163	297	3.0	184
3	2.6	2.3	19	2.3	110	327	2.7	2.5	232	57	226	201
4	2.5	182	3.0	2.3	140	360	2.5	162	218	4.8	353	152
5	2.4	255	2.9	103	109	381	2.5	253	225	4.8	329	278
6	2.3	324	169	310	232	421	136	239	11	293	319	276
7	2.3	323	354	350	173	353	141	261	2.5	367	223	280
8	2.3	246	324	303	14	365	133	256	206	375	7.4	298
9	2.2	7.9	298	299	4.5	455	93	197	401	339	4.4	261
10	2.0	7.0	311	309	4.6	594	17	238	291	156	260	329
11	2.1	5.1	317	316	219	554	3.2	301	305	4.3	294	315
12	2.3	306	223	244	342	561	2.5	184	237	4.2	344	299
13	2.1	286	94	212	390	559	268	266	2.6	148	276	15
14	2.0	388	8.9	230	265	563	234	271	2.5	391	295	2.8
15	2.0	294	5.5	197	209	590	282	27	214	333	4.6	2.8
16	2.0	2.9	176	140	294	571	197	2.6	289	377	4.2	2.8
17	2.0	2.8	175	81	227	589	140	2.5	319	45	219	2.8
18	2.0	275	157	14	464	591	2.8	248	310	3.2	305	2.8
19	2.0	354	293	2.3	428	589	2.8	406	295	3.2	362	2.8
20	2.0	338	233	2.3	525	524	195	330	10	275	305	2.6
21	28	323	6.1	2.3	413	550	147	332	4.4	407	272	2.5
22	2.3	295	6.8	2.4	397	550	219	328	320	376	14	2.5
23	2.3	2.3	139	2.5	371	590	311	271	393	293	3.0	2.5
24	2.2	2.3	239	2.5	333	586	173	319	270	308	281	2.4
25	2.0	240	224	2.5	207	499	2.7	338	383	4.4	258	2.1
26	2.0	363	7.8	2.5	327	403	2.5	358	338	3.3	285	2.0
27	2.0	312	5.7	127	331	332	125	298	12	250	348	2.0
28	2.0	13	5.7	179	216	7.1	207	351	3.6	336	293	2.0
29	2.0	7.1	64	210	317	3.7	70	147	221	299	16	4.9
30	2.0	8.2	74	195	---	2.5	5.7	3.8	420	333	5.9	7.5
31	18	---	2.3	39	---	2.5	---	2.6	---	129	4.4	---
TOTAL	109.5	5169.5	4221.1	3886.5	7070.9	13032.8	3122.9	6400.0	6272.6	6573.2	5918.6	3161.8
MEAN	3.53	172	136	125	244	420	104	206	209	212	191	105
MAX	28	388	354	350	525	594	311	406	420	407	362	329
MIN	2.0	2.3	2.3	2.3	3.6	2.5	2.5	2.5	2.5	3.2	3.0	2.0
AC-FT	217	10250	8370	7710	14030	25850	6190	12690	12440	13040	11740	6270

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	MEAN	275	258	298	295	308	326	357	360	339	353	348	226
MAX	554	553	581	569	596	589	587	597	578	578	543	559	514
(WY)	1975	1984	1984	1984	1984	1984	1979	1984	1984	1984	1984	1970	1967
MIN	3.53	6.40	11.4	6.50	1.98	.43	.000	.000	26.5	14.7	19.6	7.55	
(WY)	1992	1987	1977	1991	1977	1986	1986	1986	1986	1986	1977	1977	1977

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	69211.50	64939.4	
ANNUAL MEAN	190	177	316
HIGHEST ANNUAL MEAN			544
LOWEST ANNUAL MEAN			23.8
HIGHEST DAILY MEAN	583	May 9	626
LOWEST DAILY MEAN	.70	Mar 11	.00
ANNUAL SEVEN-DAY MINIMUM	.70	Mar 11	.00
ANNUAL RUNOFF (AC-FT)	137300	128800	228800
10 PERCENT EXCEEDS	429	375	560
50 PERCENT EXCEEDS	175	184	372
90 PERCENT EXCEEDS	2.0	2.3	2.8

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Apr. 11, 1982, gage height, 4.64 ft, from rating curve extended above 1,200 ft³/s; minimum daily, 1.0 ft³/s, Dec. 9, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.1 ft³/s, many days, gage height, 0.69 ft; minimum daily, 5.7 ft³/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	5.8	6.0	6.3	6.5	6.2	6.0	5.7	5.8	5.9	6.3	6.6
2	5.9	6.1	6.3	6.1	6.3	5.9	6.0	5.8	5.8	6.1	6.2	6.4
3	5.9	6.3	5.9	6.1	6.4	6.3	6.0	5.9	6.1	6.4	6.5	6.2
4	5.9	6.1	6.1	6.3	6.5	6.3	6.1	6.1	5.9	6.4	6.6	6.3
5	5.9	5.9	6.0	6.4	6.4	6.3	6.2	6.2	6.0	6.4	6.2	6.5
6	5.9	5.9	6.1	6.3	6.4	6.0	6.5	6.3	6.2	6.4	6.5	6.4
7	5.9	6.0	6.4	6.1	6.5	6.1	6.3	6.2	6.2	6.4	6.4	6.6
8	5.9	6.1	6.3	6.2	6.5	6.5	6.2	6.1	6.2	6.3	6.3	6.3
9	5.9	6.2	6.5	6.3	6.4	6.1	6.3	6.1	6.1	6.1	6.5	6.3
10	5.9	5.9	6.5	6.2	6.6	6.0	6.4	6.3	5.9	6.0	6.4	6.3
11	5.9	5.8	6.4	6.2	6.5	6.1	6.4	6.3	6.1	5.9	6.2	6.0
12	5.9	6.0	6.4	6.0	6.4	6.0	6.4	6.3	6.4	5.9	6.1	6.1
13	5.9	6.1	6.1	5.7	6.5	6.1	6.1	6.1	6.5	6.0	6.2	6.8
14	5.9	6.4	6.3	6.0	6.5	6.0	6.2	6.3	6.0	6.3	6.4	7.0
15	5.9	5.9	6.2	5.9	6.4	6.1	6.1	6.3	6.1	6.4	6.2	7.0
16	5.9	5.9	6.0	6.2	6.1	6.0	6.2	6.3	6.3	6.4	6.0	7.0
17	5.9	5.9	6.0	6.3	6.1	6.1	6.2	6.3	6.4	6.6	6.0	6.9
18	6.1	6.0	6.0	6.2	6.4	6.7	6.1	6.1	6.2	6.2	6.1	6.9
19	6.4	6.5	6.4	6.3	6.2	6.3	6.0	6.3	6.1	6.1	6.2	6.9
20	6.3	6.5	6.1	6.4	6.5	6.0	6.2	6.1	6.1	6.1	6.0	6.9
21	6.2	6.2	6.0	6.4	6.1	6.0	6.4	6.1	6.5	6.6	6.3	6.9
22	6.0	5.9	6.4	6.4	6.6	6.0	6.4	6.1	6.3	6.3	6.5	6.9
23	5.9	5.8	6.4	6.3	6.2	5.9	6.1	6.2	6.4	6.3	6.5	6.9
24	5.8	6.0	6.4	6.2	6.1	6.1	5.9	6.2	6.2	6.4	6.2	6.9
25	5.7	6.2	6.4	6.3	6.0	6.5	5.7	6.1	6.3	6.2	6.3	6.9
26	5.8	6.5	6.0	6.1	6.2	6.0	5.7	6.2	6.3	5.9	6.1	6.9
27	5.7	6.4	5.9	6.1	6.1	6.2	5.8	6.2	6.2	6.4	6.3	6.9
28	5.8	6.1	6.0	6.1	6.3	6.1	6.2	6.1	6.1	6.2	6.4	6.9
29	5.8	5.9	6.3	6.4	6.2	6.3	6.5	6.3	6.4	6.3	6.3	6.9
30	5.8	6.3	6.0	6.5	---	6.1	5.9	5.8	6.2	6.4	6.6	6.8
31	5.8	---	6.2	6.4	---	6.0	---	5.7	---	6.6	6.7	---
TOTAL	183.5	182.6	192.0	192.7	183.9	190.3	184.5	190.1	185.3	193.9	195.5	200.3
MEAN	5.92	6.09	6.19	6.22	6.34	6.14	6.15	6.13	6.18	6.25	6.31	6.68
MAX	6.4	6.5	6.5	6.5	6.6	6.7	6.5	6.3	6.5	6.6	6.7	7.0
MIN	5.7	5.8	5.9	5.7	6.0	5.9	5.7	5.7	5.8	5.9	6.0	6.0
AC-FT	364	362	381	382	365	377	366	377	368	385	388	397

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.00	8.27	11.8	16.6	35.4	37.2	48.3	28.3	12.3	10.2	9.73	9.63
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	2.56	2.45	2.77
(WY)	1978	1978	1978	1981	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	2502.5		2274.6		19.4	
ANNUAL MEAN	6.86		6.21		122	
HIGHEST ANNUAL MEAN					3.54	
LOWEST ANNUAL MEAN					1930	
HIGHEST DAILY MEAN	168	Mar 4	7.0	Sep 14	Feb 17	1986
LOWEST DAILY MEAN	5.6	Jan 8	5.7	Oct 25	Dec 9	1967
ANNUAL SEVEN-DAY MINIMUM	5.8	Oct 24	5.8	Oct 24	Aug 25	1977
INSTANTANEOUS PEAK FLOW			7.1	Jul 17	Apr 11	1982
INSTANTANEOUS PEAK STAGE			.69	Jul 17	Apr 11	1982
ANNUAL RUNOFF (AC-FT)	4960		4510		14070	
10 PERCENT EXCEEDS	6.5		6.5		12	
50 PERCENT EXCEEDS	6.2		6.2		7.0	
90 PERCENT EXCEEDS	5.9		5.9		5.1	

SACRAMENTO RIVER BASIN

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 8, 1968, at site 420 ft upstream at same datum.

REMARKS.--Records excellent except for discharges below 70 ft³/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 ft³/s, Nov. 19, 1983; no flow for several days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e8.3	167	140	147	558	472	99	313	686	129	412
2	e.00	e8.3	343	177	157	616	485	e15	494	591	127	421
3	e.00	e8.3	544	192	205	600	435	e15	493	436	300	432
4	e.00	e273	544	146	285	617	115	106	482	326	630	365
5	e.00	e296	550	147	287	619	116	198	460	391	612	359
6	e.00	392	592	379	285	732	379	268	206	515	549	401
7	e.00	391	558	557	281	587	426	250	160	653	497	412
8	e.00	383	575	549	115	613	425	251	454	652	191	472
9	e.00	144	554	534	120	605	444	250	669	650	190	543
10	e.00	144	542	516	193	619	229	250	622	374	484	557
11	e.00	143	488	515	375	631	91	250	513	e15	580	573
12	e.00	391	401	516	531	532	100	249	456	e15	605	572
13	e.00	633	359	469	602	606	512	250	122	228	510	286
14	e.00	618	102	403	343	603	611	177	128	631	562	e.00
15	e.00	477	101	404	357	628	568	149	417	639	229	e.00
16	e.00	167	284	404	369	635	555	e15	519	631	206	e.00
17	e.00	168	439	387	370	639	458	e15	605	344	369	e.00
18	e.00	397	383	108	625	642	145	362	604	e15	580	e.00
19	e.00	602	384	108	845	635	146	608	544	85	598	e.00
20	e.00	661	370	109	1010	492	274	650	223	439	588	e.00
21	e.00	619	146	109	809	617	417	620	170	620	494	e.00
22	e.00	575	145	108	658	587	460	596	547	642	192	e.00
23	e.00	183	321	109	818	589	471	593	706	641	191	e.00
24	e.00	162	395	109	601	608	469	621	535	605	455	e.00
25	e.00	293	382	113	665	625	145	572	644	34	580	e.00
26	e.00	596	313	121	686	624	143	619	546	e15	571	e.00
27	e.00	551	139	308	600	521	205	624	253	421	565	e.00
28	e.00	191	153	278	632	224	381	633	253	641	528	e.00
29	e.00	192	198	309	667	280	279	400	413	559	212	e.00
30	e.00	182	193	310	---	387	138	e15	738	606	216	e.00
31	e.5	---	139	168	---	459	---	115	---	390	302	---
TOTAL	0.50	9848.9	10804	8802	13638	17730	10094	9835	13289	13490	12842	5805.00
MEAN	.016	328	349	284	470	572	336	317	443	435	414	193
MAX	.50	661	592	557	1010	732	611	650	738	686	630	573
MIN	.00	8.3	101	108	115	224	91	15	122	15	127	.00
AC-FT	1.0	19540	21430	17460	27050	35170	20020	19510	26360	26760	25470	11510

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	430	491	531	582	578	637	693	719	654	627	605	400
MEAN	430	491	531	582	578	637	693	719	654	627	605	400
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	122
(WY)	1987	1987	1977	1991	1991	1977	1976	1976	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	146836.40	126178.40	
ANNUAL MEAN	402	345	585
HIGHEST ANNUAL MEAN			949
LOWEST ANNUAL MEAN			109
HIGHEST DAILY MEAN	1020	May 9	1130
LOWEST DAILY MEAN	.00	Sep 16	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 16	.00
ANNUAL RUNOFF (AC-FT)	291200	250300	423500
10 PERCENT EXCEEDS	779	625	1030
50 PERCENT EXCEEDS	439	374	616
90 PERCENT EXCEEDS	.00	.00	20

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records excellent except for discharges above 20 ft³/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 ft³/s, Feb. 17, 1986; minimum daily, 0.08 ft³/s, Mar. 8-19, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 76 ft³/s, Sept. 13, gage height, 2.30 ft; minimum daily, 6.1 ft³/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.4	6.1	6.1	6.1	6.1	7.1	11	12	12	11	12
2	11	6.3	6.1	6.1	6.1	6.2	7.1	11	12	12	11	12
3	11	6.3	6.3	6.1	6.1	6.2	7.1	11	12	12	12	12
4	11	6.3	6.3	6.1	6.1	6.1	7.1	11	12	12	12	12
5	11	6.3	6.3	6.1	6.1	6.1	7.1	11	12	12	12	12
6	11	6.3	6.3	6.1	6.1	6.2	7.1	11	12	11	11	12
7	11	6.3	6.2	6.1	6.1	6.2	7.1	12	12	11	12	12
8	11	6.3	6.2	6.1	6.1	6.2	7.1	12	12	11	12	12
9	11	6.3	6.2	6.1	6.1	6.2	7.1	12	12	12	12	12
10	11	6.3	6.1	6.1	6.1	6.1	7.1	12	11	11	12	12
11	11	6.3	6.1	6.1	6.1	7.2	7.1	12	11	11	12	12
12	11	6.3	6.1	6.1	6.1	7.4	7.2	12	12	11	12	12
13	11	6.3	6.1	6.1	6.1	7.1	7.2	12	12	12	12	42
14	11	6.2	6.1	6.1	6.1	7.1	7.2	12	12	12	12	61
15	11	6.2	6.1	6.1	6.1	7.1	7.2	12	12	12	12	23
16	11	6.3	6.1	6.1	6.1	7.1	7.2	12	12	12	12	11
17	11	6.3	6.1	6.1	6.1	7.1	7.2	12	12	11	12	12
18	11	6.3	6.1	6.1	6.1	7.1	7.1	12	12	11	12	12
19	11	6.3	6.1	6.1	6.1	7.1	7.1	12	11	12	12	12
20	11	6.3	6.1	6.1	6.2	7.1	7.2	12	12	11	12	11
21	11	6.2	6.1	6.1	6.1	7.1	7.2	12	12	12	12	11
22	11	6.2	6.1	6.1	6.1	7.1	7.2	12	12	12	12	12
23	12	6.3	6.1	6.1	6.1	7.1	7.2	12	11	12	12	12
24	12	6.2	6.1	6.1	6.1	7.1	7.2	12	12	11	12	12
25	12	6.1	6.1	6.1	6.2	7.1	7.1	12	12	11	12	12
26	12	6.2	6.1	6.1	6.1	7.1	7.1	12	11	12	12	12
27	12	6.2	6.1	6.1	6.1	7.0	7.1	12	12	12	12	12
28	12	6.3	6.1	6.1	6.2	7.1	7.2	12	12	12	12	12
29	12	6.2	6.1	6.1	6.1	7.1	7.2	12	12	11	12	12
30	12	6.1	6.1	6.1	---	7.1	9.3	12	12	12	12	12
31	12	---	6.1	6.1	---	7.1	---	12	---	11	12	---
TOTAL	350	189.9	190.2	189.1	177.2	211.0	216.5	366	355	359	369	447
MEAN	11.3	6.33	6.14	6.10	6.11	6.81	7.22	11.8	11.8	11.6	11.9	14.9
MAX	12	8.4	6.3	6.1	6.2	7.4	9.3	12	12	12	12	61
MIN	11	6.1	6.1	6.1	6.1	6.1	7.1	11	11	11	11	11
AC-FT	694	377	377	375	351	419	429	726	704	712	732	887

SACRAMENTO RIVER BASIN

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.5	12.1	40.6	39.0	58.1	51.3	58.8	17.4	11.3	10.7	10.4	14.0
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	3450.0		3419.9			
ANNUAL MEAN	9.45		9.34		26.7	
HIGHEST ANNUAL MEAN					80.1	
LOWEST ANNUAL MEAN					5.53	
HIGHEST DAILY MEAN	44	May 8	61	Sep 14	3400	Feb 17 1986
LOWEST DAILY MEAN	6.0	Mar 25	6.1	Nov 25	.08	Mar 8 1968
ANNUAL SEVEN-DAY MINIMUM	6.1	Mar 25	6.1	Dec 10	.08	Mar 8 1968
INSTANTANEOUS PEAK FLOW			76	Sep 13	4240	Feb 17 1986
INSTANTANEOUS PEAK STAGE			2.30	Sep 13		
ANNUAL RUNOFF (AC-FT)	6840		6780		19320	
10 PERCENT EXCEEDS	12		12		16	
50 PERCENT EXCEEDS	11		11		8.8	
90 PERCENT EXCEEDS	6.1		6.1		4.9	

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.--Lat 39°08'08", long 120°57'03", 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 mi².

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 58,600 acre-ft, Feb. 29, Mar. 7, 8, elevation, 2,161.66 ft; minimum, 29,300 acre-ft, Nov. 3, elevation, 2,112.76 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48300	29500	33700	32700	32500	58400	54700	53200	47300	48100	45500	40900
2	47300	29400	33300	32400	32200	58200	54900	52800	47500	48400	44700	40800
3	46300	29300	33600	32100	32000	58000	55000	52300	47600	48500	44200	40800
4	45200	29700	33800	31800	32000	57700	54500	52000	47700	48400	44500	40600
5	44200	30400	34100	31700	32000	57800	53900	51800	47800	48300	44800	40600
6	43100	31000	34400	32000	32000	58400	53800	51600	47300	48500	45000	40600
7	42100	31400	34700	32800	32100	58600	53900	51300	46700	48900	45000	40600
8	41100	31900	35000	33500	31800	58600	54000	51000	46700	49400	44400	40600
9	40000	31700	35300	34000	31500	58500	54200	50800	47100	49800	43800	41000
10	38900	31600	35500	34500	31600	58400	54300	50500	47500	49700	43700	41400
11	37800	31500	35700	34900	32300	58300	53800	50100	47600	48800	43900	41900
12	36800	31800	35800	35300	34100	58000	53500	49800	47700	47900	44200	42400
13	35700	32900	35800	35600	35600	57800	54100	49500	47100	47300	44200	42500
14	34700	33500	35300	35700	36700	57600	55000	49000	46400	47700	44400	42000
15	33900	34000	34700	35900	38300	57400	55400	48400	46300	48100	43800	41300
16	33100	33900	34500	36100	39900	57500	55800	47500	46500	48500	43200	40700
17	32500	34000	34700	36300	41200	57500	56000	46600	46800	48300	42800	40100
18	31800	34600	34900	35900	42600	57400	55600	46200	47200	47400	43000	39400
19	31100	35200	35000	35500	44800	57300	55200	46400	47500	46600	43200	38800
20	30900	35700	35100	35100	49400	56900	54900	46700	47000	46500	43300	38200
21	30700	36100	34700	34700	51500	56700	54900	46900	46400	46800	43400	37500
22	30500	36400	34300	34400	53100	56500	55000	47200	46500	47200	42800	36900
23	30300	35900	34200	34000	54500	56200	55100	47500	47000	47600	42200	36400
24	30100	35400	34400	33600	55400	56000	55200	47800	47200	47800	42000	35700
25	30400	35100	34500	33200	56300	55800	54700	48100	47600	47000	42200	35200
26	30400	35400	34500	32800	57100	55600	54200	48400	47800	46000	42400	34600
27	30300	35600	34000	32900	57800	55300	53700	48700	47400	45700	42600	34000
28	30100	35100	33700	32900	58400	54600	53600	49100	46900	46000	42700	33400
29	29900	34700	33600	32900	58600	54400	53600	49100	46900	46200	42100	32700
30	29700	34200	33500	32900	---	54400	53400	48200	47500	46400	41600	32100
31	29600	---	33100	32800	---	54500	---	47500	---	46300	41100	---
MAX	48300	36400	35800	36300	58600	58600	56000	53200	47800	49800	45500	42500
MIN	29600	29300	33100	31700	31500	54400	53400	46200	46300	45700	41100	32100
a	2113.29	2122.88	2120.78	2120.09	2161.66	2156.20	2154.60	2145.95	2145.92	2143.98	2135.51	2118.70
b	-19700	+4600	-1100	-300	+25800	-4100	-1100	-5900	0	-1200	-5200	-9000
c	17620	16610	24870	20580	19210	48940	26030	27280	27510	29340	31550	19790

CAL YR 1991 MAX 66500 MIN 25900 b +1800 c 316800
WTR YR 1992 MAX 58600 MIN 29300 b -17200 c 309300

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.

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 National Geodetic Vertical Datum of 1929, 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). The powerplants were out of service and the water was diverted around the powerplants during part of this water year. 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 ft³/s, Oct. 5, 6, 1980; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	403	49	439	349	311	442	445	174	338	360	393	390
2	404	50	438	350	312	441	445	174	339	341	390	380
3	404	50	439	351	311	441	443	173	353	324	391	373
4	404	50	441	351	310	441	442	205	362	316	392	343
5	404	50	443	350	310	426	442	237	364	316	388	326
6	404	172	444	336	310	421	441	275	364	326	389	327
7	404	250	446	315	310	426	442	289	363	344	389	327
8	404	250	447	308	297	439	442	288	364	352	389	328
9	404	248	448	309	281	439	413	287	368	356	387	322
10	404	247	450	310	281	444	217	297	368	361	387	296
11	405	246	408	327	282	451	359	309	367	361	385	261
12	405	246	366	352	254	451	422	308	352	360	390	249
13	405	247	367	353	206	450	345	307	342	357	404	251
14	405	248	366	351	206	450	286	321	351	356	412	251
15	311	248	365	349	167	450	418	347	355	356	411	244
16	254	248	364	327	168	450	420	355	355	357	410	237
17	254	247	365	311	203	449	420	365	350	358	408	235
18	254	247	357	311	259	448	420	375	341	356	409	237
19	254	343	350	310	327	446	420	375	341	354	410	235
20	16	430	351	309	169	446	424	375	340	362	407	226
21	12	441	351	308	341	446	426	373	355	369	396	221
22	7.9	441	350	308	430	445	427	372	362	369	386	221
23	7.9	440	349	310	431	445	427	373	369	370	384	220
24	7.8	438	349	311	430	445	427	373	372	382	384	216
25	17	436	350	311	428	445	427	367	369	387	385	211
26	25	435	351	310	433	445	425	365	370	390	384	210
27	25	438	350	310	441	444	425	366	370	392	385	209
28	41	443	349	312	441	443	425	365	369	393	390	211
29	51	443	349	313	441	443	292	364	368	394	391	226
30	51	441	349	310	---	444	180	356	369	394	390	231
31	51	---	348	308	---	444	---	338	---	395	389	---
TOTAL	7298.6	8562	11939	10040	9090	13740	11987	9848	10750	11208	12205	8014
MEAN	235	285	385	324	313	443	400	318	358	362	394	267
MAX	405	443	450	353	441	451	445	375	372	395	412	390
MIN	7.8	49	348	308	167	421	180	173	338	316	384	209
AC-FT	14480	16980	23680	19910	18030	27250	23780	19530	21320	22230	24210	15900
a	0	14470	22730	18460	17650	27110	23050	18610	18700	19940	21230	14590
b	9160	11230	18230	15090	15770	22130	17430	15460	12150	12920	15850	9020

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.

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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	347	325	373	361	351	315	309	387	400	407	406	393
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1932 - 1992

ANNUAL TOTAL	112049.6	124681.6	
ANNUAL MEAN	307	341	365
HIGHEST ANNUAL MEAN			462
LOWEST ANNUAL MEAN			118
HIGHEST DAILY MEAN	467	Apr 7	531
LOWEST DAILY MEAN	7.8	Oct 24	.00
ANNUAL SEVEN-DAY MINIMUM	13	Oct 20	.00
ANNUAL RUNOFF (AC-FT)	222300	247300	264100
ANNUAL TOTAL (AC-FT) a	148100	216500	
ANNUAL TOTAL (AC-FT) b	155200	174400	
10 PERCENT EXCEEDS	446	442	477
50 PERCENT EXCEEDS	405	360	426
90 PERCENT EXCEEDS	50	221	138

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.

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 mi².

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 National Geodetic Vertical Datum of 1929. 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 ft³/s, Nov. 20, 1950, gage height, 21.40 ft, site and datum then in use, from rating curve extended above 3,600 ft³/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 ft³/s, Feb. 17, 1986, gage height, 20.62 ft, site and datum then in use, from rating curve extended above 11,600 ft³/s; minimum daily, 0.5 ft³/s, Nov. 17, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 443 ft³/s, Mar. 6, gage height, 2.21 ft; minimum daily, 22 ft³/s, on several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	51	26	25	25	403	31	80	99	120	114	112
2	108	24	27	24	22	403	31	80	98	119	114	90
3	107	24	27	24	22	403	31	80	99	115	114	77
4	110	24	27	24	22	403	28	91	102	109	114	78
5	112	24	27	28	22	416	28	133	102	112	114	77
6	114	27	27	26	22	427	27	158	102	117	114	77
7	115	26	28	28	22	420	27	150	101	118	114	78
8	114	23	28	25	23	408	27	151	102	119	112	78
9	113	22	27	24	23	407	27	148	103	119	112	77
10	111	22	27	24	26	401	22	150	102	118	113	79
11	110	22	26	24	29	392	25	151	103	118	112	80
12	110	22	25	24	35	394	28	150	102	118	113	79
13	109	22	25	24	25	394	28	152	104	118	113	80
14	112	22	25	24	30	393	24	137	105	118	114	79
15	96	22	25	24	32	389	26	125	104	118	116	79
16	86	22	25	24	30	390	26	126	105	118	121	79
17	87	23	25	24	25	393	26	128	105	118	121	82
18	86	23	26	24	24	395	26	152	105	118	121	85
19	88	24	25	24	29	395	27	176	105	118	121	84
20	107	27	25	23	31	394	41	177	105	116	119	83
21	109	27	24	23	29	393	57	138	105	115	118	83
22	112	27	24	23	31	394	57	92	106	115	117	83
23	112	27	24	23	28	394	57	97	109	115	117	83
24	108	27	24	23	28	392	57	97	113	116	117	82
25	94	27	24	24	27	393	57	97	114	115	117	82
26	88	27	24	24	27	395	57	96	115	115	117	83
27	86	28	24	24	27	393	72	97	118	114	112	83
28	82	29	25	24	49	248	76	96	120	115	106	83
29	80	26	27	24	259	49	79	96	120	115	110	84
30	80	26	26	27	---	30	82	96	120	115	112	85
31	80	---	25	30	---	30	---	97	---	114	112	---
TOTAL	3128	767	794	760	1024	11131	1207	3794	3193	3606	3561	2464
MEAN	101	25.6	25.6	24.5	35.3	359	40.2	122	106	116	115	82.1
MAX	115	51	28	30	259	427	82	177	120	120	121	112
MIN	80	22	24	23	22	30	22	80	98	109	106	77
AC-FT	6200	1520	1570	1510	2030	22080	2390	7530	6330	7150	7060	4890

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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	108	203	351	558	627	682	599	445	311	227	186	142
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	57998	35429	
ANNUAL MEAN	159	96.8	369
HIGHEST ANNUAL MEAN			972
LOWEST ANNUAL MEAN			19.0
HIGHEST DAILY MEAN	636	Jun 5	427
LOWEST DAILY MEAN	16	Feb 7	22
ANNUAL SEVEN-DAY MINIMUM	17	Feb 7	22
INSTANTANEOUS PEAK FLOW			443
INSTANTANEOUS PEAK STAGE			2.21
ANNUAL RUNOFF (AC-FT)	115000	70270	267000
10 PERCENT EXCEEDS	435	150	899
50 PERCENT EXCEEDS	80	83	117
90 PERCENT EXCEEDS	22	24	21

SACRAMENTO RIVER BASIN

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.28, 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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Apr. 6, 1990; minimum daily, 10 ft³/s, several days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	11	12	11	12	28	27	27	14	11	11
2	11	12	11	12	11	12	28	27	26	11	11	11
3	11	13	11	12	12	12	27	26	26	10	11	11
4	11	13	12	12	12	13	27	27	26	11	11	11
5	11	13	12	12	12	13	27	27	27	11	11	11
6	11	13	12	12	12	14	28	27	26	11	11	11
7	11	13	12	12	12	15	28	27	26	11	11	11
8	13	13	12	12	12	14	27	27	27	11	11	11
9	13	13	12	12	12	14	27	27	27	11	11	11
10	14	14	12	12	12	14	27	26	27	11	11	11
11	15	14	11	12	12	14	26	27	27	11	11	11
12	15	14	11	12	12	14	27	27	27	11	11	11
13	15	14	11	12	12	14	28	27	26	11	11	11
14	14	13	12	12	12	14	28	27	26	11	11	11
15	14	12	12	11	12	14	28	27	26	11	11	11
16	14	12	12	11	12	14	29	27	26	11	11	11
17	14	12	12	11	12	13	29	27	26	11	11	11
18	14	12	12	11	12	13	28	27	26	11	11	10
19	14	13	12	11	12	13	28	27	26	11	11	11
20	14	13	12	12	13	14	26	27	26	11	11	11
21	14	12	12	12	13	14	27	27	27	11	11	11
22	13	12	12	12	13	14	27	26	27	11	11	12
23	13	12	12	12	13	14	27	26	27	10	11	12
24	13	12	12	12	13	14	28	27	26	11	11	12
25	13	12	12	12	12	14	28	27	26	11	11	11
26	13	12	12	12	12	13	26	27	27	11	11	11
27	13	12	12	12	12	13	27	27	26	11	11	11
28	13	12	12	12	12	13	28	27	26	11	11	11
29	13	12	12	12	12	13	27	27	27	11	11	11
30	13	12	12	11	---	13	27	26	28	11	11	11
31	13	---	12	11	---	18	---	27	---	11	11	---
TOTAL	404	379	366	365	351	423	823	832	794	342	341	332
MEAN	13.0	12.6	11.8	11.8	12.1	13.6	27.4	26.8	26.5	11.0	11.0	11.1
MAX	15	14	12	12	13	18	29	27	28	14	11	12
MIN	11	12	11	11	11	12	26	26	26	10	11	10
AC-FT	801	752	726	724	696	839	1630	1650	1570	678	676	659

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

	1990	1991	1992	1990	1991	1992	1990	1991	1992	1990	1991	1992
MEAN	12.0	11.9	11.5	11.4	11.6	12.5	26.9	26.5	26.4	11.1	10.9	11.0
MAX	13.0	12.6	11.8	11.8	12.1	13.6	27.4	26.8	26.9	11.1	11.0	11.1
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1991	1990	1992	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1990 - 1992

ANNUAL TOTAL	5600	5752	
ANNUAL MEAN	15.3	15.7	
HIGHEST ANNUAL MEAN			15.3
LOWEST ANNUAL MEAN			15.0
HIGHEST DAILY MEAN	28	Apr 23	31
LOWEST DAILY MEAN	10	Jan 2	10
ANNUAL SEVEN-DAY MINIMUM	11	Jan 1	11
ANNUAL RUNOFF (AC-FT)	11110	11410	11090
10 PERCENT EXCEEDS	27	27	27
50 PERCENT EXCEEDS	11	12	12
90 PERCENT EXCEEDS	11	11	11

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 mi².

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 National Geodetic Vertical Datum of 1929. See WSP 2131 for history of changes prior to May 28, 1970.

REMARKS.--No estimated daily discharges. Records good. 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 ft³/s, Feb. 17, 1966, gage height, 21.60 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,240 ft³/s, Mar. 8, gage height, 9.03 ft; minimum daily, 10 ft³/s, Jan. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	18	12	12	12	15	35	26	29	25	14	17
2	13	15	12	12	12	14	38	26	28	17	16	16
3	12	13	13	11	12	13	34	26	30	17	16	17
4	12	13	12	12	12	12	30	25	30	17	15	17
5	11	12	12	15	12	239	30	28	31	18	15	15
6	13	12	12	12	12	767	30	26	30	18	14	15
7	12	12	15	17	11	1040	30	36	30	17	14	14
8	13	13	13	14	11	1100	29	30	29	17	15	14
9	14	13	12	12	12	782	29	29	28	17	14	14
10	15	13	12	11	13	663	29	29	32	16	14	13
11	14	12	12	11	16	665	28	29	27	16	13	12
12	14	12	12	11	126	659	31	29	26	16	15	12
13	14	11	12	11	25	654	33	30	26	15	15	13
14	14	12	12	12	36	649	31	29	26	14	14	12
15	15	11	12	12	88	655	37	29	26	15	14	12
16	14	11	12	11	38	677	44	30	26	17	15	12
17	15	12	12	11	21	380	42	30	27	19	15	12
18	15	12	13	11	17	153	31	29	27	18	15	11
19	15	12	12	11	18	426	29	29	28	16	14	13
20	14	11	12	11	173	540	29	30	28	15	14	13
21	16	11	13	11	645	618	28	27	28	15	14	12
22	16	12	13	11	642	619	30	28	28	14	13	11
23	14	12	13	11	618	614	29	30	28	14	14	17
24	14	12	13	10	398	615	30	29	29	14	14	16
25	13	12	13	11	18	509	29	29	27	14	13	19
26	19	12	13	11	16	418	29	30	26	15	13	14
27	15	12	13	11	15	422	28	29	26	15	14	13
28	14	12	14	12	14	426	26	28	26	15	12	13
29	14	12	15	12	14	425	26	28	26	15	13	11
30	14	12	14	11	---	259	27	27	26	15	13	12
31	13	---	13	12	---	79	---	29	---	15	16	---
TOTAL	434	369	393	363	3057	15107	931	889	834	501	440	412
MEAN	14.0	12.3	12.7	11.7	105	487	31.0	28.7	27.8	16.2	14.2	13.7
MAX	19	18	15	17	645	1100	44	36	32	25	16	19
MIN	11	11	12	10	11	12	26	25	26	14	12	11
AC-FT	861	732	780	720	6060	29960	1850	1760	1650	994	873	817

SACRAMENTO RIVER BASIN

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	2818	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
LOWEST ANNUAL MEAN	70.0
HIGHEST DAILY MEAN	22100
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	33000
INSTANTANEOUS PEAK STAGE	20.83
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.1	154	462	849	1112	1100	690	190	45.7	17.1	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	6943.1	23730	
ANNUAL MEAN	19.0	64.8	385
HIGHEST ANNUAL MEAN			1191
LOWEST ANNUAL MEAN			3.42
HIGHEST DAILY MEAN	104	Mar 13	1100
LOWEST DAILY MEAN	8.6	Feb 21	10
ANNUAL SEVEN-DAY MINIMUM	9.7	Feb 16	11
INSTANTANEOUS PEAK FLOW			3240
INSTANTANEOUS PEAK STAGE			9.03
ANNUAL RUNOFF (AC-FT)	13770	47070	278900
10 PERCENT EXCEEDS	31	39	1110
50 PERCENT EXCEEDS	15	15	22
90 PERCENT EXCEEDS	12	12	6.4

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records not computed above 8.5 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1.4	7.5	---	---	---	---	---	---	---	---	---
2	---	1.4	7.7	---	---	---	---	---	---	---	---	---
3	---	1.3	7.7	---	---	---	---	---	---	---	---	---
4	---	1.3	7.7	---	---	---	---	---	---	---	8.2	---
5	---	1.2	8.0	---	---	---	---	---	---	---	---	---
6	---	1.9	8.0	---	---	---	---	---	---	---	---	---
7	---	4.3	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	4.9	---	---	---	---	---	---	---	---	---	---
10	---	5.9	8.2	---	---	---	---	---	---	---	---	---
11	---	8.0	8.2	---	---	---	---	---	---	---	---	---
12	---	8.2	8.2	---	---	---	---	---	---	---	---	---
13	---	---	8.0	---	---	---	---	8.2	---	---	---	---
14	---	8.2	8.0	---	---	---	---	---	---	---	---	---
15	---	7.7	8.0	---	---	---	---	---	---	---	---	---
16	---	7.7	7.7	---	---	---	---	---	---	---	---	---
17	---	---	7.7	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	8.0	---	---	---	---	---	---	---	---	---	---
20	---	7.7	7.7	---	---	---	---	---	---	---	---	---
21	.95	7.6	8.0	---	---	---	---	---	---	---	8.2	---
22	1.0	7.5	8.0	---	---	---	---	---	---	---	---	---
23	.94	7.5	8.0	---	---	---	---	---	---	---	---	---
24	.99	7.7	---	---	---	---	---	---	---	8.2	---	---
25	1.6	7.7	8.0	---	---	---	---	---	---	---	---	---
26	---	7.7	7.7	---	---	---	---	---	---	---	---	---
27	2.6	7.7	7.7	---	---	---	---	---	---	---	---	---
28	1.8	7.5	7.7	---	---	---	---	---	---	---	---	---
29	2.6	8.0	---	---	---	---	8.2	---	---	7.9	---	---
30	1.6	7.6	---	---	---	---	---	---	---	---	---	---
31	1.5	---	---	---	---	---	---	---	---	8.0	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---
a	5660	9900	16680	15320	13830	16230	14210	0	0	26	0	0

CAL YR 1991 AC-FT a 86430

WTR YR 1992 AC-FT a 91850

a Diversion, in acre-feet, to Newcastle powerplant, provided by Pacific Gas & Electric Co.

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 mi².

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 National Geodetic Vertical Datum of 1929. 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 ft³/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 ft³/s, Feb. 20, 1986, gage height, 42.11 ft, site then in use, 41.45 ft at current site; minimum daily, 304 ft³/s, July 23, 24, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45,100 ft³/s, Feb. 16, gage height, 27.00 ft; minimum daily, 3,590 ft³/s, June 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9720	5750	6460	13300	7870	18200	10800	3870	6030	4880	6070	9620
2	9610	5700	6550	11100	7840	16200	10600	4200	6090	4900	5690	10200
3	9520	5730	6630	9490	8170	14700	10400	4740	5980	5010	5510	10100
4	9420	5680	6860	8860	8690	13600	10200	4680	5810	4960	5490	9730
5	9450	5700	6900	8970	8210	12900	9880	4890	5770	4820	5290	9550
6	9440	5690	6790	9930	7810	15300	9620	4890	5940	4690	5020	9260
7	9410	5700	6900	13500	7620	21600	9160	4250	5810	4200	4890	9140
8	9340	5870	6840	15000	7450	26000	8940	4080	5940	3960	5060	9250
9	9190	5860	6830	16400	7340	24400	8590	4390	5840	3840	5260	9550
10	8780	5870	6760	15500	7860	20800	8410	5310	5190	3830	5660	9710
11	8400	5920	6570	12700	8920	18000	8400	5480	4730	3980	5860	9960
12	8090	5990	6390	10700	17400	16100	8590	5240	4230	4390	6050	9860
13	7800	5970	6740	9860	32600	14900	9190	5130	4050	4770	6320	9650
14	7410	5870	7300	9370	37100	14200	10100	5190	4270	5000	6590	9600
15	7020	5660	7580	9020	41100	14000	11400	5400	4520	5370	6700	9540
16	6680	5690	7680	8930	44700	15500	11300	5380	4650	5530	6920	9690
17	6380	5950	7810	8830	44500	24000	10500	5470	5070	5340	7140	9810
18	6110	6210	8560	8800	41100	30500	9770	5600	5260	5220	6900	9590
19	5780	6160	9010	8670	36600	32500	9980	5540	5020	5120	7010	9490
20	5720	6310	9280	8420	36500	31000	10700	5560	4640	5220	6960	9320
21	5840	6500	9590	8060	41300	27000	10200	5560	4360	5220	7180	9310
22	6140	6460	9670	7930	43400	22900	9070	5430	4160	5350	7230	9090
23	6010	6470	9440	7750	42800	19800	8150	5210	3730	5340	7220	9040
24	6000	6470	9020	7660	39800	18000	7190	5080	3590	5460	7350	8880
25	6080	6440	8590	7610	34700	17100	6460	5140	3760	5670	7590	8800
26	6450	6520	8500	7620	30200	16100	5680	5170	4000	5870	7780	8680
27	6740	6510	8550	7580	27000	15100	e4700	5320	4240	5900	7800	8680
28	6730	6230	8790	7570	24000	14200	e4180	5480	4220	5980	8220	8640
29	6920	6270	9150	7590	21000	13200	3930	5450	4280	5960	8640	8420
30	6480	6290	9880	7530	---	12300	3920	5710	4570	5970	8890	8610
31	5980	---	12500	7590	---	11200	---	5810	---	6010	9200	---
TOTAL	232640	181440	248120	301840	723580	581300	260010	158650	145750	157760	207490	280770
MEAN	7505	6048	8004	9737	24950	18750	8667	5118	4858	5089	6693	9359
MAX	9720	6520	12500	16400	44700	32500	11400	5810	6090	6010	9200	10200
MIN	5720	5660	6390	7530	7340	11200	3920	3870	3590	3830	4890	8420
AC-FT	461400	359900	492100	598700	1435000	1153000	515700	314700	289100	312900	411600	556900

e Estimated.

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	5868	7819	11730	13860	5932	3103	1872	497	846	2860
(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
LOWEST ANNUAL MEAN	6286
HIGHEST DAILY MEAN	76900
LOWEST DAILY MEAN	304
ANNUAL SEVEN-DAY MINIMUM	313
INSTANTANEOUS PEAK FLOW	79200
INSTANTANEOUS PEAK STAGE	41.20
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10770	14480	22720	28610	32810	30950	24500	19700	13540	10900	11450	12420
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	6048	6586	8561	7591	6731	6188	5118	4858	4848	5385	6300
(WY)	1978	1992	1960	1991	1991	1977	1977	1992	1992	1947	1947	1977

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1946 - 1992

ANNUAL TOTAL	3301470	3479350	
ANNUAL MEAN	9045	9506	19340
HIGHEST ANNUAL MEAN			39150
LOWEST ANNUAL MEAN			7178
HIGHEST DAILY MEAN	41900	Mar 27	44700
LOWEST DAILY MEAN	5430	May 1	3590
ANNUAL SEVEN-DAY MINIMUM	5590	Apr 27	3960
INSTANTANEOUS PEAK FLOW			45100
INSTANTANEOUS PEAK STAGE			27.00
ANNUAL RUNOFF (AC-FT)	6548000	6901000	14010000
10 PERCENT EXCEEDS	11800	16100	44600
50 PERCENT EXCEEDS	7450	7320	13100
90 PERCENT EXCEEDS	6080	4800	7400

SACRAMENTO RIVER BASIN

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 National Geodetic Vertical Datum of 1929. 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 ft³/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 1992 water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.48	148	627	529	805	476	100	1.88	.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 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1943 - 1992

ANNUAL MEAN			218	
HIGHEST ANNUAL MEAN			2075	1986
LOWEST ANNUAL MEAN			.000	1944
HIGHEST DAILY MEAN			123000	Feb 20 1986
LOWEST DAILY MEAN	.00	Jan 1	.00	Jan 1 1943
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Jan 1 1943
INSTANTANEOUS PEAK FLOW			128000	Feb 20 1986
INSTANTANEOUS PEAK STAGE			33.01	Dec 23 1955
ANNUAL RUNOFF (AC-FT)			157600	
10 PERCENT EXCEEDS	.00		.00	.00
50 PERCENT EXCEEDS	.00		.00	.00
90 PERCENT EXCEEDS	.00		.00	.00

11426170 LAKE VALLEY RESERVOIR NEAR CISCO, CA

LOCATION.--Lat 39°38'01", long 120°15'46", 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 mi².

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 National Geodetic Vertical Datum of 1929 (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, 6,510 acre-ft, several days in May, gage height, 52.55 ft; minimum, 2,260 acre-ft, Feb. 18, gage height, 32.89 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4710	3120	2910	2690	2370	2940	4230	6200	6500	6290	5970	5560
2	4700	3070	2910	2670	2370	2970	4310	6240	6490	6290	5960	5540
3	4700	3020	2900	2660	2360	3010	4390	6280	6480	6280	5940	5520
4	4700	2980	2890	2650	2360	3040	4470	6310	6470	6260	5930	5520
5	4690	2950	2890	2640	2350	3100	4520	6340	6460	6250	5920	5510
6	4680	2950	2890	2630	2350	3150	4570	6370	6450	6240	5900	5500
7	4640	2950	2880	2620	2350	3180	4620	6400	6440	6240	5890	5490
8	4570	2950	2870	2610	2350	3210	4670	6430	6430	6230	5880	5480
9	4500	2950	2850	2590	2350	3230	4710	6450	6420	6230	5870	5470
10	4430	2950	2840	2570	2350	3270	4770	6470	6410	6200	5860	5460
11	4350	2940	2830	2560	2340	3300	4820	6480	6390	6190	5850	5440
12	4290	2940	2820	2540	2330	3340	4990	6490	6370	6190	5840	5430
13	4220	2930	2820	2530	2310	3390	5130	6500	6370	6180	5820	5420
14	4160	2920	2810	2510	2310	3430	5210	6510	6370	6170	5820	5410
15	4080	2920	2800	2500	2290	3480	5280	6510	6380	6160	5800	5390
16	4010	2920	2800	2490	2290	3530	5350	6510	6390	6150	5780	5380
17	3940	2950	2790	2480	2270	3560	5510	6510	6380	6150	5770	5370
18	3870	2960	2800	2470	2260	3590	5610	6500	6370	6140	5760	5360
19	3800	2960	2790	2460	2280	3620	5680	6500	6360	6120	5740	5350
20	3720	2970	2790	2450	2420	3650	5760	6510	6360	6110	5720	5340
21	3650	2960	2780	2440	2520	3670	5830	6510	6350	6100	5700	5330
22	3580	2960	2780	2430	2600	3710	5870	6510	6340	6080	5690	5320
23	e3500	2950	2770	2430	2650	3740	5910	6510	6330	6070	5680	5300
24	e3430	2950	2760	2420	2690	3780	5940	6510	6320	6060	5660	5290
25	e3360	2940	2760	2410	2730	3810	5970	6510	6310	6050	5650	5280
26	e3480	2940	2760	2400	2780	3850	6000	6510	6300	6040	5640	5270
27	e3500	2940	2740	2400	2820	3900	6040	6500	6290	6030	5630	5260
28	e3400	2940	2740	2400	2860	3950	6070	6510	6280	6020	5610	5250
29	3290	2920	2740	2380	2900	4010	6110	6500	6290	6000	5600	5240
30	3230	2920	2720	2380	---	4070	6160	6500	6290	5990	5580	5220
31	3180	---	2710	2380	---	4150	---	6500	---	5980	5570	---
MAX	4710	3120	2910	2690	2900	4150	6160	6510	6500	6290	5970	5560
MIN	3180	2920	2710	2380	2260	2940	4230	6200	6280	5980	5570	5220
a	38.73	37.25	35.66	33.71	37.11	43.03	51.28	52.50	51.75	50.62	49.13	47.70
b	-1540	-260	-210	-330	+520	+1250	+2010	+340	-210	-310	-410	-350

CAL YR 1991 MAX 7960 MIN 2620 b -340
WTR YR 1992 MAX 6510 MIN 2260 b +500

e Estimated.

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

b Change in contents, in acre-feet.

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 mi².

PERIOD OF RECORD.--October 1991 to September 1992. 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 National Geodetic Vertical Datum of 1929 (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, 327 acre-ft, Apr. 12, 1992, gage height, 16.71 ft; minimum, 0 acre-ft, Oct. 1-24, 1991.

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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	12	25	34	47	238	318	315	307	296	284	259
2	0	12	25	34	48	244	318	315	307	296	283	259
3	0	12	25	34	52	251	318	315	306	295	282	258
4	0	e12	25	34	55	259	317	316	306	295	281	258
5	0	12	25	34	57	270	317	316	305	295	280	257
6	0	12	25	34	58	279	316	317	304	294	280	257
7	0	e12	26	34	59	284	316	317	304	294	279	256
8	0	13	26	34	62	289	316	317	303	293	278	256
9	0	15	27	34	65	293	316	317	303	293	277	255
10	0	13	27	34	69	297	316	317	302	293	276	255
11	0	e13	27	34	72	302	316	317	302	293	276	254
12	0	e13	27	35	75	308	327	317	301	292	274	254
13	0	e12	27	35	77	315	319	317	300	292	273	253
14	0	e12	27	35	81	317	316	317	301	291	272	253
15	0	e12	27	35	84	317	316	317	303	291	272	252
16	0	e11	27	35	88	316	316	317	303	291	271	252
17	0	e11	27	36	90	316	316	316	302	290	270	251
18	0	e10	31	36	92	315	315	316	301	290	269	250
19	0	e10	33	37	101	315	315	316	301	289	268	250
20	0	10	33	37	142	315	315	316	300	289	267	249
21	0	20	33	37	158	315	314	315	299	289	266	249
22	0	21	34	38	174	316	314	315	299	288	266	248
23	0	21	34	39	181	316	314	314	299	288	265	248
24	0	21	34	40	188	316	314	314	299	287	264	248
25	e2	21	34	40	196	316	314	313	298	287	263	246
26	16	22	34	41	206	316	313	313	297	287	262	246
27	e15	24	34	41	215	317	313	312	297	286	262	245
28	e14	24	34	42	223	317	313	311	297	286	261	245
29	e13	26	34	43	231	317	313	311	294	286	260	244
30	13	24	34	43	---	318	314	309	297	285	260	244
31	10	---	34	44	---	318	---	309	---	285	260	---
MAX	16	26	34	44	231	318	327	317	307	296	284	259
MIN	0	10	25	34	47	238	313	309	294	285	260	244
a	.64	1.56	2.25	3.00	12.81	16.38	16.21	16.03	15.55	15.08	14.07	13.39
b	---	+14	+10	+10	+187	+87	-4	-5	-12	-12	-25	-16

WTR YR 1992 MAX 327 MIN 0

e Estimated.

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

b Change in contents, in acre-feet.

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1979, on right bank 0.7 mi downstream at different datum.

REMARKS.--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 ft³/s, Jan. 13, 1980; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	28	1.4	14	4.6	21	36	9.1	.87	.00	.00	.00
2	.00	28	3.0	14	4.3	21	36	8.3	e.80	.00	.00	.00
3	.00	28	5.0	11	4.3	24	36	7.7	e.70	.00	.00	.00
4	.00	28	4.3	10	4.2	28	35	6.8	e.60	.00	.00	.00
5	.00	14	3.7	11	4.1	33	29	5.8	e.50	.00	.00	.00
6	.00	.00	3.7	10	4.4	29	24	5.6	e.40	.00	.00	.00
7	11	.00	5.1	10	4.7	19	22	5.4	e.30	.00	.00	.00
8	31	.00	10	9.8	7.0	16	22	5.3	e.20	.00	.00	.00
9	33	.00	8.9	9.7	13	14	20	4.4	e.10	.00	.00	.00
10	33	.00	4.8	9.7	22	14	17	3.5	.00	.00	.00	.00
11	33	.00	4.5	9.6	24	15	18	3.4	.00	.00	.00	.00
12	33	.00	3.8	9.6	26	19	33	3.3	.00	.00	.00	.00
13	33	.00	4.0	9.6	24	21	39	3.3	.00	.00	.00	.00
14	33	.00	3.7	9.5	22	26	37	3.2	.00	.00	.00	.00
15	33	.00	3.6	8.4	23	23	31	3.1	.00	.00	.00	.00
16	32	.00	4.4	4.3	21	22	27	2.7	.00	.00	.00	.00
17	32	.00	3.9	3.3	19	19	38	2.4	.00	.00	.00	.00
18	32	.00	20	3.1	15	18	34	2.3	.00	.00	.00	.00
19	32	.00	17	3.0	31	16	25	2.2	.00	.00	.00	.00
20	32	.00	11	3.1	41	16	23	2.3	.00	.00	.00	.00
21	31	.00	7.7	3.0	33	17	21	2.2	.00	.00	.00	.00
22	32	.00	7.0	4.1	34	20	24	2.2	.00	.00	.00	2.2
23	27	2.1	5.7	4.6	25	21	28	1.9	.00	.00	.00	3.2
24	31	3.2	5.1	3.2	18	20	27	1.6	.00	.00	.00	1.1
25	34	3.2	4.9	2.8	24	22	27	1.6	.00	.00	.00	1.3
26	28	3.2	4.8	2.9	30	26	26	1.5	.00	.00	.00	.00
27	7.9	6.6	9.0	4.0	25	32	25	1.5	.00	.00	.00	.00
28	27	3.9	16	4.9	22	35	25	1.5	.00	.00	.00	.00
29	29	2.7	17	4.4	18	35	20	1.5	.00	.00	.00	e.25
30	29	12	15	4.3	---	38	10	1.5	.00	.00	.00	.00
31	29	---	14	4.4	---	38	---	1.1	---	.00	.00	---
TOTAL	737.90	162.90	232.0	215.3	547.6	718	815	108.2	4.47	0.00	0.00	8.05
MEAN	23.8	5.43	7.48	6.95	18.9	23.2	27.2	3.49	.15	.000	.000	.27
MAX	34	28	20	14	41	38	39	9.1	.87	.00	.00	3.2
MIN	.00	.00	1.4	2.8	4.1	14	10	1.1	.00	.00	.00	.00
AC-FT	1460	323	460	427	1090	1420	1620	215	8.9	.00	.00	16

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	19.3	16.4	12.2	12.2	13.2	17.1	19.7	20.0	13.3	16.7	18.1	12.4																
MAX	35.4	35.3	35.7	39.6	39.3	39.0	40.5	39.9	36.4	37.1	38.8	36.1																
(WY)	1976	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

ANNUAL TOTAL	5011.10	3549.42	
ANNUAL MEAN	13.7	9.70	
HIGHEST ANNUAL MEAN			15.9
LOWEST ANNUAL MEAN			32.2
HIGHEST DAILY MEAN	38	41	75
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	9940	7040	11530
10 PERCENT EXCEEDS	32	31	35
50 PERCENT EXCEEDS	11	3.6	14
90 PERCENT EXCEEDS	.00	.00	.00

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 mi².

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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except for the period of Oct. 4 to Dec. 13 which is poor. 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 ft³/s, Dec. 23, 1964, gage height, 11.87 ft, from rating curve extended above 24,000 ft³/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 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 20	1115	*5,780	*3.97				

Minimum daily, 13 ft³/s, Dec. 4, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	e72	e113	125	106	829	976	572	102	107	24	21
2	31	e72	e58	113	112	742	1010	518	96	82	23	22
3	30	e72	e27	107	107	670	980	481	90	72	23	21
4	e45	e72	e13	107	99	691	960	462	87	66	26	21
5	e45	e72	e13	227	96	747	897	459	84	61	26	21
6	e44	e72	e14	252	96	1260	743	463	80	58	26	21
7	e43	e72	e18	274	102	1150	660	471	78	56	26	21
8	e43	e72	e18	283	110	919	657	468	77	51	26	21
9	e43	e72	e18	190	144	788	675	421	75	49	26	21
10	e50	e72	e18	156	281	709	652	348	71	47	26	21
11	e64	e72	e18	142	556	675	650	306	68	46	26	21
12	e71	e72	e18	132	829	675	769	289	65	48	26	21
13	e74	e72	e26	121	831	686	1440	265	62	49	26	21
14	e74	e72	62	114	662	717	1160	253	64	49	26	21
15	e73	e72	68	111	1400	714	921	241	67	47	26	21
16	e56	e72	66	102	1360	872	789	224	76	44	25	21
17	e31	e86	67	101	1190	834	1130	208	77	39	20	21
18	e34	e84	93	100	846	765	1420	197	74	38	20	21
19	e36	e110	191	100	776	706	940	187	76	36	20	21
20	e36	e140	150	100	4240	653	817	180	69	35	19	21
21	e35	e108	117	98	2620	626	828	171	66	34	18	21
22	e35	e71	105	93	2490	620	782	152	61	34	18	21
23	e35	e87	99	90	1780	635	669	145	57	33	18	21
24	e35	e114	92	88	1270	595	611	133	57	33	20	21
25	e36	e114	90	87	1070	586	617	130	56	32	21	20
26	e130	e114	89	87	1140	624	657	127	59	30	21	20
27	e195	e114	92	86	1020	681	661	126	53	28	21	20
28	e194	e114	107	98	988	708	648	123	52	27	21	20
29	e190	e113	198	109	892	752	688	116	58	25	21	20
30	e108	e113	239	102	---	768	672	112	95	25	21	20
31	e94	---	158	98	---	846	---	106	---	24	21	---
TOTAL	2041	2634	2455	3993	27213	23243	25079	8454	2152	1405	707	625
MEAN	65.8	87.8	79.2	129	938	750	836	273	71.7	45.3	22.8	20.8
MAX	195	140	239	283	4240	1260	1440	572	102	107	26	22
MIN	30	71	13	86	96	586	611	106	52	24	18	20
AC-FT	4050	5220	4870	7920	53980	46100	49740	16770	4270	2790	1400	1240

e Estimated.

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	111	400	900	1218	1381	1419	1563	1571	757	183	64.2	49.2
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1942 - 1992	
ANNUAL TOTAL	137159		100001		798	
ANNUAL MEAN	376		273		1843	1982
HIGHEST ANNUAL MEAN					88.5	1977
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	9050	Mar 4	4240	Feb 20	45900	Feb 17 1986
LOWEST DAILY MEAN	13	Dec 4	13	Dec 4	.00	Aug 27 1944
ANNUAL SEVEN-DAY MINIMUM	16	Dec 4	16	Dec 4	.00	Sep 2 1944
INSTANTANEOUS PEAK FLOW			5780	Feb 20	65400	Dec 23 1964
INSTANTANEOUS PEAK STAGE			3.97	Feb 20	11.87	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	272100		198400		578200	
10 PERCENT EXCEEDS	1080		797		1980	
50 PERCENT EXCEEDS	82		89		270	
90 PERCENT EXCEEDS	32		21		40	

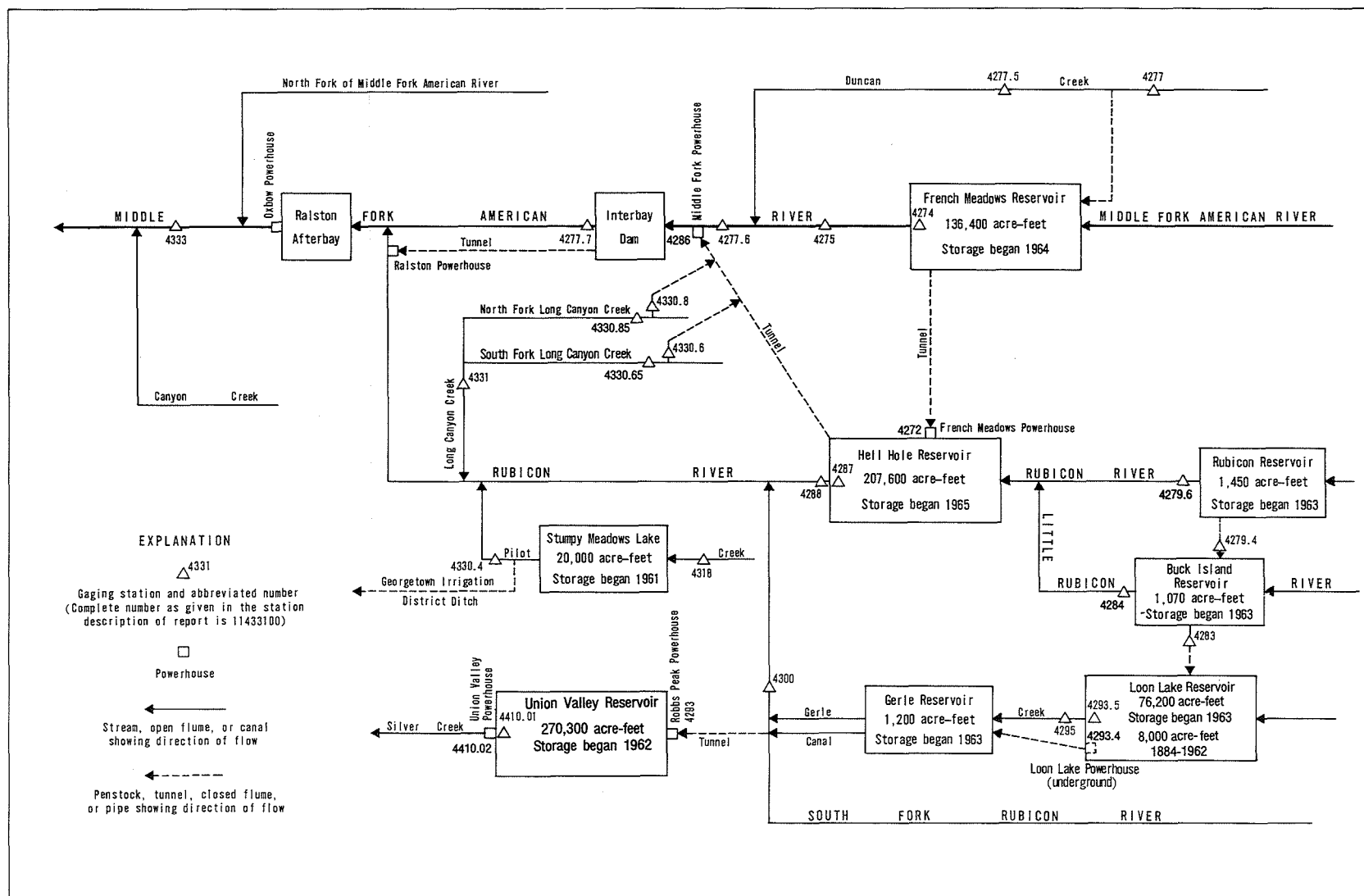


Figure 37. Diversions and storage in Middle Fork American and Rubicon River basins.

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 mi².

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 ft³/s diverted from Duncan Creek through a tunnel to reservoir. Water is released through a tunnel to French Meadows powerplant 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, 75,000 acre-ft, May 31, many days in June, elevation, 5,212.6 ft; minimum, 28,500 acre-ft, Oct. 21-24, elevation 5,157.6 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34200	29200	29800	30400	30900	39100	51900	70300	75000	73500	51700	33900
2	34200	29200	29800	30400	30900	39500	52700	70600	75000	72800	51000	33900
3	33700	29200	29800	30400	30900	39900	53500	71000	75000	72100	50200	33800
4	33200	29200	29900	30400	30900	40200	54300	71300	75000	71500	49600	33800
5	33100	29200	29900	30500	30900	40800	55000	71700	75000	70800	48800	33800
6	33100	29200	29900	30500	30900	41200	55500	72000	75000	70100	48100	33800
7	32600	29200	29900	30500	30900	41600	56100	72300	75000	69500	47300	33700
8	31800	29200	29900	30500	31000	41900	56500	72700	75000	68800	46600	33700
9	31000	29300	29900	30500	31100	42200	57000	72900	75000	68100	45800	33700
10	30300	29300	29900	30600	31100	42500	57500	73100	75000	67400	45100	33600
11	29700	29300	29900	30600	31300	42800	58100	73300	74900	66700	44300	33600
12	29700	29300	29900	30600	31400	43100	58800	73500	74900	66000	43600	33600
13	29700	29300	29900	30600	31500	43600	59700	73600	74900	65300	42800	33600
14	29200	29300	29900	30600	31600	44000	60500	73800	74900	64700	42100	33600
15	28700	29300	29900	30600	31700	44500	61000	73900	75000	64000	41400	33500
16	28600	29300	30000	30700	31800	44900	61600	74000	75000	63300	40600	33500
17	28600	29400	30000	30700	31900	45200	62900	74100	75000	62600	39900	33400
18	28600	29500	30100	30700	32000	45600	63700	74200	75000	61800	39100	33400
19	28500	29500	30100	30700	32200	45900	64400	74400	75000	61100	38400	33400
20	28500	29500	30100	30700	33600	46100	65000	74500	75000	60400	37500	33300
21	28500	29500	30200	30700	34300	46500	65600	74600	75000	59700	36800	33300
22	28500	29500	30200	30700	35100	46800	66100	74600	75000	59000	36000	33300
23	28500	29600	30200	30700	35700	47100	66600	74700	75000	58200	35200	33300
24	28500	29600	30200	30700	36100	47400	67000	74700	75000	57500	34400	33200
25	28500	29600	30300	30700	36600	47800	67500	74800	75000	56800	34100	33200
26	29200	29700	30300	30700	37100	48200	68000	74800	75000	56100	34000	33200
27	29200	29700	30300	30700	37700	48700	68500	74900	75000	55300	34000	33100
28	29200	29800	30300	30800	38200	49200	69000	74900	75000	54600	34000	33100
29	29200	29800	30300	30800	38700	49700	69500	74900	74700	53900	34000	33100
30	29200	29800	30300	30800	---	50400	69900	74900	74100	53200	34000	33100
31	29200	---	30300	30900	---	51100	---	75000	---	52500	33900	---
MAX	34200	29800	30300	30900	38700	51100	69900	75000	75000	73500	51700	33900
MIN	28500	29200	29800	30400	30900	39100	51900	70300	74100	52500	33900	33100
a	5158.7	5159.6	5160.4	5161.2	5172.1	5187.5	5207.6	5212.6	5211.8	5189.1	5165.6	5164.4
b	-5300	+600	+500	+600	+7800	+12400	+18800	+5100	-900	-21600	-18600	-800

CAL YR 1991 b -3300
WTR YR 1992 b -1400

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

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Jan. 31, 1963, gage height, 14.20 ft, from rating curve extended above 1,100 ft³/s on basis of peak flow at former site; minimum, 0.3 ft³/s, Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961. Maximum discharge since construction of French Meadows Dam in 1964, 2,870 ft³/s, Mar. 8, 1986, gage height, 10.4 ft, from floodmarks, from flow over spillway of French Meadows Reservoir; minimum daily, 0.8 ft³/s, Oct. 22-25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19 ft³/s, Feb. 20, gage height, 5.01 ft; minimum daily, 8.4 ft³/s, Aug. 1, 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	9.8	10	9.5	9.5	9.8	9.4	9.5	9.5	9.8	8.4	9.8
2	9.8	9.8	10	9.5	9.5	9.6	9.1	9.5	9.5	9.6	8.4	9.8
3	9.8	9.8	10	9.5	9.5	9.6	9.0	9.5	9.5	9.5	9.2	9.8
4	9.8	9.8	10	9.5	9.5	9.5	8.9	9.5	9.5	9.5	10	9.8
5	9.8	9.8	10	9.6	9.5	10	8.9	9.5	9.5	9.8	9.8	9.8
6	9.8	9.8	9.9	9.5	9.5	10	8.7	9.5	9.5	10	9.6	9.8
7	9.8	9.8	9.8	9.5	9.5	9.8	8.7	9.5	9.5	10	9.5	9.8
8	9.8	9.8	9.8	9.5	9.8	9.5	8.6	9.5	9.5	10	9.5	9.8
9	9.8	9.8	9.8	9.5	9.8	9.5	9.2	9.5	9.5	9.9	9.5	9.8
10	9.8	9.8	9.8	9.5	9.9	9.4	9.5	9.5	9.8	9.8	9.5	9.8
11	9.8	9.8	9.8	9.5	10	9.4	9.5	9.5	10	9.5	9.5	9.8
12	9.8	9.8	9.8	9.5	10	9.4	10	9.5	9.8	9.5	9.5	9.8
13	9.8	9.8	9.8	9.5	11	9.4	10	9.5	9.8	9.5	9.6	9.8
14	9.8	9.8	9.8	9.5	10	9.4	9.9	9.5	9.8	9.5	9.8	9.8
15	9.8	9.8	9.7	9.5	10	9.4	9.8	9.5	9.9	9.5	9.8	9.8
16	9.8	9.8	9.7	9.5	10	9.8	9.8	9.5	9.8	9.2	9.8	9.8
17	9.8	11	9.7	9.5	10	9.9	10	9.5	9.8	9.2	9.8	9.8
18	9.8	10	10	9.5	10	9.6	9.8	9.5	9.8	9.1	9.8	9.8
19	9.8	10	9.8	9.5	12	9.3	9.6	9.5	9.8	8.9	9.8	9.8
20	9.8	10	9.8	9.5	18	9.3	9.5	9.5	9.8	8.9	10	9.8
21	9.8	10	9.7	9.5	15	9.2	9.5	9.5	9.8	8.7	10	9.8
22	9.8	10	9.5	9.5	15	9.4	9.5	9.5	9.8	9.0	10	9.8
23	9.8	10	9.5	9.5	13	9.5	9.5	9.5	9.8	9.2	9.9	9.8
24	9.8	10	9.5	9.5	13	9.5	9.5	9.5	9.8	8.9	9.8	9.8
25	10	10	9.5	9.5	13	9.4	9.5	9.5	9.8	8.9	9.8	9.8
26	12	10	9.5	9.5	13	9.5	9.5	9.5	9.8	8.9	9.8	9.8
27	10	10	9.5	9.5	11	9.4	9.5	9.5	9.8	8.7	9.8	9.8
28	10	10	9.5	9.5	10	9.3	9.5	9.3	9.8	8.7	9.8	9.8
29	10	10	9.5	9.5	9.8	9.2	9.5	9.3	10	8.7	9.8	9.8
30	9.8	10	9.5	9.5	---	9.8	9.5	9.5	9.8	8.7	9.8	9.8
31	9.8	---	9.5	9.5	---	9.5	---	9.5	---	8.7	9.8	---
TOTAL	306.8	297.8	301.7	294.6	319.8	295.3	282.9	294.1	291.8	287.8	299.1	294.0
MEAN	9.90	9.93	9.73	9.50	11.0	9.53	9.43	9.49	9.73	9.28	9.65	9.80
MAX	12	11	10	9.6	18	10	10	9.5	10	10	10	9.8
MIN	9.8	9.8	9.5	9.5	9.5	9.2	8.6	9.3	9.5	8.7	8.4	9.8
AC-FT	609	591	598	584	634	586	561	583	579	571	593	583
a	4760	0	2.0	0	0	0	4.0	0	916	21140	16560	0

a Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows powerplant, provided by Placer County Water Agency.

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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.7	10.5	13.2	13.2	19.5	24.9	26.4	40.8	38.2	15.5	8.32	12.5
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	1985	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

ANNUAL TOTAL	3694.0	3565.7	
ANNUAL MEAN	10.1	9.74	20.0
HIGHEST ANNUAL MEAN			97.3
LOWEST ANNUAL MEAN			3.90
HIGHEST DAILY MEAN	34	Mar 4	18
LOWEST DAILY MEAN	8.7	May 12	8.4
ANNUAL SEVEN-DAY MINIMUM	8.9	May 10	8.6
INSTANTANEOUS PEAK FLOW			19
INSTANTANEOUS PEAK STAGE			5.01
ANNUAL RUNOFF (AC-FT)	7330	7070	14470
10 PERCENT EXCEEDS	11	10	15
50 PERCENT EXCEEDS	9.8	9.8	9.4
90 PERCENT EXCEEDS	9.5	9.4	5.6

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 mi².

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,270 ft above National Geodetic Vertical Datum of 1929, 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 ft³/s, Dec. 22, 1964, gage height, 10.6 ft, from floodmarks, from rating curve extended above 400 ft³/s on basis of computation of flow over diversion dam; minimum daily, 0.10 ft³/s, several days during July and August 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb.20	0530	*326	*7.40				

Minimum daily, 0.37 ft³/s, Sept. 9-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.47	2.8	4.5	e4.3	4.0	46	81	36	3.3	3.7	.66	.41
2	.45	2.7	4.1	e4.3	4.3	41	84	32	3.1	2.9	.66	.40
3	.44	2.7	3.9	4.2	e3.6	41	90	29	2.9	2.5	.62	.41
4	.42	2.6	3.7	4.0	3.6	41	87	27	2.7	2.2	.60	.42
5	.42	2.3	3.5	e4.2	3.6	41	75	26	2.6	2.1	.58	.42
6	.43	2.2	3.4	4.2	3.9	37	63	25	2.5	1.9	.57	.40
7	.44	2.0	e4.0	4.1	4.8	34	58	23	2.5	1.8	.57	.39
8	.44	2.1	3.9	e4.3	9.3	33	57	21	2.4	1.7	.57	.38
9	.44	3.3	3.8	e4.5	8.5	31	56	18	2.3	1.5	.57	.37
10	.44	2.5	4.0	e4.7	7.4	31	55	15	2.1	1.5	.55	.37
11	.44	2.1	3.9	e4.5	e6.1	33	58	13	2.0	1.8	.51	.37
12	.46	1.9	3.8	e4.5	e5.7	37	82	12	2.0	2.3	.48	.37
13	.47	1.8	e3.6	e4.3	e5.5	40	112	11	2.1	2.5	.47	.37
14	.45	1.8	3.5	4.2	e5.2	42	89	10	2.5	1.8	.46	.37
15	.44	1.8	3.5	4.2	e5.1	37	78	9.5	4.7	1.7	.46	.37
16	.44	1.7	e3.1	4.3	e5.1	34	70	8.7	4.0	1.6	.46	.39
17	.46	3.5	3.2	4.2	e5.1	32	143	8.0	3.2	1.5	.45	.41
18	.46	4.1	e3.4	4.0	e5.2	32	104	7.6	2.8	1.3	.43	.56
19	.47	3.8	e3.8	3.9	e3.9	30	82	7.5	2.6	1.1	.41	.45
20	.46	6.9	e4.2	e4.0	e200	29	78	7.5	2.2	1.1	.40	.43
21	.46	9.6	e4.5	e4.0	89	28	73	6.8	1.9	1.0	.40	.41
22	.50	7.0	4.9	e4.0	102	28	63	6.1	1.7	.98	.41	.40
23	.66	5.8	4.7	e3.8	61	28	54	5.7	1.6	.94	.42	.40
24	.65	5.7	e4.5	e3.8	48	30	51	5.3	2.0	.92	.42	.40
25	3.0	5.9	4.4	3.7	50	33	52	5.1	2.4	.90	.42	.41
26	59	5.6	4.2	3.7	51	39	52	4.8	1.8	.84	.41	.40
27	7.6	e5.2	4.1	3.6	53	44	49	4.6	1.6	.81	.39	.40
28	4.7	e5.1	4.2	3.9	53	50	49	4.3	1.6	.78	.39	.40
29	4.7	e4.9	4.2	3.7	50	53	48	4.1	4.6	.74	.39	.39
30	3.7	e4.7	4.1	3.8	---	65	41	3.8	7.5	.71	.41	.39
31	3.0	---	e4.2	3.9	---	68	---	3.6	---	.69	.43	---
TOTAL	96.91	114.1	122.8	126.8	892.0	1188	2134	401.0	81.2	47.81	14.97	12.06
MEAN	3.13	3.80	3.96	4.08	30.8	38.3	71.1	12.9	2.71	1.54	.48	.40
MAX	59	9.6	4.9	4.7	200	68	143	36	7.5	3.7	.66	.56
MIN	.42	1.7	3.1	3.6	3.6	28	41	3.6	1.6	.69	.39	.37
AC-FT	192	226	244	252	1770	2360	4230	795	161	95	30	24

e Estimated.

11427700 DUNCAN CREEK NEAR FRENCH MEADOWS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.59	19.8	33.2	37.4	39.7	46.2	73.0	111	54.2	8.70	1.57	1.11
MAX	51.1	172	256	193	291	161	162	240	316	100	10.4	4.51
(WY)	1963	1984	1965	1970	1986	1986	1989	1969	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1960 - 1992	
ANNUAL TOTAL	7650.02		5231.65			
ANNUAL MEAN	21.0		14.3		35.8	
HIGHEST ANNUAL MEAN					86.8	
LOWEST ANNUAL MEAN					4.27	
HIGHEST DAILY MEAN	564	Mar 4	200	Feb 20	2300	Dec 22 1964
LOWEST DAILY MEAN	.42	Oct 4	.37	Sep 9	.10	Jul 31 1977
ANNUAL SEVEN-DAY MINIMUM	.43	Oct 3	.37	Sep 9	.11	Aug 8 1977
INSTANTANEOUS PEAK FLOW			326	Feb 20	3650	Dec 22 1964
INSTANTANEOUS PEAK STAGE			7.40	Feb 20	10.60	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	15170		10380		25960	
10 PERCENT EXCEEDS	69		51		97	
50 PERCENT EXCEEDS	3.8		3.8		9.0	
90 PERCENT EXCEEDS	.51		.42		.71	

SACRAMENTO RIVER BASIN

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 mi².

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,210 ft above National Geodetic Vertical Datum of 1929, 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 ft³/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 ft³/s, Dec. 22, 1964, gage height, 8.74 ft, in gage well, 10.0 ft, from floodmarks, from rating curve extended above 400 ft³/s on basis of computation of peak flow over diversion dam; no flow at times in 1965-66.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 60 ft³/s, Feb. 20, gage height, 2.38 ft; minimum daily, 0.36 ft³/s, Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	2.8	4.5	4.2	4.6	10	10	9.0	3.5	4.0	.71	.44
2	.47	2.7	4.1	4.3	4.3	9.9	9.7	8.8	3.3	3.1	.68	.44
3	.46	2.7	3.8	4.3	4.2	10	9.6	9.1	3.1	2.6	.63	.44
4	.45	2.6	3.7	4.3	4.1	9.8	9.4	9.3	2.9	2.3	.62	.47
5	.43	2.6	3.5	e4.4	4.1	9.8	9.2	9.3	2.7	2.2	.61	.46
6	.44	2.2	3.5	4.5	4.4	9.4	8.9	9.0	2.6	2.0	.61	.44
7	.45	2.1	e3.9	4.4	5.3	9.0	8.8	9.4	2.6	1.9	.60	.44
8	.45	2.1	3.8	4.3	9.5	8.8	8.7	8.4	2.5	1.8	.61	.40
9	.45	3.3	3.7	4.7	9.7	8.7	9.2	9.1	2.3	1.6	.61	.40
10	.45	2.5	3.9	5.1	8.5	10	9.6	10	2.2	1.6	.60	.38
11	.43	2.2	3.8	4.9	e7.3	11	9.6	10	2.1	1.8	.55	.38
12	.45	2.0	3.6	4.7	e6.2	12	9.9	9.9	2.1	2.3	.54	.38
13	.45	1.9	3.5	4.6	e5.8	12	10	9.9	2.2	2.8	.51	.38
14	.45	1.8	3.5	4.4	e5.6	12	9.9	9.9	2.3	1.9	.50	.38
15	.44	1.7	3.4	4.6	e5.4	12	9.9	9.7	4.6	1.8	.49	.38
16	.43	1.7	3.3	4.7	e5.3	11	9.9	9.6	4.4	1.7	.47	.38
17	.44	3.7	3.3	4.7	e5.3	11	10	8.8	3.3	1.6	.46	.41
18	.45	4.3	e3.5	4.5	e5.3	10	10	8.0	3.0	1.4	.44	.62
19	.45	3.8	e3.8	4.4	e13	10	9.9	7.9	2.7	1.3	.40	.49
20	.45	6.6	e4.3	4.3	36	10	9.5	7.9	2.4	1.2	.38	.44
21	.45	9.8	e4.4	4.3	20	10	9.3	7.3	2.1	1.1	.38	.42
22	.48	7.6	e4.6	4.1	18	10	9.1	6.6	1.8	1.1	.38	.40
23	.68	6.1	4.8	4.1	10	9.9	9.1	6.1	1.7	1.1	.42	.39
24	.71	5.9	4.6	4.1	9.0	9.8	9.1	5.7	2.0	1.0	.42	.40
25	2.1	6.1	4.4	4.2	11	10	9.1	5.4	2.5	.99	.42	.40
26	12	5.9	4.3	4.3	12	9.9	9.1	5.1	2.0	.93	.40	.40
27	7.7	e5.3	4.1	4.1	12	9.8	9.0	4.9	1.8	.88	.37	.40
28	4.9	e5.3	4.3	4.4	12	10	8.8	4.6	1.7	.87	.36	.38
29	4.5	e5.0	4.2	4.3	11	9.9	8.8	4.3	3.3	.81	.38	.38
30	3.8	4.4	4.1	4.4	---	10	9.0	4.1	8.1	.79	.42	.37
31	3.0	---	4.0	4.5	---	10	---	3.8	---	.74	.43	---
TOTAL	49.27	116.7	122.2	137.1	268.9	315.7	282.1	240.9	83.8	51.21	15.40	12.49
MEAN	1.59	3.89	3.94	4.42	9.27	10.2	9.40	7.77	2.79	1.65	.50	.42
MAX	12	9.8	4.8	5.1	36	12	10	10	8.1	4.0	.71	.62
MIN	.43	1.7	3.3	4.1	4.1	8.7	8.7	3.8	1.7	.74	.36	.37
AC-FT	98	231	242	272	533	626	560	478	166	102	31	25

e Estimated.

11427750 DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.30	9.68	21.5	25.4	22.5	18.3	15.7	27.6	10.0	3.57	1.33	1.06
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

ANNUAL TOTAL	2361.24	1695.77	
ANNUAL MEAN	6.47	4.63	13.2
HIGHEST ANNUAL MEAN			43.1
LOWEST ANNUAL MEAN			2.16
HIGHEST DAILY MEAN	279	Mar 4	2160
LOWEST DAILY MEAN	.43	Oct 5	.00
ANNUAL SEVEN-DAY MINIMUM	.44	Oct 11	.00
INSTANTANEOUS PEAK FLOW			3640
INSTANTANEOUS PEAK STAGE			8.74
ANNUAL RUNOFF (AC-FT)	4680	3360	9580
10 PERCENT EXCEEDS	13	9.9	15
50 PERCENT EXCEEDS	3.8	4.1	5.0
90 PERCENT EXCEEDS	.55	.44	.69

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 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 2,540 ft above National Geodetic Vertical Datum of 1929, 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 ft³/s, Jan. 13, 1980, gage height, 8.47 ft, datum then in use, from rating curve extended above 2,500 ft³/s; minimum daily, 5.3 ft³/s, Sept. 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 396 ft³/s, Feb. 20, gage height, 6.69 ft; minimum daily, 13 ft³/s, for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	19	22	22	23	117	96	44	22	24	14	13
2	14	18	22	21	23	110	92	42	22	20	14	13
3	14	18	21	22	21	107	90	41	21	19	13	14
4	14	18	21	22	22	104	86	41	20	18	14	14
5	14	18	21	33	21	113	82	41	20	18	14	14
6	14	18	20	28	22	133	77	40	20	18	14	14
7	14	18	28	30	23	116	72	39	20	18	14	14
8	14	18	23	27	30	108	69	39	20	18	14	14
9	14	19	21	26	35	102	66	35	19	17	14	14
10	13	19	20	25	41	99	66	38	19	17	14	14
11	13	18	20	25	56	100	65	37	19	17	14	13
12	14	18	20	23	70	101	69	36	19	18	14	14
13	14	17	20	24	66	102	83	36	19	18	14	14
14	14	17	20	24	64	104	72	35	20	18	14	14
15	14	17	20	23	72	103	67	35	23	17	14	13
16	14	17	19	24	67	113	64	34	25	16	14	13
17	14	34	19	24	65	107	76	33	22	16	13	13
18	14	48	36	24	63	102	71	32	20	16	13	14
19	14	27	37	23	93	97	64	31	20	15	13	13
20	14	25	26	22	306	94	61	32	19	15	13	14
21	14	31	26	23	199	92	59	30	18	15	13	14
22	14	30	24	21	213	94	56	28	18	15	13	13
23	14	26	23	22	154	94	54	27	17	15	13	13
24	14	24	22	22	127	91	52	27	18	15	13	13
25	17	24	22	23	123	90	51	26	18	15	13	14
26	96	23	22	22	132	93	49	25	18	15	13	13
27	46	31	21	22	130	93	47	25	17	15	13	13
28	26	32	23	23	126	92	46	24	17	14	13	13
29	23	26	25	23	121	91	45	24	20	14	13	13
30	22	23	25	22	---	100	45	23	32	14	13	13
31	20	---	22	22	---	100	---	23	---	14	13	---
TOTAL	584	691	711	737	2508	3162	1992	1023	602	514	418	405
MEAN	18.8	23.0	22.9	23.8	86.5	102	66.4	33.0	20.1	16.6	13.5	13.5
MAX	96	48	37	33	306	133	96	44	32	24	14	14
MIN	13	17	19	21	21	90	45	23	17	14	13	13
AC-FT	1160	1370	1410	1460	4970	6270	3950	2030	1190	1020	829	803

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.0	52.0	86.1	158	161	198	174	154	86.0	34.0	19.0	17.2
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	18646		13347		97.1	
ANNUAL MEAN	51.1		36.5		271	
HIGHEST ANNUAL MEAN					14.3	
LOWEST ANNUAL MEAN					5290	
HIGHEST DAILY MEAN	894	Mar 4	306	Feb 20	5.3	Jan 13 1980
LOWEST DAILY MEAN	13	Oct 10	13	Oct 10	5.5	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	14	Oct 5	13	Aug 17	9860	Sep 8 1977
INSTANTANEOUS PEAK FLOW			396	Feb 20	8.47	Jan 13 1980
INSTANTANEOUS PEAK STAGE			6.69	Feb 20	Jan 13 1980	
ANNUAL RUNOFF (AC-FT)	36980		26470		70330	
10 PERCENT EXCEEDS	133		93		230	
50 PERCENT EXCEEDS	23		22		37	
90 PERCENT EXCEEDS	14		14		15	

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/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 ft³/s, Jan. 13, 1980, gage height, 7.95 ft; minimum daily, 1.0 ft³/s, Oct. 25-30, 1966, Jan. 19, 1967.

EXTREMES FOR CURRENT YEAR.--Minimum daily, 14 ft³/s, Sept. 26, 28-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	24	24	23	23	24	24	24	24	24	15	15
2	15	23	24	23	23	24	24	24	24	24	15	15
3	19	21	24	23	23	24	24	24	24	23	15	15
4	15	21	23	23	23	24	24	24	23	22	15	15
5	16	21	23	24	23	24	24	24	22	21	15	15
6	16	21	23	24	23	24	24	24	22	21	15	15
7	15	21	23	24	24	24	24	24	22	20	15	15
8	15	21	23	24	24	24	24	24	22	19	15	15
9	15	21	23	23	24	24	24	24	22	19	15	15
10	16	21	23	24	24	24	24	24	22	18	15	15
11	16	21	23	24	24	24	24	24	22	18	15	15
12	16	21	23	23	24	24	24	24	21	19	15	15
13	16	21	22	23	24	24	24	24	21	20	15	15
14	16	21	21	24	24	24	24	24	22	19	15	15
15	16	21	22	23	24	24	24	24	23	19	15	15
16	16	21	22	23	24	24	24	24	24	19	15	15
17	16	23	21	23	24	24	24	24	23	18	15	15
18	15	24	24	24	24	24	24	24	22	18	15	15
19	15	24	25	24	24	24	24	24	22	18	15	15
20	16	24	24	24	24	24	24	24	22	17	15	15
21	15	24	24	23	24	24	24	24	21	17	15	15
22	15	24	23	23	24	24	24	24	21	17	15	15
23	16	24	24	23	24	24	24	24	20	17	15	15
24	16	23	24	23	24	24	24	24	20	17	15	15
25	19	24	24	23	24	24	24	24	20	17	15	15
26	24	24	24	23	24	24	24	24	20	17	15	14
27	24	24	23	23	24	24	24	24	20	16	15	15
28	24	24	23	24	24	24	24	24	20	16	15	14
29	24	24	24	24	24	24	24	24	21	16	15	14
30	24	24	24	23	---	24	24	24	24	16	15	14
31	24	---	24	23	---	24	---	24	---	15	15	---
TOTAL	541	675	721	725	690	744	720	744	656	577	465	446
MEAN	17.5	22.5	23.3	23.4	23.8	24.0	24.0	24.0	21.9	18.6	15.0	14.9
MAX	24	24	25	24	24	24	24	24	24	24	15	15
MIN	15	21	21	23	23	24	24	24	20	15	15	14
AC-FT	1070	1340	1430	1440	1370	1480	1430	1480	1300	1140	922	885
a	14120	21110	2150	127	3540	3180	1720	7340	19500	22750	21760	13950

a Diversion, in acre-feet, through Ralston powerplant, provided by Placer County Water Agency.

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

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1985

ANNUAL TOTAL	7704		
ANNUAL MEAN	21.0		66.0
HIGHEST ANNUAL MEAN			347
LOWEST ANNUAL MEAN			10.0
HIGHEST DAILY MEAN	25	Dec 19	8090
LOWEST DAILY MEAN	14	Sep 28	1.0
ANNUAL SEVEN-DAY MINIMUM	14	Sep 24	1.3
INSTANTANEOUS PEAK FLOW			9900
INSTANTANEOUS PEAK STAGE			7.95
ANNUAL RUNOFF (AC-FT)	15280		47810
10 PERCENT EXCEEDS	24		141
50 PERCENT EXCEEDS	23		22
90 PERCENT EXCEEDS	15		11

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 National Geodetic Vertical Datum of 1929 (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. Records good. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	12	13	5.1	5.1	54	148	210	58	96	.03	.02
2	49	14	12	4.8	5.0	45	171	170	56	47	.03	.02
3	30	17	11	4.8	4.7	44	198	164	48	30	.03	.02
4	11	17	10	4.6	4.1	47	223	158	42	21	.02	.02
5	4.1	18	8.8	5.6	3.8	42	185	178	37	15	.02	.02
6	2.1	26	8.1	6.3	3.6	40	127	215	32	11	.02	.02
7	1.0	30	8.9	6.4	4.6	36	117	283	27	8.8	.02	.02
8	.53	34	9.8	6.1	9.3	32	136	294	24	7.2	.02	.02
9	.22	126	9.5	6.2	13	31	151	250	22	5.6	.02	.02
10	.00	90	9.6	6.9	12	33	140	167	20	4.5	.02	.02
11	.00	46	9.1	7.3	11	37	147	164	17	3.8	.02	.02
12	.00	29	7.7	6.6	11	45	155	165	14	7.3	.02	.02
13	.00	22	6.7	5.6	11	55	290	152	12	16	.02	.02
14	.00	18	6.1	5.1	11	64	210	156	11	14	.02	.02
15	.00	14	5.6	4.9	11	53	179	136	20	12	.02	.01
16	.00	11	5.2	5.1	11	44	133	120	35	10	.02	.01
17	.00	11	5.0	5.5	12	39	435	118	70	8.4	.02	.01
18	.00	13	7.4	5.4	13	34	450	115	117	6.9	.02	.01
19	.00	19	9.3	4.9	23	32	231	104	79	5.0	.02	.01
20	.00	40	9.2	4.4	159	30	198	92	40	3.4	.02	.01
21	.00	101	9.4	4.2	158	29	227	48	25	1.8	.02	.01
22	.00	74	8.6	3.7	248	32	189	.03	20	1.0	.02	.01
23	.00	46	7.8	3.3	169	34	138	2.2	16	.21	.02	.01
24	.00	36	7.0	3.0	95	34	143	43	15	.03	.02	.01
25	.00	35	6.6	3.2	67	38	187	75	27	.03	.02	.01
26	158	34	6.2	3.7	67	46	239	84	22	.03	.02	.01
27	109	47	6.0	4.0	67	64	253	77	16	.03	.02	.01
28	40	44	6.0	4.1	73	84	270	75	12	.03	.02	.01
29	25	28	5.9	4.3	65	97	335	66	31	.03	.02	.01
30	20	18	5.7	4.5	---	97	319	58	205	.03	.02	.01
31	13	---	5.4	4.8	---	102	---	61	---	.03	.02	---
TOTAL	462.97	1070	246.6	154.4	1347.2	1494	6324	4000.23	1170	336.15	0.65	0.44
MEAN	14.9	35.7	7.95	4.98	46.5	48.2	211	129	39.0	10.8	.021	.015
MAX	158	126	13	7.3	248	102	450	294	205	96	.03	.02
MIN	.00	11	5.0	3.0	3.6	29	117	.03	11	.03	.02	.01
AC-FT	918	2120	489	306	2670	2960	12540	7930	2320	667	1.3	.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

	MEAN	18.9	53.8	44.8	46.1	41.7	61.2	152	352	306	101	16.0	11.9
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1964 - 1992

ANNUAL TOTAL	23735.00	16606.64	
ANNUAL MEAN	65.0	45.4	101
HIGHEST ANNUAL MEAN			197
LOWEST ANNUAL MEAN			30.5
HIGHEST DAILY MEAN	655	450	1120
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	47080	32940	72820
10 PERCENT EXCEEDS	211	158	324
50 PERCENT EXCEEDS	11	11	26
90 PERCENT EXCEEDS	.00	.02	.00

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 September 1992 (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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 4, 1991, nonrecording gage at site 1300 ft downstream at different datum.

REMARKS.--Records not computed above 10 ft³/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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 7.8 ft³/s, Apr. 18, 1992; minimum daily, 0.67 ft³/s, Oct. 6, 7, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	6.1	6.3	6.4	6.2	6.5	6.9	7.1	6.4	6.4	2.5	1.2
2	.88	6.2	6.3	6.4	6.2	6.4	7.0	6.9	6.4	6.5	2.5	1.2
3	.79	6.2	6.3	6.4	6.2	6.4	7.1	6.9	6.4	6.5	2.5	1.2
4	.80	6.2	6.3	6.4	6.2	6.4	7.2	6.8	6.4	6.4	2.5	1.2
5	.77	6.2	6.3	6.3	6.2	6.4	7.0	6.9	6.4	6.4	2.5	1.3
6	.67	6.2	6.3	6.2	6.2	6.4	6.8	7.0	6.3	6.4	2.5	1.2
7	.67	6.2	6.3	6.0	6.2	6.4	6.7	7.3	6.3	6.3	2.5	1.2
8	.68	6.3	6.3	6.0	6.2	6.3	6.8	7.3	6.1	6.3	2.5	1.1
9	.69	6.7	6.3	6.2	6.2	6.3	6.9	7.2	6.3	6.3	2.5	1.2
10	.69	6.6	6.2	6.2	6.2	6.3	6.8	6.9	6.3	6.3	2.5	1.2
11	.70	6.4	6.2	6.2	6.2	6.4	6.9	6.8	6.3	6.3	2.5	1.1
12	.70	6.3	6.2	6.2	6.2	6.4	6.8	6.9	6.3	6.4	2.5	1.1
13	.71	6.2	6.2	6.2	6.2	6.0	7.3	6.8	6.2	6.4	2.5	1.1
14	.71	e6.2	6.2	6.2	6.2	6.5	7.1	6.8	e6.2	6.4	2.4	1.1
15	.71	e6.3	6.2	6.2	6.2	6.5	7.0	6.7	e6.2	6.4	2.4	1.1
16	.72	e6.3	6.4	6.2	6.2	6.4	6.8	6.6	e6.2	6.4	2.5	1.1
17	.72	e6.3	6.4	6.2	6.2	6.4	7.6	6.6	e6.3	6.3	2.5	1.1
18	.73	e6.4	6.4	6.2	6.2	6.3	7.8	6.6	e6.3	6.3	2.0	1.1
19	.75	6.4	6.3	6.2	6.3	6.3	7.2	6.6	e6.3	6.3	1.1	1.1
20	.75	6.5	6.4	6.2	7.0	6.3	7.0	6.5	e6.3	6.3	1.0	1.1
21	.76	6.8	6.4	6.2	7.0	6.3	7.1	6.5	e6.3	6.3	1.0	1.1
22	.78	6.7	6.4	6.2	7.3	6.3	7.0	6.8	e6.4	6.3	1.1	1.1
23	.80	6.5	6.4	6.2	7.0	6.3	6.8	7.3	e6.4	6.3	1.1	1.1
24	.81	6.5	6.4	6.2	6.7	6.3	6.8	7.6	e6.4	6.3	1.1	1.1
25	.83	6.5	6.4	6.2	6.6	6.3	7.0	7.6	e6.4	6.2	1.1	1.1
26	.97	6.5	6.4	6.2	6.6	6.4	7.2	7.7	6.4	6.2	1.1	1.1
27	1.0	6.5	6.4	6.2	6.6	6.5	7.2	7.1	6.5	6.2	1.1	1.1
28	.98	6.5	6.3	6.2	6.6	6.6	7.2	6.5	6.5	6.2	1.1	1.1
29	.97	6.4	6.3	6.2	6.6	6.7	7.4	6.4	6.4	6.1	1.1	1.1
30	.98	6.3	6.4	6.2	---	6.7	7.4	6.4	6.4	5.2	1.1	1.1
31	4.0	---	6.4	6.2	---	6.7	---	6.4	---	2.5	1.1	---
TOTAL	27.60	191.4	196.0	192.7	185.9	198.4	211.8	213.5	190.0	191.1	58.4	34.0
MEAN	.89	6.38	6.32	6.22	6.41	6.40	7.06	6.89	6.33	6.16	1.88	1.13
MAX	4.0	6.8	6.4	6.4	7.3	6.7	7.8	7.7	6.5	6.5	2.5	1.3
MIN	.67	6.1	6.2	6.0	6.2	6.0	6.7	6.4	6.1	2.5	1.0	1.1
AC-FT	55	380	389	382	369	394	420	423	377	379	116	67

e Estimated.

SUMMARY STATISTICS

FOR 1992 WATER YEAR

ANNUAL TOTAL	1890.80
ANNUAL MEAN	5.17
HIGHEST DAILY MEAN	7.8 Apr 18
LOWEST DAILY MEAN	.67 Oct 6
ANNUAL SEVEN-DAY MINIMUM	.69 Oct 6
ANNUAL RUNOFF (AC-FT)	3750
10 PERCENT EXCEEDS	6.9
50 PERCENT EXCEEDS	6.3
90 PERCENT EXCEEDS	1.1

SACRAMENTO RIVER BASIN

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 National Geodetic Vertical Datum of 1929 (levels by Sacramento Municipal Utility District).

REMARKS.--Records good. 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 each fall to raise the level of Buck Island Lake for recreational purposes. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	18	e28	7.1	6.1	89	214	291	63	169	.22	.17
2	19	18	20	6.7	6.7	73	240	223	60	86	.22	.17
3	15	21	15	6.4	6.7	64	260	204	55	49	.22	.17
4	5.9	24	13	6.1	5.9	67	294	194	47	31	.22	.17
5	4.2	25	11	8.4	5.6	67	266	206	42	22	.22	.16
6	3.2	33	11	9.5	5.9	68	194	244	36	15	.22	.16
7	2.3	41	11	9.5	5.9	56	159	314	31	12	.21	.16
8	1.5	44	12	9.1	8.2	47	170	358	27	9.0	.21	.16
9	.89	117	12	8.3	12	43	190	318	25	7.1	.21	.15
10	.48	146	11	8.2	16	42	188	231	21	5.5	.21	.15
11	.22	92	11	8.1	19	46	192	194	17	4.5	.21	.15
12	.10	54	11	8.2	19	54	206	197	14	4.7	.21	.15
13	.01	35	9.9	7.9	19	66	367	183	12	8.1	.21	.14
14	.00	26	9.0	7.4	18	84	311	185	12	13	.20	.14
15	.00	21	8.2	6.8	23	83	252	171	17	14	.20	.14
16	.00	16	7.6	6.4	22	71	197	150	30	12	.20	.14
17	.00	17	7.1	6.4	21	59	406	142	51	10	.20	.13
18	.00	23	9.0	6.5	20	50	645	139	126	8.2	.20	.13
19	.00	21	13	6.4	26	45	355	131	113	6.3	.20	.13
20	.00	29	12	6.3	180	42	260	56	72	4.7	.20	.13
21	.00	98	12	5.9	262	41	279	24	42	3.0	.19	.12
22	.00	121	11	5.5	339	43	258	34	28	1.5	.19	.12
23	.00	85	11	5.1	286	47	196	16	21	.88	.19	.12
24	.00	59	9.8	4.7	170	49	177	19	19	.60	.19	.11
25	.00	49	9.1	4.4	115	52	213	53	26	.39	.19	.11
26	90	47	8.4	4.2	99	62	279	82	28	.24	.18	.10
27	212	55	7.8	4.4	98	87	307	85	24	.23	.18	.10
28	98	71	7.8	4.7	102	115	323	81	17	.23	.18	.10
29	50	52	8.2	5.1	100	136	372	76	18	.23	.18	.09
30	33	37	8.1	5.4	---	146	404	67	191	.22	.18	.08
31	23	---	7.7	5.4	---	152	---	63	---	.22	.17	---
TOTAL	558.93	1495	342.7	204.5	2017.0	2146	8174	4731	1285	498.84	6.21	4.05
MEAN	18.0	49.8	11.1	6.60	69.6	69.2	272	153	42.8	16.1	.20	.13
MAX	212	146	28	9.5	339	152	645	358	191	169	.22	.17
MIN	.00	16	7.1	4.2	5.6	41	159	16	12	.22	.17	.08
AC-FT	1110	2970	680	406	4000	4260	16210	9380	2550	989	12	8.0

e Estimated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

	MEAN	24.8	73.1	61.5	63.7	56.4	80.5	194	449	383	119	17.1	15.0
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	.87	.000	.000	
(WY)	1964	1964	1977	1991	1991	1977	1967	1977	1976	1987	1964	1964	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1964 - 1992	
ANNUAL TOTAL	29606.02		21463.23			
ANNUAL MEAN	81.1		58.6		128	
HIGHEST ANNUAL MEAN					245	
LOWEST ANNUAL MEAN					39.2	
HIGHEST DAILY MEAN	1000	Mar 5	645	Apr 18	1240	Dec 23 1964
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 14	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 14	.00	Oct 1 1963
ANNUAL RUNOFF (AC-FT)	58720		42570		92900	
10 PERCENT EXCEEDS	250		196		404	
50 PERCENT EXCEEDS	14		15		34	
90 PERCENT EXCEEDS	.19		.15		.02	

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 mi².

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 6,410 ft above National Geodetic Vertical Datum of 1929, 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. 28, 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 ft³/s. Flow regulated by Buck Island Reservoir. 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.2	1.2	1.2	1.2	1.4	1.5	1.2	1.3	1.4	1.1	1.1
2	1.2	1.1	1.1	1.2	1.2	1.3	1.4	1.2	1.3	1.3	1.1	1.1
3	1.1	1.1	1.0	1.2	1.2	1.3	1.3	1.1	1.3	1.3	1.1	1.1
4	1.1	1.1	1.0	1.2	1.2	1.3	1.3	1.1	1.3	1.3	1.1	1.1
5	1.1	1.2	1.1	1.2	1.2	1.3	1.3	1.1	1.3	1.3	1.1	1.1
6	1.1	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.1	1.1
7	1.1	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.1	1.1
8	1.1	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.1	1.1
9	1.0	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.1	1.2
10	1.0	1.4	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.1	1.2
11	1.2	1.3	1.2	1.2	1.2	1.3	1.2	1.1	1.3	1.3	1.1	1.1
12	1.3	1.2	1.2	1.2	1.2	1.3	1.2	1.1	1.3	1.3	1.1	1.1
13	1.3	1.2	1.2	1.2	1.2	1.3	1.3	1.1	1.3	1.3	1.1	1.1
14	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.1	1.3	1.3	1.1	1.1
15	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.1	1.3	1.3	1.1	1.1
16	.95	1.1	1.2	1.2	1.2	1.3	1.2	1.1	1.3	1.3	1.1	1.1
17	.72	1.1	1.2	1.2	1.2	1.3	1.3	1.1	1.3	1.3	1.1	1.1
18	.61	1.2	1.2	1.2	1.2	1.3	1.5	1.1	1.3	1.3	1.1	1.1
19	.53	1.2	1.2	1.2	1.3	1.3	1.3	1.1	1.2	1.3	1.2	1.1
20	.43	1.2	1.2	1.2	1.5	1.3	1.2	1.1	1.2	1.3	1.1	1.1
21	.36	1.3	1.2	1.2	1.6	1.3	1.2	1.2	1.2	1.3	1.1	1.1
22	.32	1.3	1.2	1.2	1.6	1.3	1.2	1.1	1.2	1.3	1.1	1.2
23	.30	1.3	1.2	1.2	1.6	1.3	1.2	1.1	1.2	1.3	1.1	1.2
24	.26	1.2	1.2	1.2	1.5	1.3	1.1	1.1	1.2	1.3	1.1	1.2
25	.31	1.2	1.2	1.2	1.4	1.3	1.2	1.2	1.2	1.3	1.1	1.2
26	1.3	1.0	1.2	1.2	1.4	1.3	1.2	1.2	1.3	1.3	1.1	1.1
27	1.5	1.0	1.2	1.2	1.4	1.3	1.2	1.2	1.3	1.3	1.1	1.1
28	1.3	1.0	1.2	1.2	1.4	1.4	1.2	1.3	1.3	1.3	1.1	1.1
29	1.3	1.1	1.2	1.2	1.4	1.4	1.3	1.3	1.3	1.3	1.1	1.1
30	1.2	1.3	1.2	1.2	---	1.4	1.3	1.3	1.4	1.2	1.1	1.2
31	1.2	---	1.2	1.2	---	1.4	---	1.3	---	1.2	1.1	---
TOTAL	29.79	35.6	36.6	37.2	37.7	40.8	37.7	36.0	38.4	40.2	34.2	33.7
MEAN	.96	1.19	1.18	1.20	1.30	1.32	1.26	1.16	1.28	1.30	1.10	1.12
MAX	1.5	1.4	1.2	1.2	1.6	1.4	1.5	1.3	1.4	1.4	1.2	1.2
MIN	.26	1.0	1.0	1.2	1.2	1.3	1.1	1.1	1.2	1.2	1.1	1.1
AC-FT	59	71	73	74	75	81	75	71	76	80	68	67

WTR YR 1992 TOTAL 437.89 MEAN 1.20 MAX 1.6 MIN .26 AC-FT 869

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 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 through 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, 105,600 acre-ft, May 22, elevation, 4,529.3 ft; minimum, 40,100 acre-ft, Dec. 31, elevation, 4,433.2 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69000	58900	40800	40200	41700	55000	72200	99400	99900	83200	81900	76100
2	68900	58300	40800	40200	41800	55500	73300	99900	98400	83100	82400	75000
3	68100	57600	40800	40300	41800	56000	74400	100400	97500	83100	82100	74200
4	67400	56600	40900	40300	41900	56600	75500	100900	96600	83300	81900	73200
5	67300	55700	40900	40400	41900	57200	76400	101400	96100	83900	81600	72500
6	67200	54800	40900	40500	42000	57800	77100	101900	95600	83800	81300	72500
7	67600	54000	41000	40500	42100	58300	77800	102500	95600	83600	81100	71900
8	68300	53000	41000	40600	42200	58800	78600	102900	94900	83400	81100	71000
9	68900	53000	41000	40600	42300	59200	79300	103400	94200	83200	81900	70100
10	69600	53000	41000	40700	42500	59600	80000	103700	93500	83100	81600	69300
11	70000	52000	41000	40800	42700	60100	80800	104100	92800	83200	81300	68300
12	69900	50900	41100	40800	42900	60600	81700	104300	92100	83800	81100	67700
13	69800	49900	41100	40900	43200	61200	83000	104600	91600	83700	80800	67600
14	70000	48900	41100	40900	43400	61800	84000	104900	91600	83600	80600	67100
15	70500	47800	41100	41000	43600	62300	84800	105000	91000	83500	81300	66600
16	69400	47800	41200	41000	43800	62800	85500	104800	90300	83300	81600	66000
17	69300	48000	41200	41100	44000	63300	87600	104900	89800	83200	81300	65500
18	69200	47100	41400	41100	44100	63700	89000	105100	89200	83200	81100	64900
19	69100	46000	41500	41200	44600	64100	89900	105200	88500	83900	81000	64900
20	69000	45000	41600	41200	44500	64500	90900	105400	87800	83800	80800	64800
21	67800	44200	41600	41200	47700	64900	91800	105500	87800	83600	80600	64200
22	66600	43200	41700	41300	49200	65200	92600	105200	87000	83500	80800	63700
23	65100	43300	41700	41400	50100	65700	93300	104700	86100	83300	81500	63100
24	63700	43400	41800	41400	50700	66100	94000	104800	85100	83200	81300	62700
25	62600	42400	41800	41400	51400	66500	94700	104200	84200	83000	80800	62100
26	63500	41500	41300	41500	52200	67100	95600	103300	83400	83400	80000	62000
27	63700	41100	41000	41500	53000	67700	96300	102300	83400	83200	79100	62000
28	62400	41200	41100	41600	53700	68500	97100	101400	83400	82700	78400	62000
29	61000	41200	41100	41600	54400	69200	98000	100400	83000	82400	77900	61800
30	60100	40800	40600	41600	---	70100	98800	99900	83000	82100	77800	61800
31	59800	---	40100	41700	---	71100	---	99900	---	81700	76900	---
MAX	70500	58900	41800	41700	54400	71100	98800	105500	99900	83900	82400	76100
MIN	59800	40800	40100	40200	41700	55000	72200	99400	83000	81700	76900	61800
a	4466.5	4434.4	4433.2	4436.1	4457.9	4483.3	4520.7	4522.2	4500.0	4498.2	4481.6	4469.5
b	-9100	-19000	-700	+1600	+12700	+16700	+27700	+1100	-16900	-1300	-4800	-15100

CAL YR 1991 b -17700
WTR YR 1992 b -7100

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

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 ft³/s, Mar. 8, 1986, including flow over spillway; no flow Aug. 25 to Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51 ft³/s, Oct. 1, Sept. 29, 30, gage height, 4.45 ft, Sept. 29, 30; minimum daily, 8.7 ft³/s, Dec. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	22	23	12	13	16	16	13	23	22	22	22
2	46	22	23	12	13	16	16	13	22	22	22	22
3	43	22	22	12	13	15	16	13	22	22	22	22
4	43	22	22	12	13	15	16	13	22	22	22	22
5	43	22	22	12	13	15	16	13	22	22	22	22
6	43	23	22	16	13	17	16	13	22	22	22	22
7	45	23	22	15	13	17	16	13	22	22	22	22
8	46	23	22	13	13	17	13	13	22	22	22	22
9	46	23	22	12	13	16	12	13	22	22	22	22
10	46	23	22	12	13	16	12	13	22	22	22	22
11	46	23	22	13	13	16	13	13	22	22	22	22
12	47	23	22	13	15	16	14	13	22	22	22	22
13	47	23	22	13	14	15	14	13	22	22	22	22
14	47	22	22	13	14	16	14	17	22	22	22	22
15	47	22	16	13	14	16	14	22	22	22	22	22
16	47	22	12	13	14	16	14	22	22	22	22	22
17	31	23	12	13	14	16	15	22	22	22	22	22
18	23	23	8.7	13	14	16	15	22	22	22	22	22
19	23	23	12	13	16	16	14	22	22	22	22	22
20	23	22	14	13	23	16	14	22	22	22	22	22
21	23	22	12	12	18	16	14	23	22	22	22	22
22	23	22	12	12	17	16	13	23	22	22	22	22
23	23	22	12	12	16	16	13	23	22	22	22	22
24	23	22	12	12	15	16	13	22	22	22	22	22
25	22	22	12	12	15	16	13	22	22	22	22	22
26	24	22	12	13	16	15	13	22	22	22	22	22
27	23	23	12	13	16	16	13	22	22	22	22	22
28	23	23	12	13	16	16	13	22	22	22	22	22
29	22	22	12	13	16	16	13	22	22	22	22	39
30	22	22	12	13	---	16	13	22	23	22	22	51
31	22	---	12	13	---	16	---	22	---	22	22	---
TOTAL	1082	673	516.7	396	426	494	421	563	662	682	682	706
MEAN	34.9	22.4	16.7	12.8	14.7	15.9	14.0	18.2	22.1	22.0	22.0	23.5
MAX	50	23	23	16	23	17	16	23	23	22	22	51
MIN	22	22	8.7	12	13	15	12	13	22	22	22	22
AC-FT	2150	1330	1020	785	845	980	835	1120	1310	1350	1350	1400
a	13260	19730	1900	0	379	0	0	6680	18840	22010	21000	13360

a Diversion, in acre-feet, from Hell Hole Reservoir through Middle Fork powerplant, provided by Placer County Water Agency.

SACRAMENTO RIVER BASIN

11428800 RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.3	16.6	26.9	16.5	23.4	35.1	23.3	41.7	81.0	34.8	13.8	14.5
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	7443.7		7303.7			
ANNUAL MEAN	20.4		20.0		29.1	
HIGHEST ANNUAL MEAN					116	
LOWEST ANNUAL MEAN					7.11	
HIGHEST DAILY MEAN	51	Sep 27	51	Sep 30	6650	Mar 8 1986
LOWEST DAILY MEAN	8.7	Dec 18	8.7	Dec 18	.00	Aug 25 1966
ANNUAL SEVEN-DAY MINIMUM	12	Dec 16	12	Dec 16	.00	Aug 25 1966
INSTANTANEOUS PEAK FLOW			51	Oct 1	10700	Mar 8 1986
INSTANTANEOUS PEAK STAGE			4.45	Sep 29		
ANNUAL RUNOFF (AC-FT)	14760		14490		21060	
10 PERCENT EXCEEDS	23		23		26	
50 PERCENT EXCEEDS	22		22		17	
90 PERCENT EXCEEDS	12		13		8.4	

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 National Geodetic Vertical Datum of 1929, 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	386	35	24	54	451	345	102	.50	147	257	1.5
2	167	16	10	12	1.5	514	316	79	33	206	200	1.0
3	214	12	.50	17	45	483	292	17	2.5	1.0	197	1.0
4	400	46	26	1.0	1.0	427	303	117	213	1.0	252	1.0
5	618	1.0	40	68	1.0	431	253	52	31	54	248	1.0
6	575	1.0	1.0	1.0	54	523	179	292	1.0	.50	270	1.0
7	631	24	1.0	.50	1.0	460	175	100	.50	67	217	1.0
8	532	1.0	.50	1.0	47	420	157	89	63	74	176	1.0
9	621	17	1.0	81	49	380	161	7.6	39	232	29	9.6
10	616	28	44	2.5	52	379	165	66	.00	286	161	1.0
11	413	17	.50	1.0	186	371	151	47	16	251	284	.50
12	77	1.0	1.0	.50	187	579	192	.50	1.0	255	195	1.0
13	.00	1.0	36	1.0	169	435	326	95	1.0	231	325	1.0
14	3.0	55	22	59	179	438	209	1.0	.50	215	308	1.0
15	106	2.0	1.0	1.0	180	344	184	46	289	175	495	1.0
16	224	.00	1.0	.50	160	402	154	12	272	236	303	1.0
17	34	.00	1.0	33	186	399	317	70	136	152	331	1.0
18	1.0	.00	30	22	168	406	253	17	189	269	272	1.0
19	1.0	74	60	1.0	335	365	158	1.0	246	240	95	1.0
20	1.0	.00	1.0	1.0	559	334	137	16	280	200	35	1.0
21	.50	22	72	53	524	358	188	1.0	281	35	.50	1.0
22	1.0	22	1.0	.50	738	385	86	1.0	233	114	.50	1.0
23	1.0	8.1	1.0	1.0	620	351	141	1.0	338	290	.50	1.0
24	46	26	.50	12	395	407	134	1.0	381	178	.50	1.0
25	172	44	20	45	578	379	107	67	404	113	1.0	110
26	45	2.5	39	32	622	438	104	.50	22	210	.50	75
27	13	28	35	168	521	454	137	1.0	137	333	1.0	1.0
28	389	40	1.0	493	523	236	110	53	276	361	.00	1.0
29	205	1.0	1.0	437	466	269	98	11	139	403	1.0	1.0
30	153	.50	.50	425	---	264	100	1.0	234	123	1.0	1.0
31	315	---	1.0	26	---	284	---	1.0	---	.50	1.0	---
TOTAL	6801.50	876.10	484.50	2020.50	7601.5	12366	5632	1365.60	4259.00	5453.00	4657.50	221.60
MEAN	219	29.2	15.6	65.2	262	399	188	44.1	142	176	150	7.39
MAX	631	386	72	493	738	579	345	292	404	403	495	110
MIN	.00	.00	.50	.50	1.0	236	86	.50	.00	.50	.00	.50
AC-FT	13490	1740	961	4010	15080	24530	11170	2710	8450	10820	9240	440

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	MEAN	79.9	153	203	203	237	312	396	404	386	216	160	80.2
	MAX	278	490	616	650	518	749	741	873	977	673	353	430
	(WY)	1983	1984	1982	1982	1986	1986	1986	1969	1983	1983	1969	1971
	MIN	.000	4.17	15.6	9.16	14.6	25.0	48.7	44.1	37.9	6.61	.62	.000
	(WY)	1971	1967	1992	1977	1977	1977	1977	1992	1977	1963	1963	1970

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1963 - 1992
ANNUAL TOTAL	56050.10	51738.80	
ANNUAL MEAN	154	141	236
HIGHEST ANNUAL MEAN			489
LOWEST ANNUAL MEAN			50.2
HIGHEST DAILY MEAN	750	738	1440
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	1.0	.57	.00
ANNUAL RUNOFF (AC-FT)	111200	102600	170700
10 PERCENT EXCEEDS	412	403	566
50 PERCENT EXCEEDS	55	54	174
90 PERCENT EXCEEDS	1.0	1.0	.00

SACRAMENTO RIVER BASIN

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 Geule Creek, and 10 mi southwest of Meeks Bay.

DRAINAGE AREA.--7.96 mi².

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

REVISED RECORDS.--WDR CA-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 58,671 acre-ft, June 3, elevation, 6,396.93 ft; minimum, 27,312 acre-ft, Mar. 27, elevation, 6,368.93 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54571	41095	43838	44080	40928	37331	29846	50130	58493	53059	41960	31476
2	54322	41095	43896	44080	40905	36688	30543	50580	58595	52850	41566	31446
3	53726	41095	43861	44080	40905	36219	31306	51002	58671	52936	41151	31406
4	52837	41095	43861	44068	40872	35880	31997	51404	58403	52973	40549	31366
5	51526	41107	43861	44183	40872	35542	32665	51819	58429	52936	39927	31326
6	50287	41151	43873	44218	40883	34944	33175	51819	58467	52923	39299	31296
7	48880	41218	44011	44264	40905	34401	33585	52505	58493	52850	38871	31256
8	47630	41331	43999	44241	40961	33894	34059	53293	58480	52640	38391	31236
9	46274	41578	43953	44241	40984	33482	34557	53937	58493	52162	38359	31207
10	45050	41859	43988	44241	40972	33093	35027	54397	58467	51599	37946	31167
11	44218	42028	43942	44252	40771	32909	35542	54808	58416	51087	37245	31127
12	43988	42119	43942	44229	40615	31877	36209	55195	58390	50905	36816	31097
13	43930	42164	43942	44229	40404	31556	37170	55558	58365	50505	36113	31057
14	43896	42220	43942	44264	40249	31326	37957	55922	58467	50058	35395	31018
15	43552	42209	43930	44229	40115	31127	38598	56261	57957	49732	34401	30988
16	43175	42209	43919	44229	39983	30810	39123	56551	57563	49299	33667	30958
17	43072	42435	43919	44218	39773	30366	40249	56829	57475	48904	32991	30928
18	43049	42515	44080	44218	39497	29973	41758	57095	57462	48366	32452	30889
19	43049	42515	44218	44206	39068	29613	42583	57348	57208	47760	32250	30859
20	42947	42606	44091	44206	39431	29186	43186	57449	56804	47476	32008	30829
21	42901	42810	44011	44206	39728	28878	43827	57449	56337	47381	31937	30780
22	42844	43038	44022	44206	39938	28533	44414	57449	55884	47039	31897	30750
23	42810	43209	44022	44195	39905	28228	44853	57437	55207	46403	31847	30711
24	42651	43312	44022	44183	39850	27811	45247	57437	54509	46028	31786	30671
25	42469	43392	44022	44172	39354	27547	45748	57513	53788	45760	31756	30651
26	42992	43460	44022	44172	38828	27350	46368	57665	53677	45224	31696	30582
27	43483	43666	44022	43517	38413	27312	47027	57830	53466	44471	31666	30553
28	42787	43758	44057	42571	38065	27688	47772	57868	52850	43701	31586	30523
29	42640	43850	44080	41735	37708	28114	48581	58136	52800	42981	31566	30494
30	42481	43861	44080	40916	---	28629	49503	58263	52837	42662	31526	30454
31	41645	---	44080	40905	---	29148	---	58378	---	42628	31506	---
MAX	54571	43861	44218	44264	40984	37331	49503	58378	58671	53059	41960	31476
MIN	41645	41095	43838	40905	37708	27312	29846	50130	52800	42628	31506	30454
a	6382.79	6384.74	6384.93	6382.13	6379.22	6370.86	6389.54	6396.70	6392.28	6383.66	6373.26	6372.20
b	-13483	+2216	+219	-3175	-3197	-8560	+20355	+8875	-5541	-10209	-11122	-1052
CAL YR 1991	MAX 74996	MIN 35452	b	+501								
WTR YR 1992	MAX 58671	MIN 27312	b	-24674								

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to August 1962, nonrecording gage at site 1,400 ft upstream at different datum.

REMARKS.--Records excellent. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft³/s, unregulated, Feb. 1, 1963, gage height, 12.65 ft, from rating curve extended above 970 ft³/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 ft³/s, June 5, 1969, gage height, 9.03 ft; minimum daily, 3.6 ft³/s, Sept. 27, 28, Nov. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 123 ft³/s, Apr. 22, gage height, 3.82 ft; minimum daily, 8.0 ft³/s, Oct. 4-6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	8.9	8.6	8.7	8.3	8.9	11	10	9.8	9.5	9.5	8.9
2	8.3	8.9	8.6	e8.7	8.3	8.9	9.8	10	9.8	9.5	9.5	8.8
3	8.1	8.9	8.6	e8.7	8.3	9.0	9.8	11	9.8	9.5	9.5	8.8
4	8.0	8.9	8.6	e8.7	8.3	8.9	9.5	10	9.8	9.5	9.5	8.6
5	8.0	8.9	8.6	e8.7	8.3	8.9	8.9	9.8	9.8	9.5	9.2	8.6
6	8.0	8.9	8.6	e8.8	8.4	8.8	8.9	10	9.8	9.5	9.2	8.6
7	8.1	8.9	8.6	e8.7	9.3	8.6	8.9	10	9.8	9.5	9.2	8.6
8	8.4	8.9	8.6	e8.7	9.6	8.6	8.9	10	9.7	9.5	9.2	8.6
9	8.6	8.9	8.6	e8.6	8.7	8.6	8.9	11	9.5	9.5	9.2	8.6
10	9.2	8.9	8.6	e8.6	8.9	8.6	8.9	12	9.7	9.5	9.2	8.6
11	9.2	8.9	8.6	8.6	8.8	8.7	8.9	11	9.5	9.5	9.2	8.8
12	9.2	8.9	8.6	8.6	8.8	8.8	10	10	9.5	11	8.9	8.9
13	9.2	8.9	8.6	8.6	8.7	8.9	9.5	9.8	9.7	10	8.9	8.9
14	9.2	8.9	8.6	8.6	8.6	8.7	8.9	9.8	11	9.7	8.9	8.9
15	9.2	8.9	8.6	8.6	8.8	8.6	8.9	9.8	11	9.5	8.9	8.9
16	9.2	8.9	8.6	8.6	8.9	8.6	8.9	9.8	9.8	9.4	8.9	8.9
17	9.2	9.0	8.6	8.6	8.9	8.5	10	9.8	9.9	9.2	8.9	8.9
18	9.2	9.2	8.8	8.6	8.8	8.3	8.9	9.8	9.8	9.2	8.9	8.9
19	9.2	9.3	8.6	8.6	11	8.3	8.9	9.8	9.7	9.2	8.9	8.9
20	9.5	9.7	8.6	8.6	14	8.3	8.9	9.8	9.7	9.2	8.9	8.9
21	9.1	9.1	8.6	8.6	11	8.3	8.9	9.8	9.8	9.2	8.9	9.2
22	8.9	8.6	8.6	8.8	10	8.5	9.2	9.8	9.5	9.1	8.8	9.2
23	9.1	8.6	8.6	8.7	9.2	8.5	9.2	9.8	9.5	8.9	8.7	9.2
24	9.2	8.6	8.6	e8.7	8.9	8.5	9.2	9.8	9.6	8.9	8.9	9.2
25	9.7	8.6	8.6	e8.5	9.3	8.9	9.2	9.8	9.5	8.9	8.9	9.5
26	13	8.6	8.6	e8.4	9.2	9.9	9.2	9.8	9.5	9.2	8.9	9.4
27	9.1	9.2	8.6	e8.4	9.1	9.1	9.2	9.8	9.5	9.2	8.9	9.3
28	8.9	8.6	8.6	e8.4	9.0	9.2	9.2	9.8	9.5	9.2	8.9	9.2
29	8.9	8.6	8.6	e8.4	8.9	9.1	9.2	9.8	11	9.2	8.9	9.2
30	8.9	8.6	8.6	e8.3	---	9.3	9.5	9.8	9.7	9.1	8.9	9.2
31	8.9	---	8.6	e8.3	---	11	---	9.8	---	9.5	8.9	---
TOTAL	279.0	266.7	266.8	266.4	266.3	273.8	277.3	311.0	294.2	291.3	280.1	268.2
MEAN	9.00	8.89	8.61	8.59	9.18	8.83	9.24	10.0	9.81	9.40	9.04	8.94
MAX	13	9.7	8.8	8.8	14	11	11	12	11	11	9.5	9.5
MIN	8.0	8.6	8.6	8.3	8.3	8.3	8.9	9.8	9.5	8.9	8.7	8.6
AC-FT	553	529	529	528	528	543	550	617	584	578	556	532
a	13840	609	71	3160	9090	14550	100	619	8150	10630	9740	0

e Estimated.

a Diversion, in acre-feet, to Loon Lake powerplant, provided by Sacramento Municipal Utility District.

SACRAMENTO RIVER BASIN

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	8.95	8.41	9.13	8.57	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
LOWEST ANNUAL MEAN	127
HIGHEST DAILY MEAN	1030
LOWEST DAILY MEAN	6.0
ANNUAL SEVEN-DAY MINIMUM	6.4
INSTANTANEOUS PEAK FLOW	1050
INSTANTANEOUS PEAK STAGE	9.03
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 - 1992, BY WATER YEAR (WY)

MEAN	8.43	8.53	9.19	8.63	8.68	8.71	8.67	9.24	8.68	8.49	8.32	8.32
MAX	12.3	9.93	23.9	10.1	11.3	11.6	10.2	16.0	12.0	10.7	10.2	11.2
(WY)	1991	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1972 - 1992

ANNUAL TOTAL	3276.0	3341.1	
ANNUAL MEAN	8.98	9.13	8.66
HIGHEST ANNUAL MEAN			9.85
LOWEST ANNUAL MEAN			6.06
HIGHEST DAILY MEAN	19	Mar 4	238
LOWEST DAILY MEAN	8.0	Oct 4	3.6
ANNUAL SEVEN-DAY MINIMUM	8.1	Oct 1	3.7
INSTANTANEOUS PEAK FLOW		123	370
INSTANTANEOUS PEAK STAGE		3.82	5.84
ANNUAL RUNOFF (AC-FT)	6500	6630	6270
ANNUAL DIVERSION (AC-FT) a	67670	70560	
10 PERCENT EXCEEDS	9.6	9.8	9.8
50 PERCENT EXCEEDS	8.9	8.9	8.6
90 PERCENT EXCEEDS	8.3	8.6	7.7

a Diversion, in acre-feet, to Loon Lake powerplant, provided by Sacramento Municipal Utility District.

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 mi².

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 National Geodetic Vertical Datum of 1929, 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. Records excellent. 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 ft³/s to Silver Creek basin began in October 1962. See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s, Jan. 31, 1963, gage height, 12.32 ft, from rating curve extended above 2,500 ft³/s on basis of slope-area measurement of peak flow; minimum, 0.8 ft³/s, Sept. 21, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29 ft³/s, Feb. 20, gage height, 2.22 ft; minimum daily, 5.1 ft³/s, Nov. 4, 5, Aug. 16, 29, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	5.9	5.5	5.5	5.9	9.1	6.2	5.9	6.8	5.9	6.1	5.3
2	5.6	5.4	5.5	5.7	5.7	8.9	5.9	5.9	6.8	5.7	6.1	5.3
3	5.7	5.2	5.5	5.9	5.7	8.8	5.7	5.7	6.8	5.5	5.9	5.4
4	6.5	5.1	5.5	6.0	5.5	8.5	5.5	5.9	7.0	5.8	5.8	5.5
5	6.1	5.1	5.4	6.3	5.6	9.4	5.9	5.7	5.5	6.1	5.7	5.5
6	6.1	5.2	5.4	5.9	5.7	11	5.7	6.1	6.0	6.0	5.7	5.5
7	6.0	5.2	5.7	6.2	5.7	9.9	5.5	5.7	6.1	6.1	6.0	5.7
8	5.8	5.4	5.5	6.0	6.4	9.4	5.4	5.5	6.3	5.8	6.1	5.7
9	6.3	5.9	5.5	6.0	5.9	8.9	5.4	6.1	5.5	6.0	6.2	5.7
10	5.8	5.7	5.5	5.9	6.8	8.7	5.5	6.2	6.2	5.6	6.1	5.5
11	5.8	5.7	5.4	5.8	7.2	8.5	5.4	6.1	6.6	5.5	6.0	5.5
12	5.6	5.6	5.4	5.9	8.2	8.2	6.4	6.1	6.7	5.6	5.7	5.6
13	6.3	5.7	5.5	5.9	8.0	7.0	6.5	6.1	7.0	5.2	5.6	5.6
14	6.7	5.7	5.4	5.9	7.8	6.9	6.3	6.0	7.5	5.3	5.5	5.6
15	6.9	5.5	5.4	5.9	7.8	6.6	5.4	6.1	8.0	5.9	5.4	5.6
16	6.6	5.5	5.4	5.9	7.4	7.9	5.4	6.1	7.6	5.7	5.1	5.5
17	6.4	6.5	5.4	6.0	7.0	7.6	5.7	6.1	7.3	5.5	5.8	5.5
18	6.5	6.7	6.4	5.9	7.2	7.3	5.3	5.9	7.3	5.4	5.7	5.2
19	6.5	6.5	6.0	5.9	9.6	6.8	5.6	6.1	6.6	5.6	5.4	5.4
20	6.6	6.5	5.7	6.0	21	6.5	5.5	6.3	5.6	5.5	5.4	5.5
21	6.7	6.4	5.6	6.1	13	6.4	5.5	6.1	5.7	5.6	5.7	5.6
22	6.9	5.9	5.5	6.0	14	7.2	5.7	6.1	5.6	5.7	5.8	5.6
23	7.2	5.8	5.5	6.0	11	6.8	6.2	7.4	5.6	5.6	5.9	5.7
24	7.5	5.7	5.5	6.1	9.9	6.7	6.1	8.1	6.0	5.5	5.9	5.8
25	8.6	5.6	5.5	6.1	9.6	7.1	6.0	6.2	5.9	5.5	6.0	5.6
26	15	5.5	5.5	6.0	9.9	7.7	6.0	5.5	5.6	5.5	5.8	7.1
27	9.6	6.1	5.4	6.0	9.6	7.5	6.0	6.4	5.7	5.7	5.2	6.5
28	8.3	5.6	5.5	6.3	9.5	6.9	5.9	6.8	5.8	5.2	5.2	5.2
29	8.3	5.5	5.5	6.3	9.2	6.5	5.9	5.9	7.0	5.6	5.1	5.5
30	7.7	5.5	5.5	6.1	---	6.9	5.9	6.1	6.8	5.3	5.2	5.1
31	6.6	---	5.5	5.7	---	6.7	---	6.5	---	6.0	5.3	---
TOTAL	216.5	171.6	171.5	185.2	245.8	242.3	173.4	190.7	192.9	174.9	176.4	167.8
MEAN	6.98	5.72	5.53	5.97	8.48	7.82	5.78	6.15	6.43	5.64	5.69	5.59
MAX	15	6.7	6.4	6.3	21	11	6.5	8.1	8.0	6.1	6.2	7.1
MIN	5.6	5.1	5.4	5.5	5.5	6.4	5.3	5.5	5.5	5.2	5.1	5.1
AC-FT	429	340	340	367	488	481	344	378	383	347	350	333

11430000 SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.9	22.3	38.1	51.6	38.6	18.2	12.6	18.6	21.3	13.5	8.87	9.04
MAX	52.2	268	396	484	524	130	141	125	249	92.5	12.5	22.3
(WY)	1963	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1963 - 1992	
ANNUAL TOTAL	3269.1		2309.0			
ANNUAL MEAN	8.96		6.31		21.9	
HIGHEST ANNUAL MEAN					63.8	
LOWEST ANNUAL MEAN					3.59	
HIGHEST DAILY MEAN	791	Mar 4	21	Feb 20	5990	Jan 13 1980
LOWEST DAILY MEAN	4.8	May 12	5.1	Nov 4	1.3	Sep 29 1963
ANNUAL SEVEN-DAY MINIMUM	5.2	May 6	5.2	Nov 2	1.5	Sep 28 1963
INSTANTANEOUS PEAK FLOW			29	Feb 20	11500	Jan 31 1963
INSTANTANEOUS PEAK STAGE			2.22	Feb 20	12.32	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	6480		4580		15870	
10 PERCENT EXCEEDS	7.9		7.7		12	
50 PERCENT EXCEEDS	6.0		5.9		7.9	
90 PERCENT EXCEEDS	5.4		5.4		5.1	

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. 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 ft³/s, Feb. 17, 1986, gage height, 7.15 ft, from rating curve extended above 540 ft³/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 ft³/s, Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 140 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb 20	0615	*150	*2.86				
Minimum daily, 1.8 ft ³ /s, Aug. 18-20.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	6.0	5.5	6.0	6.4	29	22	9.1	5.9	6.7	2.4	2.2
2	2.7	5.7	5.5	5.9	6.3	27	21	8.8	5.8	5.7	2.3	2.2
3	2.6	5.5	5.3	5.7	6.0	27	20	8.6	5.6	5.3	2.3	2.2
4	2.6	5.3	5.3	5.7	5.7	26	19	8.6	5.3	5.0	2.2	2.5
5	2.6	5.1	5.1	8.5	5.8	29	18	8.6	5.2	4.9	2.2	2.3
6	2.6	5.0	5.1	6.6	6.2	34	17	8.5	5.2	4.7	2.2	2.2
7	2.5	4.9	6.8	7.1	7.0	30	16	8.7	5.2	4.6	2.2	2.1
8	2.6	4.8	6.2	6.7	9.7	28	15	8.4	5.2	4.3	2.3	2.1
9	2.5	5.2	5.7	6.7	9.5	26	14	8.1	5.1	4.1	2.3	2.0
10	2.4	4.9	5.5	6.2	12	25	14	7.9	4.9	4.0	2.2	2.0
11	2.4	4.7	5.5	e6.2	15	25	14	7.8	4.9	4.2	2.1	2.0
12	2.7	4.7	5.3	6.2	22	25	16	7.8	5.0	4.9	2.0	2.1
13	2.6	4.6	5.2	6.1	24	24	17	7.8	5.3	4.8	2.0	2.1
14	2.5	4.7	5.1	6.0	22	25	14	7.7	5.9	4.4	1.9	2.0
15	2.5	4.6	5.1	5.9	21	25	14	7.7	6.9	4.1	1.9	2.0
16	2.5	4.6	5.1	5.8	17	28	13	7.7	6.6	3.8	1.9	2.0
17	2.6	12	5.1	5.9	16	27	13	7.6	5.8	3.9	1.9	2.0
18	2.6	14	12	6.0	16	25	12	7.4	5.5	3.5	1.8	2.0
19	2.6	9.0	10	5.9	25	24	11	7.6	5.2	3.3	1.8	2.0
20	2.5	8.1	7.8	5.9	116	23	11	8.0	4.9	3.2	1.8	1.9
21	2.4	8.2	7.0	5.8	67	23	11	7.5	4.6	3.2	1.9	1.9
22	2.6	7.2	6.5	e5.8	63	24	11	7.1	4.4	3.1	2.0	1.9
23	3.4	6.6	6.2	e5.7	47	23	11	6.9	4.3	3.0	2.1	1.9
24	3.5	6.2	6.0	e5.6	38	22	10	6.8	4.8	3.0	2.1	2.0
25	4.6	6.0	5.9	5.5	34	22	10	6.7	4.9	3.0	2.0	2.1
26	34	5.7	5.7	5.5	33	22	9.8	6.7	4.6	2.8	2.0	2.0
27	14	6.9	5.7	5.5	31	21	9.5	6.6	4.3	2.8	1.9	2.0
28	8.7	6.5	6.4	6.0	30	21	9.4	6.4	4.4	2.6	1.9	2.0
29	7.9	5.9	6.8	6.0	29	21	9.3	6.3	6.4	2.6	1.9	1.9
30	7.3	5.7	6.7	5.7	---	24	9.2	6.2	10	2.5	2.2	1.9
31	6.3	---	6.3	5.7	---	24	---	6.0	---	2.4	2.2	---
TOTAL	146.0	188.3	191.4	187.8	740.6	779	411.2	235.6	162.1	120.4	63.9	61.5
MEAN	4.71	6.28	6.17	6.06	25.5	25.1	13.7	7.60	5.40	3.88	2.06	2.05
MAX	34	14	12	8.5	116	34	22	9.1	10	6.7	2.4	2.5
MIN	2.4	4.6	5.1	5.5	5.7	21	9.2	6.0	4.3	2.4	1.8	1.9
AC-FT	290	373	380	373	1470	1550	816	467	322	239	127	122

e Estimated.

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.65	13.5	25.8	40.3	45.9	48.5	45.5	34.3	14.3	7.87	5.06	4.64
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	1.93	.64	.18	.50
(WY)	1978	1977	1977	1991	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1961 - 1992	
ANNUAL TOTAL	4140.3		3287.8		24.3	
ANNUAL MEAN	11.3		8.98		64.8	
HIGHEST ANNUAL MEAN					2.96	
LOWEST ANNUAL MEAN					1983	
HIGHEST DAILY MEAN	217	Mar 4	116	Feb 20	2840	Feb 17 1986
LOWEST DAILY MEAN	2.4	Oct 10	1.8	Aug 18	.14	Aug 16 1977
ANNUAL SEVEN-DAY MINIMUM	2.5	Oct 5	1.9	Aug 14	.15	Aug 12 1977
INSTANTANEOUS PEAK FLOW			150	Feb 20	3510	Feb 17 1986
INSTANTANEOUS PEAK STAGE			2.86	Feb 20	8.05	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	8210		6520		17580	
10 PERCENT EXCEEDS	29		23		53	
50 PERCENT EXCEEDS	5.9		5.8		9.7	
90 PERCENT EXCEEDS	3.0		2.1		3.2	

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 mi².

PERIOD OF RECORD.--June 1961 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,760 ft above National Geodetic Vertical Datum of 1929, 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 ft³/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 ft³/s, Feb. 18, 1986, gage height, 10.86 ft, from rating curve extended above 970 ft³/s on basis of slope-area measurement at gage height 10.06 ft; minimum daily, 0.20 ft³/s, Sept. 24, Nov. 1-5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10 ft³/s, Feb. 20, gage height, 3.55 ft; minimum daily, 1.2 ft³/s, July 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.9	1.4	1.5	1.6	4.0	2.5	1.9	2.9	1.9	2.2	2.1
2	1.6	1.8	1.4	1.4	1.6	3.8	2.5	1.9	2.9	1.7	2.2	2.1
3	1.6	1.8	1.4	1.4	1.6	3.6	2.4	1.8	2.8	1.7	2.2	2.1
4	1.6	1.8	1.3	1.4	1.6	3.5	2.4	1.8	2.9	1.6	2.1	2.1
5	1.6	1.8	1.3	1.6	1.6	4.3	2.3	1.8	3.0	1.7	2.1	2.1
6	1.5	1.8	1.3	1.6	1.6	6.8	2.3	1.8	3.0	1.7	2.1	2.1
7	1.4	1.7	2.2	1.7	1.6	5.6	2.2	1.7	2.9	1.6	2.1	2.1
8	1.3	1.6	1.8	1.6	1.9	4.8	2.2	1.7	2.9	1.6	2.0	2.1
9	1.3	1.7	1.6	1.5	1.9	4.4	2.1	1.7	2.9	1.5	2.0	2.0
10	1.3	1.7	1.5	1.5	3.2	4.0	2.1	1.6	2.9	1.5	1.9	2.0
11	1.3	1.7	1.5	1.4	4.1	3.7	2.1	1.6	2.8	1.5	2.0	2.0
12	1.3	1.7	1.4	1.4	6.4	3.6	2.5	1.7	2.9	1.5	2.3	2.0
13	1.3	1.7	1.4	1.4	4.5	3.4	2.8	1.7	2.9	1.5	2.5	2.0
14	1.3	1.7	1.3	1.4	3.6	3.4	2.3	1.6	2.9	1.4	2.1	2.0
15	1.4	1.7	1.3	1.4	3.5	3.8	2.1	1.6	3.0	1.4	2.1	2.0
16	1.4	1.7	1.3	1.4	3.1	6.4	2.1	1.6	3.0	1.3	2.1	2.0
17	1.5	3.1	1.3	1.4	3.5	4.6	2.3	1.6	2.8	1.3	2.0	2.0
18	1.5	3.4	2.2	1.5	3.6	3.9	2.1	1.6	2.7	1.3	2.0	2.0
19	1.5	2.1	1.8	1.5	5.1	3.6	1.9	1.6	2.7	1.2	2.0	2.0
20	1.5	1.9	1.5	1.5	9.9	3.4	1.9	1.6	2.6	1.2	2.0	2.0
21	1.5	1.7	1.4	1.5	7.7	3.3	1.9	1.5	2.5	1.5	2.0	2.0
22	1.5	1.6	1.4	1.4	7.8	3.5	1.8	1.5	2.5	2.0	2.1	2.0
23	1.6	1.6	1.3	1.4	5.9	3.4	1.8	1.5	2.2	2.1	2.1	2.0
24	1.6	1.5	1.3	1.4	5.2	3.3	1.8	1.5	1.9	2.2	2.1	2.0
25	1.9	1.4	1.3	1.4	5.0	3.2	1.7	1.5	2.0	2.3	2.1	2.0
26	6.7	1.4	1.3	1.4	4.8	3.2	1.7	1.5	1.8	2.3	2.1	1.9
27	2.9	1.8	1.3	1.4	4.6	3.1	1.7	1.4	1.7	2.2	2.1	1.9
28	2.1	1.6	1.6	1.7	4.3	2.9	1.6	1.4	1.7	2.2	2.1	1.9
29	2.0	1.5	1.9	1.6	4.1	2.8	1.9	2.0	2.0	2.1	2.1	2.0
30	1.9	1.4	1.8	1.5	---	2.8	2.0	2.9	2.5	2.2	2.1	2.0
31	1.9	---	1.5	1.5	---	2.8	---	2.9	---	2.2	2.1	---
TOTAL	54.4	53.8	46.3	45.7	114.9	118.9	63.0	53.5	78.2	53.4	65.0	60.5
MEAN	1.75	1.79	1.49	1.47	3.96	3.84	2.10	1.73	2.61	1.72	2.10	2.02
MAX	6.7	3.4	2.2	1.7	9.9	6.8	2.8	2.9	3.0	2.3	2.5	2.1
MIN	1.3	1.4	1.3	1.4	1.6	2.8	1.6	1.4	1.7	1.2	1.9	1.9
AC-FT	108	107	92	91	228	236	125	106	155	106	129	120

11433040 PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.66	6.11	31.3	49.1	68.9	65.7	64.8	34.5	7.87	4.08	3.14	2.62
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1961 - 1992	
ANNUAL TOTAL	752.57		807.6			
ANNUAL MEAN	2.06		2.21		28.2	
HIGHEST ANNUAL MEAN					109	
LOWEST ANNUAL MEAN					.64	
HIGHEST DAILY MEAN	11	Mar 4	9.9	Feb 20	4350	Feb 17 1986
LOWEST DAILY MEAN	.64	Feb 25	1.2	Jul 19	.20	Sep 24 1966
ANNUAL SEVEN-DAY MINIMUM	.66	Feb 21	1.3	Oct 8	.23	Oct 30 1966
INSTANTANEOUS PEAK FLOW			10	Feb 20	6330	Feb 18 1986
INSTANTANEOUS PEAK STAGE			3.55	Feb 20	10.86	Feb 18 1986
ANNUAL RUNOFF (AC-FT)	1490		1600		20430	
10 PERCENT EXCEEDS	3.7		3.5		77	
50 PERCENT EXCEEDS	1.8		1.9		3.5	
90 PERCENT EXCEEDS	.80		1.4		1.0	

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Nov. 12, 1973; no flow for part of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	17	17	3.5	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	15	16	2.8	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	15	17	2.5	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	14	17	2.1	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	15	16	1.6	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	16	15	1.4	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	14	13	1.1	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	13	13	.72	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	12	12	.28	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	13	12	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	13	12	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	15	13	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	15	17	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	14	14	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	13	12	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	14	12	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	13	19	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	13	15	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	12	12	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	22	11	11	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	21	10	10	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	27	12	9.4	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	19	12	8.3	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	17	11	7.2	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	21	12	6.2	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	23	13	5.9	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	22	13	5.0	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	20	13	4.8	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	18	13	4.5	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	16	4.2	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	16	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	210.00	418	350.5	16.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	7.24	13.5	11.7	.52	.000	.000	.000	.000
MAX	.00	.00	.00	.00	27	17	19	3.5	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	10	4.2	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	417	829	695	32	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.002	4.19	6.19	9.30	8.83	17.5	24.3	24.5	8.10	.36	.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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	2044.30	994.50	
ANNUAL MEAN	5.60	2.72	
HIGHEST ANNUAL MEAN			8.60
LOWEST ANNUAL MEAN			20.6
HIGHEST DAILY MEAN	49	Apr 6	27
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
ANNUAL RUNOFF (AC-FT)	4050	1970	6230
10 PERCENT EXCEEDS	27	13	28
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

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 National Geodetic Vertical Datum of 1929, 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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	6.5	6.1	5.8	---	---	---	---
2	---	---	---	---	---	6.5	6.1	5.8	---	---	---	---
3	---	---	---	---	---	6.5	6.1	5.8	---	---	---	---
4	---	---	---	---	---	6.5	6.1	5.8	---	---	---	---
5	---	---	---	---	---	6.5	6.1	5.8	---	---	---	---
6	---	---	---	---	---	6.7	5.9	5.8	---	---	---	---
7	---	---	---	---	---	6.7	5.9	5.8	---	---	---	---
8	---	---	---	---	---	6.7	5.9	5.8	---	---	---	---
9	---	---	---	---	---	6.5	5.9	5.8	---	---	---	---
10	---	---	---	---	---	6.5	5.9	5.8	---	---	---	---
11	---	---	---	---	---	6.5	5.9	5.4	---	---	---	---
12	---	---	---	---	---	6.5	5.9	---	---	---	---	---
13	---	---	---	---	---	6.5	6.1	---	---	---	---	---
14	---	---	---	---	---	6.5	6.1	---	---	---	---	---
15	---	---	---	---	---	6.5	5.9	---	---	---	---	---
16	---	---	---	---	---	6.5	5.9	---	---	---	---	---
17	---	---	---	---	---	6.5	6.1	---	---	---	---	---
18	---	---	---	---	---	6.5	6.1	---	---	---	---	---
19	---	---	---	---	---	6.5	5.9	---	---	---	---	---
20	---	---	---	---	7.8	6.5	5.9	---	---	---	---	---
21	---	---	---	---	7.0	6.5	5.9	---	---	---	---	---
22	---	---	---	---	7.0	6.5	5.9	---	---	---	---	---
23	---	---	---	---	6.8	6.5	5.8	---	---	---	---	---
24	---	---	---	---	6.8	6.5	5.8	---	---	---	---	---
25	---	---	---	---	6.8	6.5	5.9	---	---	---	---	---
26	---	---	---	---	6.8	6.2	5.9	---	---	---	---	---
27	---	---	---	---	6.8	5.9	5.8	---	---	---	---	---
28	---	---	---	---	6.7	5.9	5.8	---	---	---	---	---
29	---	---	---	---	6.5	5.9	5.8	---	---	---	---	---
30	---	---	---	---	---	6.1	5.8	---	---	---	---	---
31	---	---	---	---	---	6.1	---	---	---	---	---	---
TOTAL	---	---	---	---	---	199.2	178.2	---	---	---	---	---
MEAN	---	---	---	---	---	6.43	5.94	---	---	---	---	---
MAX	---	---	---	---	---	6.7	6.1	---	---	---	---	---
MIN	---	---	---	---	---	5.9	5.8	---	---	---	---	---
AC-FT	---	---	---	---	---	395	353	---	---	---	---	---

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, May. 25, 1983; no flow for part of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	10	10	.32	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	9.1	9.7	.16	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	9.3	9.1	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	8.9	8.9	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	9.5	7.9	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	9.1	6.8	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	7.9	6.0	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	8.5	5.5	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	8.5	5.2	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	8.5	4.9	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	8.9	4.7	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	9.3	5.8	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	9.1	8.2	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	8.9	6.2	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	7.7	5.2	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	7.3	4.6	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	8.1	9.3	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	7.9	6.4	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	7.3	4.7	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	12	6.6	4.0	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	19	6.1	3.7	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	25	6.9	3.2	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	13	7.3	2.7	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	11	7.3	2.3	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	17	6.9	2.0	.00	.00	.00	.00	.00
26	5.0	.00	.00	.00	18	8.1	1.5	.00	.00	.00	.00	.00
27	.36	.00	.00	.00	16	8.3	1.2	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	14	8.5	.97	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	12	8.3	.80	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	10	.65	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	10	---	.00	---	.00	.00	---
TOTAL	5.36	0.00	0.00	0.00	157.00	258.1	152.12	0.48	0.00	0.00	0.00	0.00
MEAN	.17	.000	.000	.000	5.41	8.33	5.07	.015	.000	.000	.000	.000
MAX	5.0	.00	.00	.00	25	10	10	.32	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	6.1	.65	.00	.00	.00	.00	.00
AC-FT	11	.00	.00	.00	311	512	302	1.0	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	.058	1.01	1.89	2.74	3.99	8.12	10.9	10.3	2.21	.022	.004	.005															
MAX	.74	13.2	12.1	14.7	15.9	34.5	27.5	34.6	21.5	.20	.093	.077															
(WY)	1980	1982	1984	1986	1980	1989	1978	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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	1070.15	573.06	
ANNUAL MEAN	2.93	1.57	
HIGHEST ANNUAL MEAN			3.43
LOWEST ANNUAL MEAN			.007
HIGHEST DAILY MEAN	43	Apr 6	25
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
ANNUAL RUNOFF (AC-FT)	2120		1140
10 PERCENT EXCEEDS	13		8.0
50 PERCENT EXCEEDS	.00		.00
90 PERCENT EXCEEDS	.00		.00

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	3.1	3.0	2.5	---	---	---	---
2	---	---	---	---	---	3.1	3.0	2.4	---	---	---	---
3	---	---	---	---	---	3.0	2.9	2.4	---	---	---	---
4	---	---	---	---	---	3.0	2.9	2.2	---	---	---	---
5	---	---	---	---	---	3.0	2.9	---	---	---	---	---
6	---	---	---	---	---	3.0	2.8	---	---	---	---	---
7	---	---	---	---	---	3.0	2.8	---	---	---	---	---
8	---	---	---	---	---	3.0	2.8	---	---	---	---	---
9	---	---	---	---	---	3.0	2.8	---	---	---	---	---
10	---	---	---	---	---	3.0	2.8	---	---	---	---	---
11	---	---	---	---	---	3.0	2.8	---	---	---	---	---
12	---	---	---	---	---	3.0	2.8	---	---	---	---	---
13	---	---	---	---	---	3.0	2.8	---	---	---	---	---
14	---	---	---	---	---	3.0	2.8	---	---	---	---	---
15	---	---	---	---	---	2.9	2.8	---	---	---	---	---
16	---	---	---	---	---	2.9	2.8	---	---	---	---	---
17	---	---	---	---	---	2.9	2.9	---	---	---	---	---
18	---	---	---	---	---	2.9	2.8	---	---	---	---	---
19	---	---	---	---	---	2.9	2.8	---	---	---	---	---
20	---	---	---	---	e8.5	2.8	2.8	---	---	---	---	---
21	---	---	---	---	6.5	2.8	2.8	---	---	---	---	---
22	---	---	---	---	3.9	2.8	2.7	---	---	---	---	---
23	---	---	---	---	3.6	2.8	2.7	---	---	---	---	---
24	---	---	---	---	3.3	2.9	2.7	---	---	---	---	---
25	---	---	---	---	3.3	2.9	2.6	---	---	---	---	---
26	3.8	---	---	---	3.4	2.9	2.6	---	---	---	---	---
27	2.1	---	---	---	3.3	2.9	2.5	---	---	---	---	---
28	---	---	---	---	3.2	2.8	2.5	---	---	---	---	---
29	---	---	---	---	3.1	2.9	2.5	---	---	---	---	---
30	---	---	---	---	---	3.0	2.5	---	---	---	---	---
31	---	---	---	---	---	3.0	---	---	---	---	---	---
TOTAL	---	---	---	---	---	91.4	82.9	---	---	---	---	---
MEAN	---	---	---	---	---	2.95	2.76	---	---	---	---	---
MAX	---	---	---	---	---	3.1	3.0	---	---	---	---	---
MIN	---	---	---	---	---	2.8	2.5	---	---	---	---	---
AC-FT	---	---	---	---	---	181	164	---	---	---	---	---

e Estimated.

11433100 LONG CANYON CREEK NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°01'16", long 120°30'53", in SE 1/4 NW 1/4 sec.34, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 75 ft downstream from North Fork Long Canyon, 6.5 mi south of French Meadows, and 18 mi east of Foresthill.

DRAINAGE AREA.--18.0 mi².

PERIOD OF RECORD.--August 1960 to October 1992 (discontinued).

REVISED RECORDS.--WDR CA-86-4: 1980(M), 1982-84(M).

GAGE.--Water-stage recorder. Elevation of gage is 4,100 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Since February 1966, natural flow of stream affected by transbasin diversions 3 mi upstream from station through tunnels from South and North Forks Long Canyon Creek diversion dams (stations 11433060 and 11433080) to Middle Fork powerplant via tunnel from Hell Hole Reservoir (stations 11428700 and 11428600). 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, 4,690 ft³/s, Dec. 23, 1964, gage height, 11.20 ft, from rating curve extended above 300 ft³/s on basis of slope-area measurements at gage heights 6.62 and 10.27 ft; minimum daily, 0.08 ft³/s, Sept. 27, 28, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 213 ft³/s, Feb. 20, gage height, 4.60 ft; minimum daily, 0.26 ft³/s, Aug. 27-29, Sept. 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	2.4	3.6	4.3	4.5	19	15	10	3.9	3.3	.73	.31
2	.51	2.1	3.4	4.2	4.5	18	14	9.9	3.7	2.8	.69	.31
3	.51	1.9	3.2	4.2	4.3	18	14	9.8	3.6	2.5	.69	.37
4	.51	1.8	3.2	3.9	4.1	17	14	9.7	3.4	2.3	.62	.33
5	.50	1.8	3.0	5.3	4.1	18	13	9.4	3.2	2.2	.58	.31
6	.49	1.8	2.9	4.9	4.3	22	13	9.3	3.1	2.1	.57	.30
7	.51	1.8	4.2	4.9	4.7	21	13	9.2	3.1	2.0	.53	.30
8	.51	1.8	3.7	4.6	7.4	20	13	9.1	3.0	1.8	.51	.29
9	.50	2.5	3.2	4.5	8.3	20	12	8.8	2.8	1.7	.51	.30
10	.44	2.0	3.2	4.7	9.1	19	12	8.6	2.6	1.6	.51	.29
11	.44	1.8	3.3	4.9	11	19	12	8.4	2.6	1.7	.50	.30
12	.48	1.8	3.2	4.7	17	18	13	8.0	2.5	1.8	.49	.31
13	.51	1.8	3.2	4.5	17	17	13	7.9	2.5	1.7	.43	.31
14	.51	1.8	3.0	4.5	16	17	12	7.6	2.7	1.6	.42	.31
15	.46	1.8	3.0	4.6	15	17	12	7.3	3.5	1.5	.41	.34
16	.44	1.8	2.9	4.8	13	19	12	7.1	3.4	1.4	.41	.37
17	.44	5.7	2.9	4.9	12	19	13	6.8	3.1	1.4	.37	.37
18	.44	8.2	6.6	5.1	12	18	12	6.5	2.8	1.2	.36	.37
19	.44	5.6	7.2	4.9	23	17	12	6.4	2.7	1.2	.34	.37
20	.45	5.8	5.6	4.7	117	17	11	6.5	2.4	1.2	.31	.37
21	.51	7.5	5.1	4.5	39	16	11	6.2	2.3	1.2	.31	.37
22	.51	6.9	4.8	4.3	39	17	11	5.8	2.1	1.1	.31	.37
23	.59	5.3	4.6	4.1	30	16	11	5.6	2.0	1.1	.32	.37
24	.69	4.6	4.3	4.0	25	16	11	5.3	2.2	1.1	.31	.37
25	1.4	4.2	4.1	4.1	25	16	11	5.2	2.2	1.1	.31	.37
26	12	3.9	3.9	4.1	25	16	11	5.0	2.0	.96	.30	.32
27	6.9	5.5	3.9	4.1	24	16	10	4.8	1.9	1.0	.26	.26
28	4.3	5.9	4.4	4.4	22	15	10	4.6	2.0	.96	.26	.26
29	3.6	4.6	4.8	4.4	20	15	10	4.3	3.0	.93	.26	.26
30	3.1	4.0	4.8	4.3	---	16	10	4.2	4.5	.91	.31	.26
31	2.7	---	4.3	4.3	---	15	---	4.0	---	.83	.31	---
TOTAL	45.90	108.4	123.5	139.7	557.3	544	361	221.3	84.8	48.19	13.24	9.74
MEAN	1.48	3.61	3.98	4.51	19.2	17.5	12.0	7.14	2.83	1.55	.43	.32
MAX	12	8.2	7.2	5.3	117	22	15	10	4.5	3.3	.73	.37
MIN	.44	1.8	2.9	3.9	4.1	15	10	4.0	1.9	.83	.26	.26
AC-FT	91	215	245	277	1110	1080	716	439	168	96	26	19

11433100 LONG CANYON CREEK NEAR FRENCH MEADOWS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.57	18.4	34.0	59.6	62.0	66.5	52.9	39.5	14.8	5.31	1.70	1.26
MAX	15.4	159	218	280	428	255	258	173	72.0	19.4	4.14	3.03
(WY)	1983	1984	1982	1970	1986	1983	1982	1982	1983	1983	1983	1982
MIN	.39	1.21	1.30	1.93	3.41	5.91	4.13	5.41	2.33	.67	.18	.20
(WY)	1978	1991	1977	1991	1977	1977	1977	1977	1977	1977	1977	1968

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1967 - 1992	
ANNUAL TOTAL	3529.26		2257.07			
ANNUAL MEAN	9.67		6.17		29.7	
HIGHEST ANNUAL MEAN					102	
LOWEST ANNUAL MEAN					2.34	
HIGHEST DAILY MEAN	371	Mar 4	117	Feb 20	2640	Feb 17 1986
LOWEST DAILY MEAN	.44	Oct 10	.26	Aug 27	.08	Sep 27 1968
ANNUAL SEVEN-DAY MINIMUM	.45	Oct 14	.29	Aug 24	.10	Sep 22 1968
INSTANTANEOUS PEAK FLOW			213	Feb 20	3310	Jan 13 1980
INSTANTANEOUS PEAK STAGE			4.60	Feb 20	10.05	Jan 13 1980
ANNUAL RUNOFF (AC-FT)	7000		4480		21540	
10 PERCENT EXCEEDS	25		16		62	
50 PERCENT EXCEEDS	4.0		3.9		8.3	
90 PERCENT EXCEEDS	.61		.37		1.0	

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/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 ft³/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 ft³/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 ft³/s, Feb. 1, 1963, gage height, 38.00 ft, site and datum then in use; minimum, 35 ft³/s, Oct. 10-20, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,420 ft³/s, Feb. 20, gage height, 16.77 ft; minimum daily, 79 ft³/s, June 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	527	88	104	181	634	472	268	623	468	357	542
2	84	384	132	93	89	586	438	182	453	493	113	551
3	686	465	80	160	87	515	467	216	542	478	525	496
4	697	568	155	94	157	500	454	194	547	349	526	541
5	93	572	90	204	87	561	410	133	400	85	555	365
6	84	530	81	188	130	843	355	231	366	514	537	84
7	381	507	179	213	88	755	368	127	111	535	544	332
8	457	529	103	205	148	660	383	245	448	520	411	488
9	90	153	183	159	174	608	345	124	464	511	84	486
10	92	98	85	144	200	568	268	204	448	503	570	495
11	92	621	85	134	375	524	351	109	453	404	532	510
12	92	639	132	125	462	502	332	188	459	85	536	372
13	97	583	89	137	595	535	457	150	337	525	601	83
14	99	567	149	92	430	532	391	152	86	500	636	296
15	95	624	87	153	724	514	353	174	498	495	129	330
16	88	102	82	89	611	641	340	382	464	520	84	336
17	91	154	137	151	636	638	383	164	473	502	578	304
18	90	811	105	90	534	582	381	151	469	396	510	330
19	84	825	278	153	640	562	345	99	473	81	478	92
20	84	743	147	89	3070	503	330	194	488	488	466	83
21	514	671	106	150	1730	453	324	136	84	490	584	299
22	725	681	157	87	1690	567	278	368	497	495	339	328
23	747	119	103	89	1170	447	268	448	590	459	88	306
24	746	154	91	154	886	469	261	93	598	512	493	303
25	695	630	153	84	788	473	257	473	573	507	462	356
26	563	655	384	84	817	471	252	604	658	187	472	84
27	378	407	311	148	763	493	246	680	140	544	477	82
28	742	151	99	86	696	486	243	588	79	615	386	82
29	811	110	183	155	657	435	223	644	361	616	368	83
30	606	392	430	86	---	462	191	419	585	604	88	86
31	246	---	419	85	---	529	---	89	---	578	435	---
TOTAL	10440	13982	4903	3985	18615	17048	10167	8229	12767	14059	12964	9125
MEAN	337	466	158	129	642	550	339	265	426	454	418	304
MAX	811	825	430	213	3070	843	472	680	658	616	636	551
MIN	84	98	80	84	87	435	191	89	79	81	84	82
AC-FT	20710	27730	9730	7900	36920	33810	20170	16320	25320	27890	25710	18100

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	453	677	1146	1467	1797	1738	1744	1474	943	601	565	511
MAX	1634	2851	7172	5839	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1959 - 1992	
ANNUAL TOTAL	201356		136284			
ANNUAL MEAN	552		372		1089	
HIGHEST ANNUAL MEAN					2723	
LOWEST ANNUAL MEAN					179	
HIGHEST DAILY MEAN	7560		Mar 4		65000	
LOWEST DAILY MEAN	79		Jan 25		35	
ANNUAL SEVEN-DAY MINIMUM	80		Jan 22		38	
INSTANTANEOUS PEAK FLOW			4420		310000	
INSTANTANEOUS PEAK STAGE			16.77		69.00	
ANNUAL RUNOFF (AC-FT)	399400		270300		789000	
10 PERCENT EXCEEDS	988		636		2270	
50 PERCENT EXCEEDS	562		379		715	
90 PERCENT EXCEEDS	84		88		90	

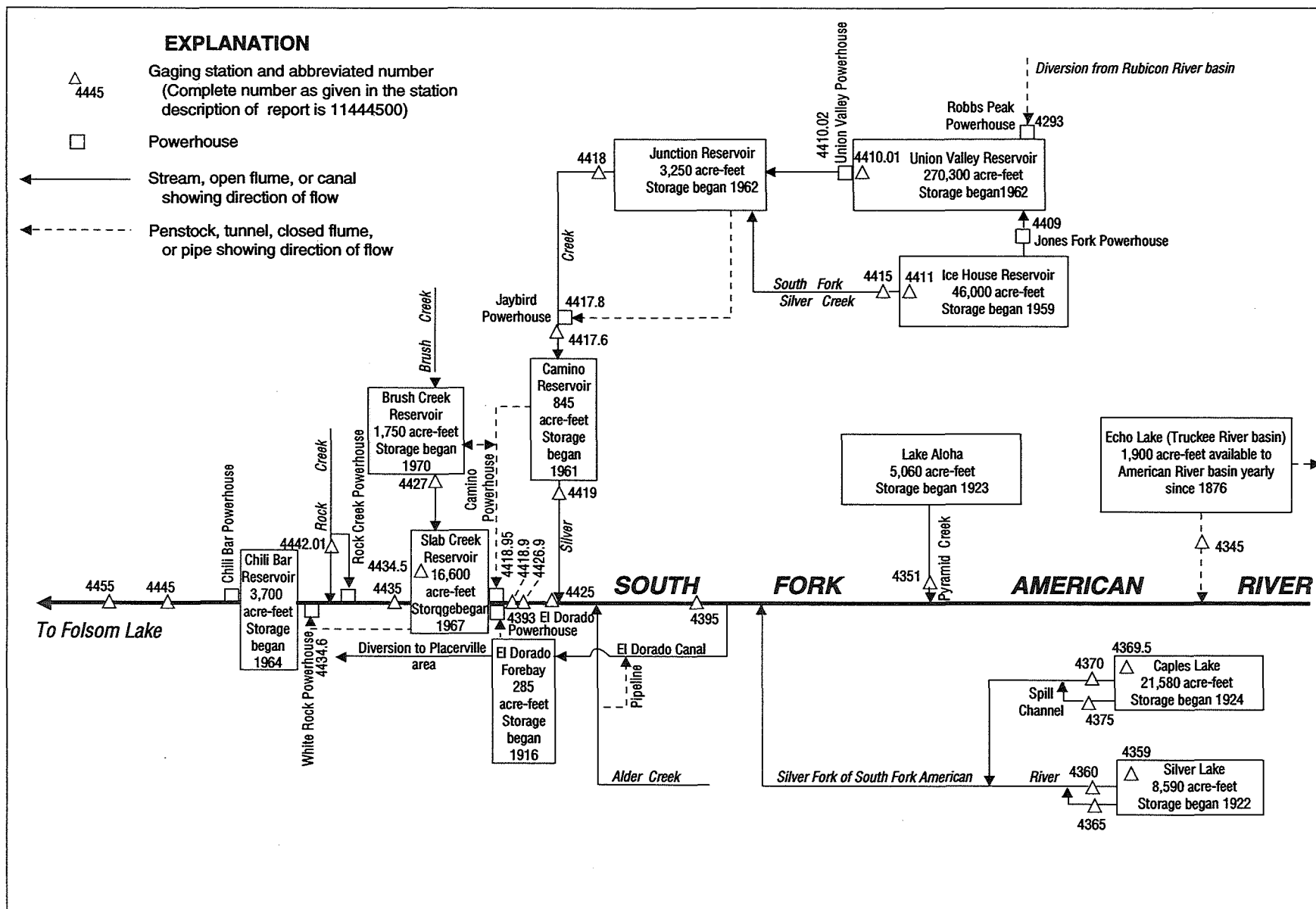


Figure 38. Diversions and storage in South Fork American River basin.

SACRAMENTO RIVER BASIN

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 16, 1929, nonrecording gage at site 0.4 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Conduit diverts from Echo Lake, capacity, 1,900 acre-ft, 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 ft³/s, Sept. 10, 11, 1980; no flow most of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	7.3	6.1	.00	.00	.30	.00	.00	.01	.01	.01	8.6
2	26	6.8	5.8	.00	.00	.01	.00	.00	.01	.01	.01	8.0
3	26	6.4	4.5	.00	.00	.00	.00	.00	.01	.01	.01	7.0
4	25	6.2	3.7	.00	.00	.00	.00	.00	.01	.01	.01	5.5
5	25	5.9	3.6	.00	.00	.00	.00	.00	.01	.01	.01	4.4
6	24	5.6	2.6	.00	.00	.00	.00	.00	.01	.01	.01	3.7
7	22	5.2	2.6	.00	.00	.00	.00	.00	.01	.01	.01	3.1
8	21	4.9	4.4	.00	.00	.00	.00	.00	.01	.01	.01	2.2
9	20	5.0	4.3	.00	.00	.00	.00	.00	.01	.01	.01	2.1
10	19	5.5	4.3	.00	.00	.00	.00	.00	.01	.01	.01	2.2
11	17	5.8	3.8	.00	.00	.00	.00	.00	.01	.01	.01	2.0
12	16	5.8	3.5	.00	.00	.00	.00	.00	.01	.01	.01	7.7
13	15	5.9	3.4	.00	.00	.00	.00	.00	.01	.01	.01	13
14	13	5.7	3.4	.00	.00	.00	.00	.00	.01	.01	13	12
15	12	5.5	3.4	.00	.00	.00	.00	.00	.01	.01	28	11
16	11	5.1	3.3	.00	.00	.00	.00	.00	.01	.01	28	6.6
17	9.7	5.9	3.2	.00	.00	.00	.00	.00	.01	.01	27	1.3
18	8.9	7.2	3.5	.00	.00	.00	.00	.00	.01	.01	27	1.0
19	8.1	6.7	4.0	.00	.08	.00	.00	.00	.01	.01	27	.59
20	7.1	6.5	3.9	.00	1.4	.00	.00	.00	.01	.01	26	.54
21	6.3	6.5	3.8	.00	.56	.00	.00	.00	.01	.01	26	.39
22	3.9	6.3	3.7	.00	.45	.00	.00	.00	.01	.01	25	.00
23	3.8	6.2	3.6	.00	.35	.00	.00	.00	.01	.01	24	.00
24	5.5	5.9	3.5	.00	.35	.00	.00	.00	.01	.01	22	.00
25	5.3	5.7	3.5	.00	.35	.00	.00	.00	.01	.01	20	.00
26	8.9	5.7	1.6	.00	.35	.00	.00	.00	.01	.01	18	.00
27	9.6	5.7	.00	.00	.30	.00	.00	.00	.01	.01	16	.00
28	9.2	5.8	.00	.00	.30	.00	.00	.00	.01	.01	14	.00
29	8.9	5.9	.00	.00	.30	.00	.00	.00	.01	.01	12	.00
30	8.4	6.1	.00	.00	---	.00	.00	.00	.01	.01	10	.00
31	7.8	---	.00	.00	---	.00	---	.00	---	.01	9.5	---
TOTAL	430.4	178.7	97.00	0.00	4.79	0.31	0.00	0.00	0.30	0.31	372.63	102.92
MEAN	13.9	5.96	3.13	.000	.17	.010	.000	.000	.010	.010	12.0	3.43
MAX	27	7.3	6.1	.00	1.4	.30	.00	.00	.01	.01	28	13
MIN	3.8	4.9	.00	.00	.00	.00	.00	.00	.01	.01	.01	.00
AC-FT	854	354	192	.00	9.5	.6	.00	.00	.6	.6	739	204

11434500 ECHO LAKE CONDUIT NEAR PHILLIPS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.76	3.89	.52	.14	.15	.23	.16	.000	.11	.26	1.02	13.3
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1923 - 1992	
ANNUAL TOTAL	983.31		1187.36			
ANNUAL MEAN	2.69		3.24		2.35	
HIGHEST ANNUAL MEAN					4.92	
LOWEST ANNUAL MEAN					.46	
HIGHEST DAILY MEAN	32	Sep 11	28	Aug 15	33	Sep 10 1980
LOWEST DAILY MEAN	.00	Jan 1	.00	Dec 27	.00	Jun 1 1924
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Dec 27	.00	Jun 1 1924
ANNUAL RUNOFF (AC-FT)	1950		2360		1700	
10 PERCENT EXCEEDS	7.5		9.8		11	
50 PERCENT EXCEEDS	.00		.01		.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 mi².

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,320 ft above National Geodetic Vertical Datum of 1929, 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 ft³/s, June 26, 1971, gage height, 5.62 ft, present datum, from rating curve extended above 300 ft³/s; minimum daily, 0.07 ft³/s, Sept. 20-24, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 152 ft³/s, Apr. 17, gage height, 3.41 ft; minimum daily, 0.35 ft³/s, Oct. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	8.0	e7.5	e5.9	5.4	15	32	47	19	64	37	2.3
2	1.3	10	6.9	e5.9	e5.6	13	35	44	17	58	36	2.0
3	1.2	13	6.7	5.7	e5.6	13	43	45	16	55	35	1.8
4	1.1	14	6.6	5.6	e5.6	12	47	45	15	53	33	1.7
5	1.1	18	6.5	e7.5	5.4	13	34	51	14	52	32	1.6
6	1.0	22	6.3	e7.5	5.6	15	26	61	13	52	29	1.5
7	1.0	23	8.0	7.3	5.9	13	29	69	12	51	14	1.4
8	1.0	30	7.8	e7.0	6.5	12	33	67	12	50	9.4	1.4
9	1.0	56	7.4	7.0	6.2	12	34	54	14	50	9.0	1.3
10	.92	30	7.2	6.6	6.4	13	30	38	15	55	8.8	1.3
11	.90	19	e6.7	e6.4	8.2	14	31	44	14	67	8.7	1.2
12	.84	15	6.4	e6.3	8.5	15	31	42	15	94	8.5	1.2
13	.74	14	6.2	e6.0	8.3	17	42	41	27	78	8.4	1.1
14	.67	12	6.1	5.8	7.7	17	40	40	31	67	9.2	1.1
15	.64	9.8	5.9	5.8	e8.0	14	35	34	35	68	8.8	.97
16	.59	8.1	5.6	5.8	e8.0	13	31	31	38	69	7.9	.92
17	.52	11	5.5	5.7	e8.0	12	126	31	36	69	7.5	.95
18	.46	16	7.1	5.6	9.3	12	69	29	42	58	7.1	.96
19	.47	11	e7.0	e5.4	12	11	43	26	41	55	6.8	.84
20	.44	15	e7.0	e5.6	22	11	48	23	26	53	6.5	.82
21	.41	27	6.9	e5.5	32	10	58	21	23	51	6.1	.79
22	.39	19	6.6	e5.6	66	11	42	21	22	50	5.7	.79
23	.37	15	6.4	e5.7	31	11	34	20	24	49	5.7	.79
24	.35	15	6.2	e5.5	21	10	42	20	53	44	5.6	.75
25	.58	14	6.1	5.5	21	11	57	22	55	43	5.3	.75
26	11	13	6.0	5.5	22	13	67	21	53	43	5.0	e.72
27	4.4	15	5.7	5.4	22	16	67	28	52	41	4.3	e.68
28	3.9	12	6.1	5.5	22	20	71	33	52	41	3.6	e.65
29	4.3	9.5	6.3	e5.4	19	23	90	22	62	40	3.1	e.61
30	4.3	e8.5	e6.1	5.5	---	21	69	20	87	39	2.8	e.58
31	5.1	---	e6.2	5.5	---	23	---	19	---	38	2.7	---
TOTAL	52.29	502.9	203.0	185.0	414.2	436	1436	1109	935	1697	372.5	33.47
MEAN	1.69	16.8	6.55	5.97	14.3	14.1	47.9	35.8	31.2	54.7	12.0	1.12
MAX	11	56	8.0	7.5	66	23	126	69	87	94	37	2.3
MIN	.35	8.0	5.5	5.4	5.4	10	26	19	12	38	2.7	.58
AC-FT	104	998	403	367	822	865	2850	2200	1850	3370	739	66

e Estimated.

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.5	18.9	15.1	16.1	16.2	23.0	39.2	93.8	91.2	66.0	44.0	14.7
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1971 - 1992	
ANNUAL TOTAL	9232.29		7376.36			
ANNUAL MEAN	25.3		20.2		37.6	
HIGHEST ANNUAL MEAN					65.1	1982
LOWEST ANNUAL MEAN					15.3	1977
HIGHEST DAILY MEAN	124	Mar 4	126	Apr 17	551	Jan 13 1980
LOWEST DAILY MEAN	.35	Oct 24	.35	Oct 24	.07	Sep 20 1981
ANNUAL SEVEN-DAY MINIMUM	.41	Oct 18	.41	Oct 18	.07	Sep 18 1981
INSTANTANEOUS PEAK FLOW			152	Apr 17	858	Jun 26 1971
INSTANTANEOUS PEAK STAGE			3.41	Apr 17	5.62	Jun 26 1971
ANNUAL RUNOFF (AC-FT)	18310		14630		27240	
10 PERCENT EXCEEDS	62		52		92	
50 PERCENT EXCEEDS	16		12		19	
90 PERCENT EXCEEDS	1.6		1.3		2.6	

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 mi².

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 National Geodetic Vertical Datum of 1929 (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, 8,670 acre-ft, May 9, gage height, 22.86 ft; minimum, 449 acre-ft, Feb. 9, gage height, 1.68 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4781	3543	3127	1651	526	1108	2387	7242	8610	7785	7542	5632
2	4761	3501	3123	1597	514	1144	2572	7354	8590	7750	7495	5597
3	4741	3464	3112	1537	506	1180	2791	7495	8560	7721	7443	5561
4	4721	3423	3097	1483	483	1216	3007	7622	8525	7679	7396	5529
5	4682	3408	3086	1444	469	1278	3160	7760	8495	7641	7345	5494
6	4626	3400	3050	1387	463	1306	3282	7964	8465	7598	7279	5458
7	4571	3397	3032	1345	461	1318	3415	8330	8430	7565	7210	5427
8	4512	3404	2967	1275	455	1333	3570	8590	8460	7528	7182	5397
9	4446	3441	2931	1222	449	1360	3714	8670	8420	7490	7145	5371
10	4403	3434	2884	1174	458	1378	3866	8645	8380	7457	7104	5345
11	4352	3415	2827	1132	506	1408	4003	8610	8335	7655	7062	5306
12	4301	3400	2773	1068	509	1441	4113	8570	8295	7814	7021	5280
13	4247	3389	2723	1027	509	1489	4209	8530	8250	7904	6984	5254
14	4193	3352	2677	992	517	1540	4220	8520	8230	7969	6943	5224
15	4113	3296	2631	943	549	1585	4201	8515	8215	8034	6911	5190
16	4052	3245	2579	908	546	1615	4186	8490	8200	8109	6874	5160
17	4007	3259	2533	867	540	1636	4477	8510	8170	8104	6837	5138
18	3957	3208	2500	856	540	1657	4694	8535	8139	8079	6759	5112
19	3897	3167	2484	807	563	1675	4853	8520	8104	8049	6653	5087
20	3848	3163	2422	774	580	1705	5074	8515	8059	8014	6542	5061
21	3798	3182	2339	742	615	1711	5284	8515	8024	7979	6428	5040
22	3748	3193	2264	716	667	1736	5431	8535	7994	7924	6318	5014
23	3748	3193	2189	687	713	1755	5552	8550	7949	7889	6216	4986
24	3691	3186	2118	661	769	1774	5709	8570	7919	7854	6105	4954
25	3683	3189	2047	641	818	1793	5926	8580	7879	7819	5990	4934
26	3798	3178	1982	618	876	1835	6151	8585	7844	7785	5885	4909
27	3760	3186	1927	595	943	1879	6382	8645	7800	7750	5799	4885
28	3714	3171	1873	580	1009	1963	6630	8665	7755	7712	5759	4861
29	3672	3163	1831	566	1056	2060	6929	8645	7775	7674	5718	4833
30	3619	3138	1768	549	---	2151	7117	8625	7795	7631	5691	4809
31	3581	---	1705	537	---	2233	---	8625	---	7584	5664	---
MAX	4781	3543	3127	1651	1056	2233	7117	8670	8610	8109	7542	5632
MIN	3581	3138	1705	537	449	1108	2387	7242	7755	7457	5664	4809
a	11.32	10.13	5.95	1.99	3.78	7.57	19.67	22.77	21.11	20.67	16.50	14.50
b	-1232	-443	-1433	-1168	+519	+1177	+4884	+1508	-830	-211	-1920	-855

WTR YR 1992 MAX 8670 MIN 449 b -4

a Gage height, in feet, at end of month
b Change in contents, in acre-feet.

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 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 ft³/s, Feb. 19, 1986, gage height, 6.22 ft, from rating curve extended above 430 ft³/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, 100 ft³/s, Apr. 17, gage height, 4.28 ft; minimum daily, 3.2 ft³/s, June 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	18	5.1	29	9.4	5.5	7.0	16	6.0	4.1	6.1	6.8
2	4.5	18	5.1	28	9.1	5.5	7.2	16	5.4	3.9	8.4	7.2
3	4.2	18	5.1	31	8.2	5.6	7.6	16	5.0	3.6	9.3	7.5
4	4.0	18	5.1	32	7.8	5.4	7.8	16	4.6	4.4	8.9	7.8
5	13	13	5.1	31	7.6	5.3	7.9	17	4.3	5.3	7.4	8.1
6	21	7.3	14	30	7.6	5.6	8.0	11	4.3	5.3	12	7.8
7	21	7.3	24	29	7.4	5.5	8.1	7.3	4.6	5.1	15	7.7
8	21	7.3	24	28	7.2	5.4	8.3	11	4.7	4.9	25	7.6
9	20	7.3	24	27	6.9	5.5	8.4	46	4.8	4.8	25	7.5
10	20	7.1	23	27	6.9	5.4	8.5	83	4.2	4.6	25	7.3
11	20	7.1	23	26	6.4	5.4	18	91	3.6	4.8	25	7.0
12	20	7.1	23	24	6.9	5.5	42	87	3.2	5.7	24	6.7
13	20	7.1	23	23	7.0	5.6	79	82	4.3	6.6	24	6.4
14	20	15	22	20	6.4	5.7	93	60	5.0	5.7	27	6.3
15	20	23	22	19	7.4	5.8	93	46	4.7	4.8	18	6.3
16	20	23	22	19	8.2	5.8	89	43	4.1	5.6	5.8	6.1
17	19	23	22	18	7.9	5.8	51	31	4.7	5.2	5.5	5.8
18	20	23	22	18	7.7	5.8	12	22	5.0	5.1	26	5.5
19	20	23	22	17	7.8	5.8	12	24	4.6	4.9	44	5.4
20	19	14	29	16	8.9	6.0	12	17	4.5	5.3	43	5.0
21	19	5.2	35	16	9.7	6.0	13	7.3	4.4	5.7	42	4.8
22	19	5.2	34	15	11	6.0	12	4.8	4.5	6.5	42	5.4
23	19	5.2	34	15	13	6.0	12	4.6	4.5	7.3	40	5.6
24	19	5.2	33	14	10	6.1	12	4.8	4.3	6.9	44	5.4
25	19	5.2	33	13	6.8	6.2	13	4.9	4.3	4.5	51	5.3
26	19	5.2	32	12	5.8	6.4	13	5.0	4.5	4.1	46	5.1
27	19	5.2	31	12	5.0	6.5	13	4.6	4.3	4.1	30	5.9
28	19	5.2	31	11	5.2	6.4	16	11	4.0	4.2	13	6.3
29	19	5.2	30	11	5.3	6.6	21	19	3.8	4.2	7.1	6.1
30	18	5.2	30	10	---	6.7	16	12	4.0	4.8	7.4	6.0
31	18	---	29	9.9	---	6.8	---	6.2	---	5.1	7.2	---
TOTAL	538.2	338.6	716.5	630.9	224.5	181.6	720.8	826.5	134.2	157.1	714.1	191.7
MEAN	17.4	11.3	23.1	20.4	7.74	5.86	24.0	26.7	4.47	5.07	23.0	6.39
MAX	21	23	35	32	13	6.8	93	91	6.0	7.3	51	8.1
MIN	4.0	5.2	5.1	9.9	5.0	5.3	7.0	4.6	3.2	3.6	5.5	4.8
AC-FT	1070	672	1420	1250	445	360	1430	1640	266	312	1420	380
a	6.4	0	0	0	0	0	51	730	716	562	331	34

a Leakage, in acre-feet, from Silver Lake, provided by Pacific Gas & Electric Co.

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.1	18.7	16.0	12.8	12.8	14.5	41.0	125	83.5	16.9	8.62	38.7
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1923 - 1992	
ANNUAL TOTAL	6715.25		5374.7			
ANNUAL MEAN	18.4		14.7		34.5	
HIGHEST ANNUAL MEAN					85.4	1983
LOWEST ANNUAL MEAN					8.76	1976
HIGHEST DAILY MEAN	170	May 26	93	Apr 14	606	Nov 21 1950
LOWEST DAILY MEAN	.13	Feb 2	3.2	Jun 12	.00	Feb 24 1948
ANNUAL SEVEN-DAY MINIMUM	.44	Jan 30	4.0	Jun 27	.00	Feb 28 1948
INSTANTANEOUS PEAK FLOW			100	Apr 17	1160	Feb 19 1986
INSTANTANEOUS PEAK STAGE			4.28	Apr 17	6.22	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	13320		10660		24990	
TOTAL LEAKAGE (AC-FT) a	2180		2430			
10 PERCENT EXCEEDS	34		30		93	
50 PERCENT EXCEEDS	6.7		7.8		10	
90 PERCENT EXCEEDS	1.0		4.6		.60	

a Leakage, in acre-feet, from Silver Lake, provided by Pacific Gas & Electric Co.

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 mi².

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder since Oct. 1, 1991. Datum of gage is 7,894.0 ft above National Geodetic Vertical Datum of 1929 (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 flows past Caples Lake Outlet (station 11437000). In addition, when gage height is above spillway crest of 59.0 ft, there is leakage or spill; this water is included in outlet gage record. 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, 17,702 acre-ft, July 19, gage height, 55.54 ft; minimum, 7,844 acre-ft, Feb. 21, gage height 35.96 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e13711	11365	10740	10079	8696	7891	8065	12203	16703	17315	17263	e14630
2	e13669	11302	10740	10046	8639	7891	8126	12343	16766	17321	17194	14491
3	e13627	11231	10740	10023	8562	7891	8214	12519	16846	17321	17102	14354
4	e13584	11167	10730	10023	8500	7896	8280	12695	16897	17321	17045	14189
5	13542	11123	10730	10023	8447	7939	8346	12878	16954	17303	17034	14036
6	13497	11081	10716	10000	8373	7947	8412	13113	17011	17303	16977	13887
7	13375	11056	10721	9986	8316	7950	8478	13422	17057	17298	16806	13721
8	13248	11047	10706	9939	8232	7952	8540	13724	17085	17283	16681	13581
9	13100	11042	10682	9934	8179	7917	8630	13965	17137	17280	16545	13431
10	12965	11032	10659	9888	8113	7934	8714	14124	17154	17252	16432	13276
11	12946	10984	10649	9848	8100	7900	8808	14315	17154	17413	16269	13151
12	12754	10984	10626	9818	8061	7900	8929	14534	17188	17517	16140	13041
13	12660	10988	10588	9777	8017	7904	9028	14723	17194	17575	16068	12944
14	12516	10912	10540	9772	8012	7904	9123	14885	17191	17597	15973	12918
15	12387	10878	10507	9758	8008	7908	9209	15026	17223	17633	15862	12903
16	12268	10848	10483	9657	7978	7934	9332	15151	17234	17691	15806	12865
17	12196	10864	10450	9634	7978	7939	9612	15305	17252	17691	15696	12868
18	12128	10869	10483	9588	7969	7945	9783	15344	17252	17696	15663	12858
19	12055	10848	10445	9528	7978	7947	9914	15558	17257	17702	15635	12821
20	12046	10835	10411	9482	7973	7943	10055	15646	17257	17691	15575	12782
21	12038	10835	10370	9436	7844	7943	10233	15729	17257	17679	15531	12783
22	11965	10837	10342	9392	7857	7943	e10280	15801	17257	17673	15520	12751
23	11867	10835	10304	9295	7857	7943	e10290	15873	17257	17667	15476	12726
24	11692	10811	10276	9250	7857	7904	e10300	15951	17257	17650	15448	12720
25	11656	10813	10262	9155	7860	7917	e10562	16068	17263	17621	15410	12681
26	11795	10797	10229	9091	7861	7917	e10848	16157	17266	17592	15355	12671
27	11692	10787	10182	9032	7861	7913	e11132	16269	17269	17598	15322	12635
28	11631	10779	10177	8956	7887	7947	e11423	16365	17263	17523	15148	12610
29	11555	10778	10177	8897	7891	7975	11776	16437	17292	17459	15039	12598
30	11550	10749	10159	8852	---	8008	12014	16511	17309	17402	e14904	12525
31	11435	---	10119	8754	---	8034	---	16613	---	17321	e14764	---
MAX	13711	11365	10740	10079	8696	8034	12014	16613	17309	17702	17263	14630
MIN	11435	10749	10119	8754	7844	7891	8065	12203	16703	17252	14764	12525
a	43.75	42.35	41.02	38.03	36.07	36.40	44.95	53.64	54.86	54.88	50.29	45.98
b	---	-686	-630	-1365	-863	+143	+3980	+4599	+696	+12	-2557	-2239

WTR YR 1992 MAX 17702 MIN 7844

e Estimated.

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

b Change in contents, in acre-feet.

11437000 CAPLES LAKE OUTLET 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 mi².

PERIOD OF RECORD.--September 1922 to current year. 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 below outlet gate and nonrecording gage on Caples Lake used to compute spill. Elevation of gage is 7,730 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Caples Lake (station 11436950) 500 ft upstream. There was no spill over Caples Lake spillway this year. 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 combined daily discharge for outlet and spillway, 669 ft³/s, June 3, 1969; minimum daily, 0.1 ft³/s, Mar. 25-31, 1944, Nov. 27, 28, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 96 ft³/s, Feb. 21, gage height, 2.46 ft; minimum daily, 5.6 ft³/s, Oct. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	34	7.8	18	37	9.9	11	8.0	8.3	8.0	34	69
2	6.1	34	7.8	18	36	9.9	11	8.0	8.2	8.0	34	75
3	5.9	34	7.9	18	36	9.9	11	8.0	8.2	8.0	34	76
4	5.6	34	8.0	18	36	9.9	11	8.0	8.2	8.0	34	76
5	5.7	25	8.0	18	36	9.9	11	8.0	8.2	8.0	34	76
6	30	16	10	18	36	9.9	11	8.0	8.2	8.0	34	76
7	66	16	13	18	36	9.9	11	8.2	8.2	8.0	45	76
8	66	16	13	18	36	9.9	11	8.3	8.2	8.0	58	76
9	66	16	13	18	36	9.9	11	8.1	8.2	8.0	60	75
10	66	16	13	18	36	9.9	11	8.0	8.2	8.0	60	75
11	66	16	13	18	36	9.9	11	8.0	8.2	8.4	59	70
12	66	16	13	18	36	10	11	7.8	8.2	8.6	57	68
13	65	16	17	18	30	10	11	7.8	8.2	8.6	58	46
14	65	16	19	18	24	10	11	7.8	8.2	8.6	57	11
15	65	16	19	24	24	10	11	7.8	8.2	8.5	48	10
16	51	16	19	28	24	10	11	8.0	8.2	8.6	39	8.3
17	35	16	19	28	19	10	11	8.2	8.2	8.6	39	8.3
18	35	16	19	28	9.9	10	11	8.2	8.2	8.6	25	8.3
19	35	16	19	28	9.9	9.9	11	8.2	8.2	8.6	13	8.3
20	35	11	19	28	26	9.9	11	8.2	8.2	8.7	13	8.1
21	35	7.8	19	28	77	9.9	11	8.2	8.2	8.8	13	7.8
22	34	7.8	19	33	9.9	9.9	9.3	8.2	8.2	8.8	13	7.7
23	34	7.8	19	37	9.9	9.9	8.0	8.2	8.2	8.8	13	7.7
24	34	7.8	19	37	9.9	9.9	8.0	8.2	8.2	8.8	13	7.6
25	34	7.8	19	37	9.9	10	8.0	8.2	8.2	8.8	13	7.7
26	35	7.8	18	37	10	10	8.2	8.2	8.2	8.8	22	7.6
27	34	7.8	18	37	10	10	8.2	8.2	8.2	15	39	7.6
28	34	7.8	18	37	9.9	10	8.2	8.4	8.2	29	54	7.7
29	34	7.8	18	37	9.9	11	8.1	8.4	8.2	34	61	17
30	34	7.8	18	37	---	10	8.2	8.4	8.0	34	62	30
31	34	---	18	36	---	10	---	8.4	---	34	62	---
TOTAL	1217.9	474.0	480.5	809	756.2	309.3	305.2	251.6	245.9	364.6	1200	1104.7
MEAN	39.3	15.8	15.5	26.1	26.1	9.98	10.2	8.12	8.20	11.8	38.7	36.8
MAX	66	34	19	37	77	11	11	8.4	8.3	34	62	76
MIN	5.6	7.8	7.8	18	9.9	9.9	8.0	7.8	8.0	8.0	13	7.6
AC-FT	2420	940	953	1600	1500	613	605	499	488	723	2380	2190

11437000 CAPLES LAKE OUTLET NEAR KIRKWOOD, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36.0	41.0	41.4	26.0	18.3	10.9	13.4	32.4	84.0	47.1	48.7	35.3
MAX	103	128	108	71.1	86.0	126	104	146	285	171	113	124
(WY)	1929	1959	1951	1949	1942	1938	1982	1982	1983	1967	1985	1983
MIN	1.47	1.36	.28	.20	.20	.25	.41	.40	.35	.20	6.25	1.69
(WY)	1923	1923	1930	1924	1924	1925	1929	1931	1929	1924	1943	1923

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1923 - 1992	
ANNUAL TOTAL	5784.1		7518.9			
ANNUAL MEAN	15.8		20.5			
HIGHEST ANNUAL MEAN					36.2	
LOWEST ANNUAL MEAN					79.4	1983
HIGHEST DAILY MEAN	66	Oct 7	77	Feb 21	11.2	1924
LOWEST DAILY MEAN	5.6	Oct 4	5.6	Oct 4	669	Jun 3 1969
ANNUAL SEVEN-DAY MINIMUM	6.0	Feb 16	7.7	Sep 22	.10	Mar 25 1944
INSTANTANEOUS PEAK FLOW			96	Feb 21	.10	Mar 25 1944
INSTANTANEOUS PEAK STAGE			2.46	Feb 21		
ANNUAL RUNOFF (AC-FT)	11470		14910		26260	
10 PERCENT EXCEEDS	35		45		97	
50 PERCENT EXCEEDS	7.8		11		16	
90 PERCENT EXCEEDS	6.3		8.0		1.5	

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1962, at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. 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). For records of combined discharge of river and canal, see following page. 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 ft³/s, Dec. 23, 1964, gage height, 10.92 ft, from rating curve extended above 6,300 ft³/s on basis of contracted-opening measurement at gage height 10.40 ft; minimum daily, 0.13 ft³/s, Nov. 26, 1977.

Combined flow: Maximum discharge, 17,500 ft³/s, Dec. 23, 1964; minimum daily, 10 ft³/s, Oct. 17, 19, 1929.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 1,070 ft³/s, Apr. 17, gage height, 4.75 ft; minimum daily, 15 ft³/s, Oct. 9, 11-13.

Combined flow: Maximum discharge, 1,210 ft³/s, Apr. 17; minimum daily, 25 ft³/s, Sept. 26, 27, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	20	21	22	23	70	272	324	24	31	22	22
2	45	20	20	22	23	46	313	276	24	22	22	22
3	44	21	19	22	23	46	362	254	24	21	22	22
4	44	23	19	22	23	49	402	244	24	20	22	22
5	42	20	24	22	23	52	328	245	24	20	22	22
6	28	20	26	27	23	65	237	269	24	20	22	22
7	24	20	25	24	23	41	304	322	24	20	22	22
8	16	20	23	23	22	30	275	470	24	20	22	22
9	15	20	24	23	22	25	284	334	24	21	22	22
10	16	20	25	22	23	27	259	265	23	22	21	21
11	15	21	25	22	23	37	302	268	20	23	21	18
12	15	21	25	23	24	54	307	247	19	124	22	18
13	15	20	24	22	24	70	545	217	19	123	23	18
14	16	21	24	23	24	95	461	196	20	36	23	29
15	17	21	24	23	24	76	416	150	20	64	23	28
16	16	21	24	23	42	60	340	125	19	54	22	27
17	16	23	23	24	68	42	843	125	20	70	22	25
18	16	22	24	23	80	32	574	90	20	21	22	25
19	16	21	23	22	78	30	376	81	19	22	22	25
20	16	21	23	25	208	27	389	67	20	21	21	24
21	17	20	23	24	323	27	437	44	20	21	21	23
22	16	20	23	25	407	29	342	27	20	21	21	23
23	16	20	22	25	193	33	262	26	21	21	21	23
24	17	20	22	24	104	31	285	23	21	21	21	23
25	17	20	22	23	86	38	355	23	20	21	21	23
26	219	21	22	23	110	91	403	23	20	21	21	22
27	40	21	21	23	108	115	404	24	20	21	22	22
28	16	20	21	23	116	156	429	30	20	21	22	23
29	18	20	21	23	92	183	517	23	20	21	22	22
30	19	21	22	23	---	192	450	24	99	22	21	27
31	20	---	22	23	---	172	---	24	---	22	21	---
TOTAL	893	619	706	718	2362	2041	11473	4860	716	1008	674	687
MEAN	28.8	20.6	22.8	23.2	81.4	65.8	382	157	23.9	32.5	21.7	22.9
MAX	219	23	26	27	407	192	843	470	99	124	23	29
MIN	15	20	19	22	22	25	237	23	19	20	21	18
AC-FT	1770	1230	1400	1420	4690	4050	22760	9640	1420	2000	1340	1360

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.5	77.6	127	124	154	240	609	1162	795	151	17.7	18.1
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1923 - 1992	
ANNUAL TOTAL	45528		26757		292	
ANNUAL MEAN	125		73.1		907	
HIGHEST ANNUAL MEAN					19.4	
LOWEST ANNUAL MEAN					12300	
HIGHEST DAILY MEAN	1160	May 25	843	Apr 17	12300	Dec 23 1964
LOWEST DAILY MEAN	11	Sep 7	15	Oct 9	.13	Nov 26 1977
ANNUAL SEVEN-DAY MINIMUM	12	Sep 7	15	Oct 8	.36	Nov 5 1928
INSTANTANEOUS PEAK FLOW			1070	Apr 17	17400	Dec 23 1964
INSTANTANEOUS PEAK STAGE			4.75	Apr 17	10.92	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	90300		53070		211700	
10 PERCENT EXCEEDS	433		266		968	
50 PERCENT EXCEEDS	22		23		35	
90 PERCENT EXCEEDS	16		20		2.5	

SACRAMENTO RIVER BASIN

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 1991 TO SEPTEMBER 1992
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	94	60	86	85	216	417	467	131	160	105	96
2	46	98	64	81	83	192	457	419	120	131	105	107
3	45	101	59	88	82	192	506	409	111	121	106	107
4	45	103	55	88	80	195	547	410	105	114	104	106
5	43	103	51	91	81	195	472	411	99	111	102	104
6	58	95	54	94	82	202	380	435	94	108	99	102
7	99	91	77	94	87	177	378	488	101	105	107	101
8	119	92	79	81	94	171	411	635	101	102	94	99
9	117	143	82	93	95	167	427	500	102	99	97	98
10	116	126	80	88	95	172	402	431	91	102	95	97
11	115	91	78	80	99	183	445	434	87	110	94	96
12	114	80	76	83	113	199	450	413	84	250	95	89
13	111	75	75	92	108	215	688	383	94	265	94	88
14	110	73	82	84	94	237	604	362	108	186	95	47
15	109	83	80	78	81	218	559	316	127	219	117	31
16	107	80	79	85	103	205	483	291	140	210	107	30
17	81	100	79	87	96	186	986	291	124	229	101	28
18	75	105	95	85	84	176	717	256	122	150	100	28
19	74	96	85	82	89	174	519	248	133	131	112	28
20	72	105	84	80	233	170	532	234	107	121	104	27
21	72	136	103	83	349	168	580	211	91	120	102	26
22	71	120	99	74	519	173	485	183	85	111	100	26
23	71	90	96	90	323	177	405	170	81	108	98	26
24	69	82	93	95	241	175	428	165	109	101	97	26
25	73	81	92	89	225	182	498	162	129	96	98	26
26	312	81	92	87	250	232	546	157	120	93	99	25
27	149	84	87	85	248	253	547	149	114	92	100	25
28	105	84	88	87	259	300	572	188	111	96	98	26
29	103	68	88	84	238	328	660	165	119	107	98	25
30	97	49	84	85	---	335	593	147	223	108	98	30
31	90	---	78	85	---	315	---	130	---	107	100	---
TOTAL	2915	2809	2474	2664	4616	6480	15694	9660	3363	4163	3121	1770
MEAN	94.0	93.6	79.8	85.9	159	209	523	312	112	134	101	59.0
MAX	312	143	103	95	519	335	986	635	223	265	117	107
MIN	43	49	51	74	80	167	378	130	81	92	94	25
AC-FT	5780	5570	4910	5280	9160	12850	31130	19160	6670	8260	6190	3510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1992, BY WATER YEAR (WY)

MEAN	111	167	223	218	259	355	724	1294	936	286	148	134
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	77.5	46.4
(WY)	1978	1930	1960	1929	1977	1977	1977	1977	1924	1931	1931	1987

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1923 - 1992

ANNUAL TOTAL	78158	59729	
ANNUAL MEAN	214	163	405
HIGHEST ANNUAL MEAN			980
LOWEST ANNUAL MEAN			104
HIGHEST DAILY MEAN	1320	May 25	986
LOWEST DAILY MEAN	25	Sep 22	25
ANNUAL SEVEN-DAY MINIMUM	25	Sep 20	26
INSTANTANEOUS PEAK FLOW			1210
ANNUAL RUNOFF (AC-FT)	155000	118500	17500
10 PERCENT EXCEEDS	593	411	293200
50 PERCENT EXCEEDS	110	102	1090
90 PERCENT EXCEEDS	38	73	166
			75

11441001 UNION VALLEY RESERVOIR NEAR RIVERTON, CA

LOCATION.--Lat 38°51'49", long 120°26'15", 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 mi².

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 161,293 acre-ft, May 9, elevation, 4,823.42 ft; minimum, 81,395 acre-ft, Feb. 10, elevation, 4,773.15 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131061	137334	117964	99441	84578	102318	138305	160889	150744	145657	140044	123345
2	131807	136761	117246	98464	83951	103830	139281	160809	149900	146033	139680	122603
3	132452	136048	116659	97992	83413	105053	140919	160587	149060	145433	139335	121798
4	132959	135124	116058	97219	82962	106154	142572	160506	148489	145115	139118	121079
5	134629	133976	115632	96930	82465	107294	143644	160607	147749	144741	138937	120396
6	136083	132819	114784	96122	81971	108938	144406	161010	147484	144183	138594	119942
7	137765	132452	114300	95578	81478	109844	144797	160990	146992	143700	138630	119167
8	139046	131547	113988	95333	81395	110602	145227	161233	146183	142830	138720	118428
9	140353	131113	113227	94671	81407	111871	146051	161293	145939	142904	137801	117565
10	141909	130871	112517	93998	81395	112918	146446	161051	145358	142719	137227	116881
11	141597	130077	111855	93410	81455	113305	147238	160788	144480	143329	137227	116754
12	140226	129425	111197	92837	81490	115365	148508	160406	143885	143015	136725	116026
13	139118	128774	110329	91885	81778	116469	149499	160446	142959	143052	136511	115161
14	137999	127752	109662	91294	82055	118028	150533	160426	142811	142811	135781	114863
15	137514	126939	109089	90367	81971	119022	151553	159883	142645	142867	136386	113693
16	137567	126281	108413	89577	82212	120218	151862	159863	143459	142978	136315	112980
17	136672	125962	107517	88869	82393	121520	153902	159542	143033	142682	135834	112362
18	136226	125392	107502	88280	82477	122455	155372	159081	142941	143218	135053	111640
19	135497	124690	106568	87809	83645	123627	156337	158821	143200	143422	133959	110907
20	134788	123958	105639	87100	85719	124740	156832	157943	143015	143366	132626	110222
21	134417	123660	105170	86621	87695	125878	157367	157824	143052	143052	131668	109950
22	133713	123081	104863	85769	90341	126770	158003	157307	143107	142867	130923	108984
23	133713	122438	104004	84590	92426	127905	157924	156772	142978	142756	130215	108084
24	133800	121962	103267	83865	93851	128603	158561	156160	144108	142461	129133	107324
25	134382	121438	103079	83510	94522	129665	158861	155706	144667	142001	128399	106775
26	135497	120786	102504	83120	96231	130940	159481	154881	144518	141909	127532	106582
27	135710	120364	101974	83218	97439	132434	159823	154234	144387	141285	126534	105698
28	136618	119878	101191	84381	99273	133625	159802	153649	144984	141212	125928	104790
29	136779	119151	100907	85433	100836	134294	160647	153434	145358	141560	125308	104106
30	136851	118669	100553	85981	---	135656	160486	152366	145770	141047	124690	103512
31	137030	---	100003	85048	---	136618	---	151631	---	140317	123942	---
MAX	141909	137334	117964	99441	100836	136618	160647	161293	150744	146033	140044	123345
MIN	131061	118669	100003	83120	81395	102318	138305	151631	142645	140317	123942	103512
a	4810.68	4799.86	4787.46	4776.15	4788.05	4810.45	4823.02	4818.53	4815.45	4812.50	4803.09	4789.92
b	+6408	-18361	-18666	-14955	+15788	+35782	+23868	-8855	-5861	-5453	-16375	-20430
c	15030	23940	22670	22760	12340	6230	9640	18450	18940	21100	26790	20200
CAL YR 1991	MAX 194574	MIN 68434	b +4824	c 235100								
WTR YR 1992	MAX 161293	MIN 81395	b -27110	c 218100								

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.

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 mi².

PERIOD OF RECORD.--October 1959 to current year.

REVISED RECORDS.--WSP 1931; 1960.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 ft³/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, 30,950 acre-ft, June 3, elevation, 5,426.45 ft; minimum, 18,331 acre-ft, Mar. 25, elevation, 5,401.49 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	46,721

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25850	19737	20526	20549	19612	18919	18892	27347	30870	28907	25751	23753
2	25452	19742	20488	20558	19511	18897	19102	27539	30916	28847	25736	23738
3	25190	19760	20446	20573	19409	18878	19345	27694	30950	28770	25715	23718
4	24792	19621	20436	20563	19303	18897	19598	27850	30825	28677	25700	23708
5	24321	19635	20427	20638	19203	18883	19783	28011	30763	28590	25684	23694
6	23984	19667	20380	20653	19106	18860	19974	28232	30701	28498	25669	23674
7	23534	19704	20300	20709	19011	18824	20197	28465	30639	28389	25653	23659
8	23044	19755	20263	20714	18928	18778	20441	28688	30571	28297	25638	23639
9	22631	19844	20244	20714	18842	18728	20700	28901	30566	28168	25627	23629
10	22164	19913	20253	20723	18769	18688	20955	29027	30566	28027	25442	23614
11	21753	19946	20263	20738	18697	18660	21198	29225	30543	27904	25226	23599
12	21532	19974	20277	20747	18678	18624	21508	29362	30543	27823	25088	23579
13	21412	19997	20286	20752	18660	18620	21864	29478	30549	27828	25001	23569
14	21403	20002	20296	20771	18656	18638	22130	29594	30566	27796	24986	23554
15	21393	20011	20305	20775	18674	18633	22382	29700	30622	27619	24751	23534
16	21379	20011	20314	20771	18724	18638	22607	29800	30538	27236	24412	23519
17	21365	20160	20328	20780	18760	18606	23266	29900	30515	26939	24371	23509
18	21355	20109	20399	20785	18769	18570	23743	29989	30470	26817	24381	23494
19	21322	20132	20408	20794	18719	18529	24034	30084	30420	26649	24366	23479
20	21322	20179	20427	20771	18697	18488	24341	30162	30363	26413	24331	23465
21	21317	20225	20432	20695	18715	18448	24665	30229	30291	26115	24255	23450
22	21302	20277	20450	20601	18769	18416	24904	30279	30223	26011	24190	23440
23	21288	20314	20460	20488	18847	18371	25129	30335	30033	25891	24124	23420
24	21283	20352	20469	20385	18860	18335	25354	30397	29744	25824	24049	23400
25	21331	20385	20479	20286	18860	18331	25617	30459	29445	25819	23984	23390
26	21585	20422	20479	20188	18874	18353	25907	30526	29390	25814	23918	23375
27	21614	20516	20483	20095	18892	18380	26198	30594	29324	25803	23868	23360
28	21169	20535	20511	20002	18915	18448	26502	30650	28989	25793	23858	23340
29	20766	20573	20526	19899	18928	18534	26849	30718	28896	25783	23848	23326
30	20380	20540	20535	19802	---	18647	27129	30769	28929	25777	23828	23316
31	19946	---	20544	19695	---	18733	---	30820	---	25762	23818	---
MAX	25850	20573	20544	20794	19612	18919	27129	30820	30950	28907	25751	23753
MIN	19946	19621	20244	19695	18656	18331	18892	27347	28896	25762	23818	23316
a	5405.02	5406.29	5406.30	5404.48	5402.81	5402.38	5419.48	5426.22	5422.82	5416.87	5413.05	5412.04
b	-6409	+594	+4	-849	-767	-195	+8396	+3691	-1891	-3167	-1944	-502

CAL YR 1991 MAX 45081 MIN 19621 b -7867
WTR YR 1992 MAX 30950 MIN 18331 b -3039

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

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1959, at site 0.3 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records excellent. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,940 ft³/s, Dec. 23, 1955, gage height, 6.71 ft, site and datum then in use, from rating curve extended above 540 ft³/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 ft³/s, May 26, 1982, gage height, 5.74 ft, from rating curve extended above 730 ft³/s on basis of computation of flow over dam at gage height 5.66 ft; minimum daily, 1.2 ft³/s, Mar. 17-19, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 252 ft³/s, Apr. 22, gage height, 3.97 ft; minimum daily, 5.1 ft³/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	5.9	5.4	5.6	5.9	6.1	5.9	6.5	6.2	5.9	5.4	5.2
2	6.5	6.2	5.4	5.4	5.9	6.2	5.9	6.5	6.2	5.9	5.2	5.1
3	6.7	5.9	5.4	5.4	5.7	6.2	5.9	6.2	6.2	5.9	5.1	5.1
4	6.6	5.6	5.5	5.6	5.6	6.1	5.6	6.2	6.2	5.9	5.2	5.1
5	6.9	5.6	5.6	5.5	5.6	6.2	5.6	6.2	6.2	5.9	5.4	5.1
6	6.5	5.6	5.6	5.3	5.6	6.3	5.6	6.8	6.5	5.9	5.3	5.1
7	6.4	5.5	5.7	5.2	5.8	6.3	5.6	6.5	6.2	5.9	5.4	5.1
8	5.9	5.6	5.6	5.1	5.9	6.3	5.6	6.2	6.2	5.9	5.3	5.1
9	5.9	5.7	5.6	5.2	5.9	6.3	5.6	6.2	6.2	5.9	5.4	5.1
10	5.7	5.6	5.6	5.3	5.9	6.2	5.6	6.2	5.9	5.9	5.3	5.1
11	5.6	5.6	5.6	5.2	6.0	6.2	5.6	6.2	5.9	5.9	5.3	5.1
12	5.6	5.6	5.4	5.5	6.3	6.2	5.9	6.2	5.9	5.9	5.3	5.3
13	5.6	5.6	5.4	5.6	6.1	6.2	5.9	6.2	5.9	6.0	5.3	5.4
14	5.6	5.6	5.5	5.6	6.0	6.1	5.9	6.2	5.9	6.0	5.1	5.4
15	5.6	5.6	5.6	5.6	6.4	5.9	5.9	6.2	6.0	5.8	5.2	5.4
16	5.6	5.6	5.4	5.6	5.9	6.0	5.9	6.2	5.9	5.6	5.2	5.4
17	5.6	6.5	5.4	5.7	5.9	6.0	6.2	6.2	5.9	5.6	5.1	5.4
18	5.7	6.2	6.2	5.7	6.0	5.9	5.9	6.2	5.9	5.6	5.1	5.4
19	5.6	6.0	5.7	5.9	6.5	5.8	5.9	6.2	5.9	5.6	5.1	5.4
20	5.7	5.9	5.6	5.9	7.6	5.7	5.9	6.2	5.9	5.6	5.1	5.4
21	5.9	6.0	5.6	5.7	7.0	5.9	5.9	6.2	5.9	5.6	5.1	5.4
22	5.9	5.9	5.8	5.7	6.9	6.0	10	6.2	5.9	5.6	5.1	5.4
23	5.9	5.9	5.8	5.6	6.5	5.9	6.2	6.2	5.9	5.6	5.1	5.4
24	5.9	5.9	5.6	5.7	6.4	5.9	6.2	6.2	5.9	5.6	5.1	5.4
25	6.1	5.9	5.5	5.8	6.4	6.0	6.2	6.2	5.9	5.6	5.1	5.4
26	8.0	6.1	5.6	5.9	6.3	6.0	6.2	6.2	5.9	5.6	5.1	5.4
27	6.3	5.9	5.4	5.9	6.2	5.9	6.2	6.2	5.9	5.5	5.1	5.4
28	5.9	5.6	5.4	5.9	6.1	5.9	6.5	6.2	5.9	5.4	5.1	5.4
29	6.0	5.5	5.4	5.9	6.0	5.9	6.5	6.2	6.0	5.3	5.2	5.4
30	5.9	5.4	5.4	5.9	---	6.2	6.5	6.2	5.9	5.3	5.4	5.4
31	5.9	---	5.5	5.9	---	6.0	---	6.2	---	5.3	5.4	---
TOTAL	186.6	173.5	172.2	173.8	178.3	187.8	182.3	193.7	180.2	177.0	161.6	158.7
MEAN	6.02	5.78	5.55	5.61	6.15	6.06	6.08	6.25	6.01	5.71	5.21	5.29
MAX	8.0	6.5	6.2	5.9	7.6	6.3	10	6.8	6.5	6.0	5.4	5.4
MIN	5.6	5.4	5.4	5.1	5.6	5.7	5.6	6.2	5.9	5.3	5.1	5.1
AC-FT	370	344	342	345	354	373	362	384	357	351	321	315
a	6360	380	13	1190	2580	3120	455	8.9	2660	3650	1290	2.0

a Diversion, in acre-feet, to Jones Fork powerplant, provided by Sacramento Municipal Utility District.

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
LOWEST ANNUAL MEAN	25.3
HIGHEST DAILY MEAN	2780
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	3940
INSTANTANEOUS PEAK STAGE	6.71
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)

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
LOWEST ANNUAL MEAN	24.8
HIGHEST DAILY MEAN	1560
LOWEST DAILY MEAN	1.3
ANNUAL SEVEN-DAY MINIMUM	1.4
INSTANTANEOUS PEAK FLOW	1930
INSTANTANEOUS PEAK STAGE	5.74
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.85	6.99	5.29	5.07	5.70	12.8	5.44	7.25	6.89	8.64	8.63	8.68
MAX	13.9	8.51	5.88	5.80	7.02	55.0	6.13	9.72	9.66	16.0	16.1	16.4
(WY)	1990	1987	1991	1989	1986	1986	1990	1989	1986	1986	1989	1986
MIN	5.32	5.72	4.78	3.65	3.97	4.13	4.01	5.49	5.54	5.46	5.21	5.29
(WY)	1989	1991	1990	1987	1987	1987	1986	1988	1988	1987	1992	1992

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1986 - 1992

ANNUAL TOTAL	2176.2	2125.7	
ANNUAL TOTAL, DIVERSION ^a	35330	21720	
ANNUAL MEAN	5.96	5.81	7.53
HIGHEST ANNUAL MEAN			13.7
LOWEST ANNUAL MEAN			5.68
HIGHEST DAILY MEAN	12	Mar 4	649
LOWEST DAILY MEAN	5.1	Aug 18	2.8
ANNUAL SEVEN-DAY MINIMUM	5.4	Apr 28	3.0
INSTANTANEOUS PEAK FLOW		252	1000
INSTANTANEOUS PEAK STAGE		3.97	5.07
ANNUAL RUNOFF (AC-FT)	4320	4220	5460
10 PERCENT EXCEEDS	6.5	6.2	13
50 PERCENT EXCEEDS	5.9	5.9	5.9
90 PERCENT EXCEEDS	5.6	5.3	4.6

^a 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 mi².

PERIOD OF RECORD.--October 1991 to September 1992. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 3,191 acre-ft, Dec. 13, 1991, elevation, 4,449.30 ft; minimum, 875 acre-ft, Oct. 3, 1991, elevation, 4,397.47 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2733	1673	3095	2849	3128	3031	2791	2799	3068	3165	3085	2821
2	1730	1621	3104	3150	3031	2879	3105	3002	3031	2811	3090	2984
3	875	1715	3066	3046	3078	3130	2873	3085	2920	2927	3020	3124
4	1174	2278	3018	3169	3026	2982	2833	2952	3107	2946	2992	3131
5	1160	2662	2704	3150	3016	2976	2970	2833	3146	2969	2955	3120
6	1082	3103	2951	3148	3153	2710	2983	3021	2959	3129	3066	2995
7	977	2940	3049	3090	3182	2888	3028	3019	2819	3088	2914	3082
8	1029	3117	2939	2922	3125	3075	2976	3104	3136	3077	2717	3107
9	1242	3062	3027	3077	3022	2902	2888	2819	2936	2945	2922	3122
10	1284	2873	3109	2982	2858	2720	3084	2944	2922	3124	3146	3074
11	2152	3075	3129	2955	2927	2744	2942	3015	2915	2743	3030	2809
12	2967	3010	3037	2909	3117	2820	2705	3147	3040	3097	3086	2955
13	3079	3019	3191	3045	2912	3119	3074	2990	3145	2989	2943	3138
14	3078	3150	3087	3085	2813	2836	2962	2796	2629	3110	3125	2735
15	3175	3113	3033	3102	3136	2948	2756	3075	3102	3024	2917	3150
16	2934	2974	3028	3111	3032	3020	2950	2886	2778	3068	3025	3131
17	3174	2927	3108	3125	3049	2833	3163	2995	3112	3176	2955	3046
18	2860	2879	2832	3076	3055	3009	3091	3073	3088	3014	2932	3012
19	3031	2974	2927	2983	2994	2869	2869	2864	2906	2867	2971	3100
20	3175	3117	3118	3115	3172	2870	2936	3114	3075	2990	3066	3140
21	2878	2913	3097	3088	3059	2855	3167	2957	3074	3077	3009	2713
22	2961	2946	2838	3080	2892	2955	2915	3062	3070	2875	2990	2983
23	2433	3038	2935	3185	2691	2942	3156	2955	3108	3020	2957	3098
24	2195	3038	3109	3183	2381	2973	2832	2974	2732	3086	2999	3109
25	1865	3062	2906	3131	3053	2972	2986	2935	3069	3088	2976	3078
26	1544	3018	2893	3058	2957	3076	2866	3039	2933	2912	3072	2745
27	1121	2850	2821	2952	2989	2964	2879	2965	3038	3162	3069	2926
28	1005	2940	3123	2929	3014	2787	3163	3046	3100	3121	3037	3144
29	1150	3091	3018	2914	3119	3160	2811	2788	2917	3050	3038	3080
30	907	2985	2960	2971	---	2932	3046	3071	2985	3101	3091	2903
31	1394	---	2896	3112	---	3086	---	3099	---	3047	3069	---
MAX	3175	3150	3191	3185	3182	3160	3167	3147	3146	3176	3146	3150
MIN	875	1621	2704	2849	2381	2710	2705	2788	2629	2743	2717	2713
a	4412.67	4445.54	4443.89	4447.85	4447.98	4447.39	4446.65	4447.62	4445.54	4446.67	4447.08	4444.03
b	---	+1591	-89	+216	+7	-33	-40	+53	-114	+62	+22	-166

WTR YR 1992 MAX 3191 MIN 875

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

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/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 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.2	7.6	7.5	7.5	7.6	7.5	11	11	11	11	11
2	11	8.2	7.6	7.6	7.4	7.5	7.7	11	11	11	11	11
3	11	8.3	7.5	7.6	7.4	7.5	7.5	11	11	11	11	11
4	11	8.3	7.5	7.7	7.4	7.5	7.5	11	11	11	11	11
5	11	8.2	7.5	7.7	7.4	7.5	7.6	11	11	11	11	11
6	11	8.3	7.6	7.7	7.4	7.4	7.4	11	11	11	11	11
7	11	8.2	7.6	7.7	7.5	7.7	7.6	11	11	11	11	11
8	11	8.3	7.6	7.7	7.5	7.6	7.6	11	11	11	11	11
9	11	8.3	7.5	7.6	7.4	7.5	7.7	11	11	11	11	11
10	11	8.3	7.6	7.7	7.4	7.4	7.6	11	11	11	11	11
11	11	7.7	7.5	7.6	7.5	7.6	7.7	11	11	11	11	11
12	11	7.7	7.6	7.6	7.7	7.6	7.5	11	11	11	11	11
13	11	7.6	7.5	7.5	7.6	7.6	7.6	11	11	11	11	11
14	11	7.5	7.6	7.7	7.5	7.5	7.5	11	11	11	11	11
15	11	7.6	7.6	7.7	7.6	7.5	7.4	11	11	11	11	11
16	11	7.5	7.5	7.7	7.6	7.6	7.6	11	11	11	11	11
17	11	7.6	7.6	7.7	7.6	7.4	7.7	11	11	11	11	11
18	11	7.6	7.8	7.7	7.5	7.6	7.6	11	11	11	11	11
19	11	7.6	7.6	7.7	7.6	7.7	7.5	11	11	11	11	11
20	11	7.6	7.5	7.6	7.6	7.6	7.5	11	11	11	11	11
21	11	7.5	7.6	7.6	7.6	7.6	7.5	11	11	11	11	11
22	11	7.7	7.4	7.5	7.5	7.5	7.6	11	11	11	11	11
23	11	7.6	7.5	7.6	7.5	7.6	7.5	11	11	11	11	11
24	11	7.7	7.6	7.6	7.4	7.5	7.5	11	11	11	11	11
25	11	7.5	7.6	7.5	7.6	7.7	7.4	11	11	11	11	11
26	11	7.5	7.6	7.5	7.6	7.6	7.5	11	11	11	11	11
27	11	7.7	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11
28	11	7.6	7.6	7.4	7.6	7.5	7.5	11	11	11	11	11
29	11	7.6	7.6	7.4	7.6	7.6	7.4	11	11	11	11	11
30	11	7.6	7.6	7.4	---	7.5	9.2	11	11	11	11	11
31	11	---	7.6	7.5	---	7.5	---	11	---	11	11	---
TOTAL	341	235.6	234.6	235.5	218.0	234.0	227.9	341	330	341	341	330
MEAN	11.0	7.85	7.57	7.60	7.52	7.55	7.60	11.0	11.0	11.0	11.0	11.0
MAX	11	9.2	7.8	7.7	7.7	7.7	9.2	11	11	11	11	11
MIN	11	7.5	7.4	7.4	7.4	7.4	7.4	11	11	11	11	11
AC-FT	676	467	465	467	432	464	452	676	655	676	676	655
a	17180	23470	23790	23570	15230	10160	11990	19370	19670	21240	27000	21100

CAL YR 1991 TOTAL 3477.4 MEAN 9.53 MAX 12 MIN 6.1 AC-FT 6900 a 263200
WTR YR 1992 TOTAL 3409.6 MEAN 9.32 MAX 11 MIN 7.4 AC-FT 6760 a 233800

a Diversion, in acre-feet, to Jaybird powerplant, provided by Sacramento Municipal Utility District.

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 18020129, 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 mi².

PERIOD OF RECORD.--October 1991 to September 1992. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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, 760 acre-ft, Oct. 28, 1991, elevation, 2,912.04 ft; minimum, 303 acre-ft, Oct. 5, 1991, elevation, 2,878.40 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	615	649	620	632	627	613	614	609	709	636	635	634
2	530	665	689	615	652	636	640	626	635	633	567	603
3	401	629	673	722	668	681	633	665	656	611	569	665
4	314	586	660	665	609	614	689	667	599	656	677	609
5	303	610	680	638	663	657	692	598	645	588	627	653
6	342	678	660	695	604	626	626	578	640	631	653	650
7	389	627	638	707	649	667	649	673	624	706	667	636
8	482	654	671	636	654	625	684	653	675	660	607	621
9	534	683	626	514	616	625	594	585	615	637	672	628
10	577	668	647	628	629	628	573	615	633	598	557	661
11	538	594	691	692	678	646	690	589	649	611	629	673
12	652	630	636	666	697	644	651	654	671	623	583	641
13	705	641	617	655	667	620	611	665	664	600	584	650
14	695	543	633	670	650	651	704	639	598	644	696	658
15	654	645	637	711	676	682	627	661	681	675	670	618
16	610	622	623	622	663	591	638	668	639	686	616	620
17	601	581	661	649	621	644	686	632	669	634	635	605
18	600	644	649	673	633	674	539	631	687	543	707	658
19	640	638	656	609	629	652	643	645	561	615	683	675
20	613	660	664	632	720	696	613	637	604	663	705	681
21	622	683	667	656	654	705	700	671	609	625	667	652
22	583	670	623	606	611	653	608	592	589	622	604	656
23	646	617	581	706	632	579	640	666	654	594	589	622
24	723	616	627	707	659	694	626	645	634	609	628	606
25	685	641	657	632	688	645	610	616	636	656	650	634
26	669	603	603	720	603	631	626	618	655	609	616	613
27	687	655	609	665	640	651	630	623	633	679	643	598
28	760	629	630	675	645	629	630	602	657	678	651	638
29	556	611	623	616	592	612	628	638	614	611	653	607
30	570	619	623	621	---	614	635	613	577	675	639	688
31	721	---	643	656	---	631	---	667	---	629	633	---
MAX	760	683	691	722	720	705	704	673	709	706	707	688
MIN	303	543	581	514	592	579	539	578	561	543	557	598
a	2909.86	2903.64	2905.12	2905.92	2901.84	2904.40	2904.66	2906.60	2900.84	2904.26	2904.48	2907.90
b	---	-102	+24	+13	-64	+39	+4	+32	-90	+52	+4	+55

WTR YR 1992 MAX 760 MIN 303

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,754.06 ft above National Geodetic Vertical Datum of 1929 (Sacramento Municipal Utility District bench mark).

REMARKS.--Records good. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,800 ft³/s, Feb. 17, 1986, gage height, 11.70 ft, from rating curve extended above 4,700 ft³/s on basis of slope-area measurement at gage height 11.28 ft; minimum daily, 1.0 ft³/s, Nov. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 62 ft³/s, Feb. 20, gage height, 3.44 ft; minimum daily, 6.4 ft³/s, Apr. 7, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.3	6.9	6.6	6.7	15	8.7	11	11	11	11	11
2	10	7.3	6.8	7.0	6.8	14	8.2	11	11	11	11	11
3	10	6.7	6.9	6.9	7.0	14	7.9	11	11	11	11	11
4	11	6.9	6.7	6.7	6.7	13	7.4	11	11	11	11	11
5	11	6.8	6.7	6.7	6.8	14	7.0	11	11	11	11	11
6	11	6.8	6.7	6.6	6.6	e17	6.5	11	11	11	11	11
7	11	6.8	6.8	6.9	6.8	e16	6.4	11	11	11	11	11
8	11	6.8	6.7	6.8	6.7	e16	6.6	11	11	11	11	11
9	11	6.8	6.7	6.8	6.6	e16	6.4	11	11	11	11	11
10	11	6.7	6.6	6.9	6.7	15	6.7	11	11	11	11	12
11	10	6.8	7.1	6.7	7.2	15	6.5	11	11	11	11	11
12	11	6.6	6.8	6.7	11	13	6.5	11	11	11	11	11
13	11	6.6	6.6	6.8	13	12	6.5	11	11	11	11	11
14	11	6.6	6.8	6.8	13	12	6.6	11	11	11	11	11
15	11	7.0	6.6	6.7	14	11	7.0	11	11	11	11	11
16	11	6.7	6.7	6.7	13	15	6.5	11	11	11	11	11
17	11	7.2	6.8	7.0	13	15	6.7	11	11	11	11	11
18	11	6.8	6.8	7.0	13	15	6.6	11	11	11	11	11
19	11	6.6	6.7	6.7	19	14	6.6	11	11	11	11	11
20	11	6.7	6.9	6.7	53	13	6.9	12	11	11	11	11
21	10	6.8	6.7	6.6	39	12	6.6	11	11	11	11	11
22	11	7.0	6.7	7.1	41	12	6.7	12	11	11	11	11
23	11	6.8	6.5	6.8	32	11	6.6	11	11	11	11	11
24	11	6.9	6.8	6.7	25	11	6.6	11	11	11	11	11
25	11	6.8	6.7	7.0	22	10	6.6	11	11	11	11	11
26	11	6.8	6.8	6.8	20	10	6.5	11	11	11	11	11
27	11	6.7	6.8	6.7	19	10	6.7	11	11	11	11	11
28	11	6.7	6.8	6.6	17	9.5	6.5	11	11	11	11	11
29	11	7.0	6.7	6.6	16	9.0	6.5	11	11	11	11	11
30	11	6.9	6.7	6.8	---	9.4	8.7	11	11	11	11	11
31	11	---	6.8	6.6	---	9.7	---	11	---	11	11	---
TOTAL	337	205.9	209.3	210.0	467.6	398.6	206.2	343	330	341	341	331
MEAN	10.9	6.86	6.75	6.77	16.1	12.9	6.87	11.1	11.0	11.0	11.0	11.0
MAX	11	8.3	7.1	7.1	53	17	8.7	12	11	11	11	12
MIN	10	6.6	6.5	6.6	6.6	9.0	6.4	11	11	11	11	11
AC-FT	668	408	415	417	927	791	409	680	655	676	676	657

e Estimated.

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.5	50.8	73.2	111	124	114	125	151	112	56.4	34.8	27.2
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1961 - 1992	
ANNUAL TOTAL	5515.5		3720.6			
ANNUAL MEAN	15.1		10.2		83.5	
HIGHEST ANNUAL MEAN					320	
LOWEST ANNUAL MEAN					4.16	
HIGHEST DAILY MEAN	477		53		9810	
LOWEST DAILY MEAN	5.8		6.4		1.0	
ANNUAL SEVEN-DAY MINIMUM	6.2		6.5		2.7	
INSTANTANEOUS PEAK FLOW			62		22800	
INSTANTANEOUS PEAK STAGE			3.44		11.70	
ANNUAL RUNOFF (AC-FT)	10940		7380		60500	
10 PERCENT EXCEEDS	13		12		129	
50 PERCENT EXCEEDS	11		11		18	
90 PERCENT EXCEEDS	6.7		6.7		6.8	

11442500 SOUTH FORK AMERICAN RIVER BELOW SILVER CREEK, NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°47'37", long 120°37'02", in NE 1/4 NE 1/4 sec.22, T.11 N., R.12 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 350 ft upstream from El Dorado powerplant, 2.4 mi downstream from Silver Creek, and 2.8 mi northwest of Pollock Pines.

DRAINAGE AREA.--449 mi².

PERIOD OF RECORD.--August to December 1923 (published as "below Silver Creek"), November 1969 to current year.

CHEMICAL DATA: Water year 1980, one sample.

BIOLOGICAL DATA: Water year 1980, one sample.

SUSPENDED SEDIMENT: Water year 1980, one sample.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,862.79 ft above National Geodetic Vertical Datum of 1929 (Pacific Gas & Electric Co. bench mark). Aug. 11 to Dec. 16, 1923, nonrecording gage at same site at different datum.

REMARKS.--No estimated daily discharges. Records good. Diversions to Camino powerplant and El Dorado powerplant (stations 11441895 and 11439300) bypass this station. Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft³/s, Jan. 13, 1980, gage height, 17.83 ft, from rating curve extended above 13,000 ft³/s; minimum daily, 9.6 ft³/s, Oct. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,110 ft³/s, Apr. 17, gage height, 7.42 ft; minimum daily, 29 ft³/s, Oct. 11-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	40	38	41	40	195	381	400	41	101	34	35
2	65	37	40	40	41	159	452	332	41	45	34	35
3	62	37	38	41	39	134	479	315	40	40	34	35
4	61	39	36	40	39	141	539	303	40	37	34	35
5	60	39	37	62	39	145	485	302	39	36	34	35
6	59	36	43	54	39	248	362	313	39	36	34	35
7	41	36	61	64	40	213	406	346	39	35	34	35
8	40	36	49	57	44	163	369	522	40	36	35	35
9	31	37	44	46	42	144	377	414	40	34	35	35
10	30	37	44	47	49	137	348	327	39	35	34	35
11	29	36	45	43	71	139	381	321	39	38	34	35
12	29	37	44	39	85	151	379	304	36	81	34	31
13	29	36	41	43	119	165	592	269	34	180	34	31
14	29	34	40	43	95	188	583	255	35	83	35	34
15	30	34	40	43	133	192	520	202	39	79	35	45
16	31	36	39	43	151	210	440	173	41	62	35	42
17	30	53	39	43	164	179	747	169	39	105	33	40
18	30	94	55	44	195	152	778	138	38	59	33	39
19	31	51	62	43	209	137	479	119	38	37	33	38
20	31	45	46	41	578	126	451	114	36	37	34	39
21	30	46	43	42	646	121	508	95	36	37	33	38
22	31	45	43	40	747	125	438	67	36	37	33	37
23	31	43	42	39	504	129	333	55	35	37	33	36
24	31	41	41	44	322	122	330	47	36	37	33	36
25	34	40	41	44	252	126	387	42	38	37	33	36
26	256	39	41	41	263	187	446	41	37	36	33	36
27	208	43	39	40	253	234	449	41	36	36	33	36
28	55	44	42	42	251	260	456	46	35	34	34	35
29	41	39	45	41	224	296	515	48	39	34	35	36
30	42	38	45	40	---	321	545	41	86	34	35	35
31	40	---	42	39	---	315	---	41	---	35	35	---
TOTAL	1612	1248	1345	1369	5674	5554	13955	6202	1187	1590	1052	1085
MEAN	52.0	41.6	43.4	44.2	196	179	465	200	39.6	51.3	33.9	36.2
MAX	256	94	62	64	747	321	778	522	86	180	35	45
MIN	29	34	36	39	39	121	330	41	34	34	33	31
AC-FT	3200	2480	2670	2720	11250	11020	27680	12300	2350	3150	2090	2150
a	17530	24140	24370	24020	19430	14280	14240	20260	20360	21780	26970	21050
b	2790	3650	3050	3450	4460	8880	8270	7320	2730	3830	2070	991

a Diversion, in acre-feet, to Camino powerplant, provided by Sacramento Municipal Utility District.

b Diversion, in acre-feet, to El Dorado powerplant, provided by Pacific Gas & Electric Co.

11442500 SOUTH FORK AMERICAN RIVER BELOW SILVER CREEK, NEAR POLLOCK PINES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	82.4	229	293	478	524	677	848	1278	905	231	62.0	69.3
MAX	290	2381	2371	2968	3712	2945	2827	3570	4771	2017	408	450
(WY)	1983	1984	1984	1970	1986	1986	1982	1982	1983	1983	1983	1983
MIN	14.7	20.5	20.3	26.3	25.3	24.4	55.0	76.5	24.9	13.8	13.7	16.2
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1976	1977	1977	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1970 - 1992		
ANNUAL TOTAL	73213			41873					
ANNUAL TOTAL, DIVERSION a	268400			248400					
ANNUAL TOTAL, DIVERSION b	48770			51490					
ANNUAL MEAN	201			114			465		
HIGHEST ANNUAL MEAN							1564		
LOWEST ANNUAL MEAN							33.2		
HIGHEST DAILY MEAN	1650			778			19600		
LOWEST DAILY MEAN	24			29			9.6		
ANNUAL SEVEN-DAY MINIMUM	26			30			11		
INSTANTANEOUS PEAK FLOW				1110			29500		
INSTANTANEOUS PEAK STAGE				7.42			17.83		
ANNUAL RUNOFF (AC-FT)	145200			83060			336800		
10 PERCENT EXCEEDS	638			337			1300		
50 PERCENT EXCEEDS	45			41			108		
90 PERCENT EXCEEDS	34			34			29		

a Diversion, in acre-feet, to Camino powerplant, provided by Sacramento Municipal Utility District.

b Diversion, in acre-feet, to El Dorado powerplant, provided by Pacific Gas & Electric Co.

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 mi².

PERIOD OF RECORD.--October 1991 to September 1992. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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.

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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1017	1400	1288	1251	1344	1414	1384	1266	1213	1319	1271	1247
2	1102	1392	1281	1244	1337	1414	1380	1262	1269	1315	1265	1242
3	766	1385	1274	1388	1330	1414	1382	1257	1265	1311	1258	1328
4	849	1377	1267	1384	1331	1413	1374	1252	1260	1308	1297	1321
5	876	1370	1250	1381	1316	1418	1371	1247	1256	1304	1291	1315
6	936	1362	1324	1376	1309	1432	1367	1240	1337	1300	1332	1310
7	1002	1354	1323	1395	1303	1442	1363	1235	1333	1296	1327	1304
8	1118	1347	1318	1390	1300	1447	1358	1330	1329	1291	1322	1298
9	1179	1340	1311	1382	1295	1451	1354	1365	1326	1287	1316	1292
10	1249	1333	1303	1375	1294	1452	1349	1357	1322	1283	1310	1286
11	1206	1325	1296	1369	1353	1452	1346	1350	1316	1279	1303	1282
12	1310	1317	1288	1362	1400	1368	1344	1344	1313	1352	1297	1276
13	1408	1310	1281	1354	1410	1368	1342	1337	1309	1346	1292	1326
14	1298	1302	1273	1347	1419	1368	1339	1331	1305	1342	1286	1319
15	1295	1294	1266	1339	1426	1370	1335	1324	1302	1337	1280	1313
16	1290	1286	1259	1332	1434	1382	1330	1319	1300	1321	1273	1307
17	1285	1286	1252	1324	1444	1388	1330	1313	1373	1316	1268	1338
18	1279	1285	1251	1317	1454	1392	1327	1306	1368	1342	1262	1369
19	1274	1280	1246	1312	1470	1394	1323	1299	1364	1336	1326	1363
20	1270	1274	1240	1307	1404	1396	1318	1292	1358	1332	1320	1357
21	1265	1269	1318	1301	1441	1397	1314	1285	1353	1326	1313	1350
22	1260	1263	1311	1292	1480	1398	1310	1279	1348	1321	1306	1345
23	1258	1257	1304	1285	1495	1398	1304	1272	1343	1316	1300	1338
24	1414	1251	1297	1356	1377	1398	1299	1265	1339	1310	1293	1332
25	1413	1245	1291	1348	1388	1398	1295	1259	1336	1305	1287	1327
26	1441	1239	1284	1376	1397	1397	1291	1252	1331	1301	1281	1320
27	1444	1234	1276	1376	1404	1396	1286	1245	1327	1296	1274	1314
28	1398	1309	1271	1371	1408	1394	1281	1239	1323	1290	1268	1359
29	1414	1302	1267	1292	1412	1392	1276	1232	1322	1286	1263	1352
30	1411	1295	1262	1358	---	1389	1271	1225	1322	1281	1257	1345
31	1407	---	1257	1350	---	1387	---	1218	---	1276	1252	---
MAX	1444	1400	1324	1395	1495	1452	1384	1365	1373	1352	1332	1369
MIN	766	1234	1240	1244	1294	1368	1271	1218	1213	1276	1252	1242
a	2908.84	2903.03	2900.99	2905.93	2909.07	2907.80	2901.77	2898.86	2904.47	2901.99	2900.75	2905.67
b	---	-112	-38	+93	+62	-25	-116	-53	+104	-46	-24	+93

WTR YR 1992 MAX 1495 MIN 766

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

11442700 BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°48'43", long 120°37'16", 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 mi².

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 nonrecording gage 200 ft (revised) downstream at different datum. Elevation of gage is 2,700 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1987, nonrecording gage 400 ft downstream at different datum.

REMARKS.--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 ft³/s, Nov. 27-29, 1989; minimum daily, 2.1 ft³/s, many days in 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	4.5	4.4	4.4	4.4	4.4	4.4	4.3	3.2	2.4	2.3	2.4
2	2.4	4.5	4.4	4.4	4.4	4.4	4.4	4.3	2.5	2.4	2.3	2.4
3	2.4	4.5	4.4	4.4	4.4	4.4	4.4	4.3	2.4	2.4	2.3	2.5
4	2.4	4.4	4.4	4.5	4.4	4.4	4.4	4.3	2.4	2.4	2.3	2.4
5	2.5	4.4	4.4	4.5	4.4	4.4	4.4	4.3	2.5	2.4	2.3	2.4
6	2.5	4.4	4.5	4.5	4.4	4.4	4.4	4.4	2.5	2.4	2.3	2.4
7	2.5	4.4	4.5	4.5	4.4	4.4	4.4	4.4	2.4	2.4	2.3	2.4
8	2.5	4.4	4.4	4.5	4.4	4.4	4.4	4.4	2.4	2.4	2.3	2.4
9	2.5	4.4	4.4	4.5	4.4	4.4	4.4	4.4	2.4	2.4	2.3	2.4
10	2.4	4.5	4.4	4.4	4.4	4.4	4.4	4.4	2.4	2.3	2.3	2.4
11	2.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	3.0	2.3	2.3	2.4
12	2.5	4.4	4.4	4.4	4.5	4.4	4.4	4.4	2.5	2.3	2.3	2.4
13	2.4	4.3	4.4	4.4	4.5	4.4	4.4	4.4	2.5	2.3	2.3	2.4
14	2.4	4.3	4.4	4.4	4.5	4.4	4.4	4.4	2.5	2.3	2.3	2.4
15	2.4	4.3	4.4	4.4	e4.7	4.4	4.4	4.4	2.5	2.3	2.3	2.4
16	2.4	4.3	4.4	4.4	e4.7	4.4	4.4	4.4	2.5	2.3	2.3	2.4
17	2.4	4.3	4.4	4.4	e4.7	4.4	4.4	4.4	2.5	2.3	2.3	2.4
18	2.4	4.3	4.4	4.4	e4.7	4.4	4.4	4.4	2.4	2.3	2.3	2.5
19	2.4	4.3	4.4	4.4	4.5	4.4	4.4	4.4	2.4	2.3	2.3	2.5
20	2.4	4.3	4.4	4.4	4.4	4.4	4.4	4.4	2.4	2.3	2.3	2.4
21	2.4	4.3	4.4	4.4	4.4	4.4	4.4	4.4	2.4	2.3	2.3	2.4
22	2.4	4.3	4.4	4.4	4.4	4.4	4.4	4.4	2.4	2.3	2.3	2.4
23	2.4	4.3	4.4	4.4	4.3	4.4	4.3	4.4	2.4	2.3	2.3	2.4
24	2.4	4.3	4.4	4.4	4.4	4.4	4.3	4.4	2.4	2.3	2.3	2.4
25	2.4	4.3	4.4	4.4	4.4	4.4	4.3	4.4	2.4	2.3	2.3	2.4
26	2.5	4.3	4.4	4.4	4.4	4.3	4.3	4.4	2.4	2.3	2.3	2.4
27	2.5	4.4	4.4	4.4	4.4	4.3	4.3	4.3	2.4	2.3	2.4	2.4
28	2.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	2.4	2.3	2.4	2.4
29	2.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	2.4	2.3	2.4	2.4
30	2.4	4.4	4.4	4.4	---	4.4	4.3	4.3	2.4	2.3	2.4	2.4
31	3.3	---	4.4	4.4	---	4.4	---	4.4	---	2.3	2.4	---
TOTAL	76.2	131.0	136.6	137.0	129.1	136.2	131.2	135.5	74.3	72.2	71.8	72.3
MEAN	2.46	4.37	4.41	4.42	4.45	4.39	4.37	4.37	2.48	2.33	2.32	2.41
MAX	3.3	4.5	4.5	4.5	4.7	4.4	4.4	4.4	3.2	2.4	2.4	2.5
MIN	2.4	4.3	4.4	4.4	4.3	4.3	4.3	4.3	2.4	2.3	2.3	2.4
AC-FT	151	260	271	272	256	270	260	269	147	143	142	143

e Estimated.

11442700 BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.70	5.09	5.01	4.83	4.85	4.65	4.92	4.78	2.71	2.65	2.58	2.60
MAX	3.47	8.06	7.81	6.92	6.79	5.44	7.05	6.34	3.72	3.72	3.38	3.33
(WY)	1990	1990	1990	1990	1990	1990	1989	1989	1989	1989	1989	1989
MIN	2.45	4.16	4.09	4.10	4.12	4.39	4.23	4.28	2.24	2.18	2.14	2.14
(WY)	1991	1991	1988	1988	1988	1992	1988	1988	1988	1988	1988	1988

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1988 - 1992

ANNUAL TOTAL	1310.0	1303.4	
ANNUAL MEAN	3.59	3.56	3.94
HIGHEST ANNUAL MEAN			4.80
LOWEST ANNUAL MEAN			3.39
HIGHEST DAILY MEAN	4.5 Feb 9	4.7 Feb 15	8.4 Nov 27 1989
LOWEST DAILY MEAN	2.4 Sep 6	2.3 Jul 10	2.1 Jul 4 1988
ANNUAL SEVEN-DAY MINIMUM	2.4 Sep 6	2.3 Jul 10	2.1 Aug 15 1988
ANNUAL RUNOFF (AC-FT)	2600	2590	2860
10 PERCENT EXCEEDS	4.4	4.4	6.3
50 PERCENT EXCEEDS	4.3	4.3	4.2
90 PERCENT EXCEEDS	2.5	2.3	2.3

CAL YR 1991 MAX 16740 MIN 3917 b -145
 WTR YR 1992 MAX 16555 MIN 3917 b +990
 e Estimated.
 a Elevation, in feet, at end of month.
 b Change in contents, in acre-feet.

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA

LOCATION.--Lat 38°46'23", long 120°41'51", in SW 1/4 NE 1/4 sec.25, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, in Slab Creek Dam valve house, 1,500 ft upstream from Iowa Canyon Creek, and 2.8 mi northwest of Camino.

DRAINAGE AREA.--493 mi².

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 National Geodetic Vertical Datum of 1929, 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.--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 ft³/s May to October, and about 7 ft³/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 ft³/s, Dec. 23, 1955, gage height, 32.6 ft, from floodmarks, site and datum then in use, from rating curve extended above 24,000 ft³/s on basis of computation of peak flow over dam; minimum daily, 1.3 ft³/s, Aug. 24, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 50 ft³/s, June 16; minimum daily, 10 ft³/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	37	10	11	11	11	11	11	37	36	36	37
2	38	37	10	11	11	11	11	11	36	36	37	37
3	36	37	10	11	11	11	11	11	36	36	36	37
4	36	37	10	11	11	11	11	11	e37	36	37	37
5	36	36	11	11	11	11	11	10	e38	36	36	37
6	37	37	14	11	11	11	11	11	e37	37	36	36
7	36	36	15	11	11	11	11	11	e37	36	36	36
8	36	37	14	11	11	11	11	11	e37	36	36	37
9	36	36	11	11	11	10	11	11	37	36	36	37
10	36	36	11	11	11	11	11	11	37	36	36	36
11	36	36	11	11	11	11	11	11	37	37	36	37
12	36	36	11	11	10	11	11	11	37	37	36	36
13	36	36	11	11	11	11	11	11	e31	36	36	37
14	36	36	11	11	11	11	11	11	e28	37	36	37
15	36	36	11	11	11	11	11	11	e44	36	37	37
16	36	18	11	11	11	11	11	11	50	37	37	36
17	36	10	11	11	11	11	11	11	37	36	37	37
18	36	10	11	11	11	10	11	11	36	36	36	37
19	37	10	11	11	11	11	11	11	36	37	37	37
20	36	10	11	11	11	11	11	11	36	37	37	37
21	36	10	11	11	11	11	11	11	36	37	37	37
22	36	10	11	11	11	11	11	11	36	37	36	37
23	36	10	11	11	11	11	11	11	36	37	37	37
24	36	10	11	11	11	11	11	11	36	36	37	37
25	36	10	11	11	11	11	11	11	36	37	36	37
26	36	10	11	11	11	11	11	11	36	36	36	36
27	36	10	11	11	11	11	11	11	36	36	37	37
28	38	10	11	11	11	11	11	11	36	36	36	37
29	38	10	11	11	11	11	11	11	36	37	36	37
30	37	11	11	11	---	11	11	11	36	36	37	37
31	36	---	11	11	---	10	---	28	---	36	36	---
TOTAL	1126	705	347	341	318	338	330	357	1101	1128	1128	1104
MEAN	36.3	23.5	11.2	11.0	11.0	10.9	11.0	11.5	36.7	36.4	36.4	36.8
MAX	38	37	15	11	11	11	11	28	50	37	37	37
MIN	36	10	10	11	10	10	11	10	28	36	36	36
AC-FT	2230	1400	688	676	631	670	655	708	2180	2240	2240	2190
a	28440	18840	29880	31670	35630	35670	46590	38810	23800	26650	28900	22560

e Estimated.

a Diversion, in acre-feet, to White Rock powerplant, provided by Sacramento Municipal Utility District.

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
LOWEST ANNUAL MEAN	161
HIGHEST DAILY MEAN	40000
LOWEST DAILY MEAN	1.3
ANNUAL SEVEN-DAY MINIMUM	1.5
INSTANTANEOUS PEAK FLOW	49800
INSTANTANEOUS PEAK STAGE	32.6
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
LOWEST ANNUAL MEAN	249
HIGHEST DAILY MEAN	40000
LOWEST DAILY MEAN	20
ANNUAL SEVEN-DAY MINIMUM	30
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	50.7	103	132	229	221	112	144	247	200	56.3	34.3	34.0
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1968 - 1992

ANNUAL TOTAL	8590	8323	130
ANNUAL MEAN	23.5	22.7	516
HIGHEST ANNUAL MEAN			13.3
LOWEST ANNUAL MEAN			20200
HIGHEST DAILY MEAN	297	Mar 4	50
LOWEST DAILY MEAN	10	Jan 1	10
ANNUAL SEVEN-DAY MINIMUM	10	Jan 1	10
ANNUAL RUNOFF (AC-FT)	17040	16510	93970
TOTAL DIVERSION (AC-FT) a	435800	367400	
10 PERCENT EXCEEDS	37	37	74
50 PERCENT EXCEEDS	11	11	36
90 PERCENT EXCEEDS	10	11	11

a Diversion, in acre-feet, to White Rock powerplant, provided by Sacramento Municipal Utility District.

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929, 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. See schematic diagram of South Fork American River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s, Mar. 25, 1989; no flow Sept. 29 to Oct. 3, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 529 ft³/s, Feb. 20; minimum daily, 1.6 ft³/s, Aug. 18-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	8.0	14	13	13	32	25	15	7.6	9.4	2.7	e1.8
2	4.6	7.8	13	10	14	29	23	15	7.2	7.4	2.7	e1.8
3	5.0	7.7	13	9.6	13	27	23	14	6.8	6.6	2.6	e1.8
4	4.8	7.5	13	8.9	12	25	22	14	6.5	6.1	2.5	e1.8
5	4.8	7.4	13	52	12	60	21	14	6.2	5.9	2.5	e1.8
6	4.7	7.6	13	38	12	160	19	14	5.9	5.4	2.5	e1.9
7	4.9	8.9	25	56	14	123	20	13	5.9	5.2	2.5	e1.9
8	4.9	9.3	18	40	15	74	19	13	6.3	4.9	2.5	e1.9
9	4.9	13	9.5	32	15	56	19	13	6.2	4.6	2.6	e1.9
10	4.9	15	7.6	24	35	47	19	12	5.7	4.3	2.6	e1.9
11	4.6	15	6.8	21	78	41	18	12	5.7	4.3	2.4	e1.9
12	4.1	15	6.2	19	85	37	27	12	5.9	4.8	2.2	e1.9
13	4.6	16	5.8	17	50	34	42	11	6.0	5.2	2.1	e1.9
14	4.8	16	6.0	17	56	37	26	11	6.7	4.8	2.0	e1.9
15	5.1	17	6.0	15	235	43	22	11	7.1	4.4	2.0	e1.9
16	5.2	18	6.0	15	239	97	20	11	7.7	3.6	1.9	e1.9
17	5.4	22	6.0	15	182	63	24	11	7.0	3.0	1.8	e1.9
18	5.6	35	12	14	116	51	23	11	7.0	2.8	1.6	1.9
19	5.8	16	18	14	106	43	20	11	6.6	2.5	1.6	1.9
20	6.0	13	11	14	529	41	20	11	6.3	2.4	1.6	1.8
21	5.1	12	8.9	13	169	38	18	11	5.7	2.4	1.6	1.8
22	5.5	11	7.8	13	143	37	18	10	5.0	2.5	1.6	1.8
23	7.6	10	6.9	13	92	41	16	9.8	4.5	2.5	1.7	1.8
24	7.5	10	6.7	13	68	34	16	9.2	4.5	2.6	1.8	1.8
25	7.2	10	6.0	12	55	34	16	9.0	5.9	2.7	1.8	1.8
26	66	10	6.0	12	47	33	15	9.0	5.4	2.5	e1.8	1.9
27	30	12	7.9	12	40	31	15	8.9	4.7	2.3	e1.8	1.9
28	13	14	15	15	35	28	15	8.6	4.4	2.2	e1.8	1.8
29	10	12	34	15	33	28	15	8.5	6.2	2.1	e1.8	1.8
30	9.4	13	32	14	---	27	15	8.2	14	2.2	e1.8	1.9
31	8.2	---	18	12	---	28	---	7.8	---	2.8	e1.8	---
TOTAL	268.8	389.2	372.1	588.5	2513	1479	611	349.0	190.6	124.4	64.2	55.7
MEAN	8.67	13.0	12.0	19.0	86.7	47.7	20.4	11.3	6.35	4.01	2.07	1.86
MAX	66	35	34	56	529	160	42	15	14	9.4	2.7	1.9
MIN	4.1	7.4	5.8	8.9	12	25	15	7.8	4.4	2.1	1.6	1.8
AC-FT	533	772	738	1170	4980	2930	1210	692	378	247	127	110
a	2	0	0	71	296	0	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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.53	15.8	16.5	26.3	38.9	77.2	25.7	18.5	11.3	5.60	3.69	4.20
MAX	18.9	23.3	22.5	41.4	86.7	157	34.2	24.7	16.3	10.4	5.94	7.55
(WY)	1987	1990	1988	1988	1992	1989	1991	1991	1991	1991	1991	1989
MIN	4.75	7.55	9.97	11.4	12.5	16.4	20.4	11.3	6.35	3.18	2.07	1.86
(WY)	1991	1991	1990	1991	1991	1988	1992	1992	1992	1988	1992	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1987 - 1992	
ANNUAL TOTAL	8294.6		7005.5			
ANNUAL MEAN	22.7		19.1		21.1	
ANNUAL MEAN b	22.9		19.6		22.8	
HIGHEST ANNUAL MEAN					28.7	
LOWEST ANNUAL MEAN					14.3	
HIGHEST DAILY MEAN	432		529		1020	
LOWEST DAILY MEAN	4.1		1.6		.00	
ANNUAL SEVEN-DAY MINIMUM	4.2		1.6		.35	
INSTANTANEOUS PEAK FLOW			529		1440	
ANNUAL RUNOFF (AC-FT)	16450		13900		15250	
ANNUAL RUNOFF (AC-FT) b	16580		14260		16520	
10 PERCENT EXCEEDS	44		39		40	
50 PERCENT EXCEEDS	11		9.9		13	
90 PERCENT EXCEEDS	4.9		1.9		3.7	

b Adjusted for Rock Creek powerplant.

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 18020129, 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 mi².

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 National Geodetic Vertical Datum of 1929 (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 ft³/s, Dec. 23, 1964, gage height, 17.4 ft, from floodmarks, from rating curve extended above 18,000 ft³/s on basis of computations of flow over dam; minimum daily, 0.2 ft³/s, Nov. 12, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,680 ft³/s, Feb. 21, gage height, 6.92 ft; minimum daily, 111 ft³/s, Nov. 3-6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	373	113	424	801	135	517	973	619	350	346	501	457
2	170	112	538	188	132	812	868	959	1100	338	778	472
3	136	111	634	506	486	708	727	1020	631	417	493	386
4	660	111	617	345	158	560	756	432	657	531	367	298
5	471	111	802	669	573	465	1080	897	584	312	327	521
6	381	111	407	670	571	1570	940	898	357	450	384	367
7	114	113	425	408	319	869	1060	731	380	508	377	374
8	116	131	376	485	525	279	308	1060	356	405	475	342
9	239	406	891	941	455	1020	704	989	377	681	363	471
10	369	459	479	623	650	651	710	806	346	538	367	504
11	463	120	478	599	573	646	839	731	407	458	400	427
12	134	428	302	610	930	428	963	786	392	297	836	521
13	132	350	440	600	709	472	965	229	531	114	434	352
14	137	409	507	795	955	455	735	759	439	673	609	113
15	135	716	355	137	1070	673	890	719	463	688	945	356
16	465	271	548	524	1150	820	750	779	332	476	537	337
17	626	698	1170	634	1010	702	965	687	431	452	444	325
18	955	826	708	359	1130	894	1490	560	499	713	779	394
19	637	475	934	620	995	598	1090	517	519	457	931	499
20	995	220	163	767	1360	517	500	396	372	443	764	501
21	1090	690	140	855	2580	677	1080	513	396	417	586	467
22	765	419	139	1110	1860	558	876	674	372	367	544	441
23	1220	339	1060	475	908	556	775	558	378	459	428	342
24	1340	434	350	129	1570	497	730	520	360	613	453	383
25	1280	569	623	127	539	234	852	609	374	553	492	312
26	1510	693	483	667	152	653	631	539	320	388	371	333
27	1080	134	525	496	726	807	949	594	470	399	488	615
28	169	375	515	742	730	724	822	433	398	426	485	322
29	126	492	139	536	893	813	960	902	540	424	409	335
30	113	388	621	879	---	642	1220	390	586	343	475	763
31	113	---	573	318	---	695	---	463	---	473	321	---
TOTAL	16514	10824	16366	17615	23844	20512	26208	20769	13717	14159	16163	12330
MEAN	533	361	528	568	822	662	874	670	457	457	521	411
MAX	1510	826	1170	1110	2580	1570	1490	1060	1100	713	945	763
MIN	113	111	139	127	132	234	308	229	320	114	321	113
AC-FT	32760	21470	32460	34940	47290	40690	51980	41200	27210	28080	32060	24460

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	498	813	1342	1665	1699	1769	1943	2334	1823	1113	934	789
MAX	935	3806	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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1965 - 1992	
ANNUAL TOTAL	243340		209021		1392	
ANNUAL MEAN	667		571		3275	
HIGHEST ANNUAL MEAN					224	
LOWEST ANNUAL MEAN					42000	
HIGHEST DAILY MEAN	2950	Mar 5	2580	Feb 21	20	Dec 23 1964
LOWEST DAILY MEAN	111	Nov 3	111	Nov 3		Nov 12 1964
ANNUAL SEVEN-DAY MINIMUM	112	Oct 31	112	Oct 31		Feb 11 1977
INSTANTANEOUS PEAK FLOW			3680	Feb 21	47300	Dec 23 1964
INSTANTANEOUS PEAK STAGE			6.92	Feb 21	17.40	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	482700		414600		1008000	
10 PERCENT EXCEEDS	1140		959		3090	
50 PERCENT EXCEEDS	631		506		983	
90 PERCENT EXCEEDS	197		210		324	

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 mi².

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 National Geodetic Vertical Datum of 1929, 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 ft³/s, Dec. 23, 1955, gage height, 21.37 ft; minimum daily, 14 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,150 ft³/s, Feb. 21, gage height, 8.13 ft; minimum daily, 115 ft³/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	480	119	410	751	156	667	952	706	360	371	620	387
2	179	117	539	410	144	776	921	976	900	344	549	548
3	164	116	632	396	303	753	731	990	793	427	740	395
4	418	116	602	362	334	710	749	430	709	543	376	309
5	702	116	799	736	546	460	1040	992	649	319	327	539
6	377	117	399	661	608	1840	909	841	369	454	386	378
7	131	120	295	492	307	1390	1060	829	385	511	384	378
8	115	123	448	692	534	435	535	814	362	415	476	352
9	172	417	834	988	469	969	726	1240	381	696	374	460
10	290	446	647	554	663	747	747	846	349	550	376	525
11	589	144	483	701	421	728	862	749	413	468	399	435
12	140	399	224	621	1190	533	871	809	394	309	674	525
13	134	362	538	604	872	486	1180	227	531	129	609	376
14	131	402	526	808	878	524	784	692	447	467	598	127
15	138	720	351	186	1920	729	926	789	465	886	825	353
16	279	179	531	515	1580	946	754	738	342	500	720	341
17	591	724	876	633	1180	822	836	749	411	463	325	332
18	847	901	1030	381	1220	794	1610	569	530	606	704	398
19	820	432	762	484	1050	801	1250	573	511	583	893	502
20	984	308	361	841	2010	553	520	434	397	454	815	514
21	977	662	155	812	3100	674	940	395	403	424	749	484
22	942	443	154	1020	2120	659	1050	654	377	374	628	449
23	1010	342	963	674	1160	551	828	580	387	343	438	362
24	1590	432	441	152	1430	620	590	583	363	746	450	391
25	1080	565	614	136	823	292	909	524	378	565	513	325
26	1540	674	299	477	210	598	632	664	324	396	386	329
27	1140	179	604	667	647	813	1030	603	462	407	361	613
28	481	352	578	549	843	730	868	416	420	429	608	362
29	150	466	253	639	873	780	887	813	435	397	426	344
30	123	436	520	777	---	697	1260	551	712	373	483	574
31	119	---	548	512	---	786	---	470	---	361	335	---
TOTAL	16833	10929	16416	18231	27591	22863	26957	21246	13959	14310	16547	12407
MEAN	543	364	530	588	951	738	899	685	465	462	534	414
MAX	1590	901	1030	1020	3100	1840	1610	1240	900	886	893	613
MIN	115	116	154	136	144	292	520	227	324	129	325	127
AC-FT	33390	21680	32560	36160	54730	45350	53470	42140	27690	28380	32820	24610

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
LOWEST ANNUAL MEAN	445
HIGHEST DAILY MEAN	62400
LOWEST DAILY MEAN	80
ANNUAL SEVEN-DAY MINIMUM	95
INSTANTANEOUS PEAK FLOW	71800
INSTANTANEOUS PEAK STAGE	21.37
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	531	840	1401	1815	1915	1859	2009	2322	1786	1068	894	760
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1963 - 1992

ANNUAL TOTAL	256979	218289	
ANNUAL MEAN	704	596	1431
HIGHEST ANNUAL MEAN			3398
LOWEST ANNUAL MEAN			229
HIGHEST DAILY MEAN	3480	Mar 5	42600
LOWEST DAILY MEAN	115	Oct 8	14
ANNUAL SEVEN-DAY MINIMUM	117	Oct 31	16
INSTANTANEOUS PEAK FLOW		4150	61500
INSTANTANEOUS PEAK STAGE		8.13	20.00
ANNUAL RUNOFF (AC-FT)	509700	433000	1036000
10 PERCENT EXCEEDS	1210	965	3140
50 PERCENT EXCEEDS	649	533	977
90 PERCENT EXCEEDS	234	271	324

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-68, 1970 to current year.

CHEMICAL DATA: Water years 1958-66, 1978 to November 1980, December 1983 to current year.

BIOLOGICAL DATA: Water years 1979-80.

WATER TEMPERATURE: Water years 1960-68, 1970 to current year.

SEDIMENT DATA: Water years 1957-62.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: December 1959 to September 1968, February 1970 to current year.

INSTRUMENTATION.--Temperature recorder December 1959 to September 1968, February 1970 to current year.

REMARKS.--Water temperatures can be affected by releases from Chili Bar Reservoir located approximately 10 mi upstream from station. Temperature data for the period February 21 to May 7, 1992 may be affected by a partially buried temperature probe.

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, 22.5°C, July 13; minimum recorded, 4.5°C, several days in January.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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 SATUR- ATION	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)
DEC 19...	1030	157	39	7.5	7.0	747	11.9	97	14	0
MAR 19...	0945	413	49	7.6	7.5	742	11.9	102	19	0
JUN 26...	1045	123	32	7.5	15.0	739	9.6	98	10	0
SEP 18...	0935	126	30	7.6	15.5	758	9.5	96	10	0

DATE	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 (MG/L AS HCO3)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC 19...	3.3	1.3	2.4	27	0.3	0.50	20	17	1.7
MAR 19...	4.5	1.8	2.9	25	0.3	0.60	25	20	2.0
JUN 26...	2.9	0.74	2.2	31	0.3	0.40	15	12	0.80
SEP 18...	2.8	0.72	1.9	28	0.3	0.50	14	12	0.80

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	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 TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
DEC 19...	2.4	<0.10	7.4	29	29	0.04	0.010	<0.010	<0.050
MAR 19...	3.4	0.20	12	36	40	0.05	<0.010	<0.010	0.050
JUN 26...	2.1	<0.10	7.3	--	24	0.05	<0.010	<0.010	<0.050
SEP 18...	2.2	<0.10	6.1	19	22	0.03	<0.010	<0.010	<0.050

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
DEC 19...	<0.050	<0.010	<0.010	<0.20	<0.20	0.010	<0.010	0.010	<0.010
MAR 19...	0.050	<0.010	0.060	<0.20	<0.20	<0.010	<0.010	<0.010	<0.010
JUN 26...	<0.050	0.030	0.010	<0.20	<0.20	<0.010	<0.010	<0.010	<0.010
SEP 18...	<0.050	0.010	0.020	<0.20	<0.20	<0.010	0.010	<0.010	<0.010

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

SACRAMENTO RIVER BASIN

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	9.0	13.0	12.0	21.0	18.0	18.5	15.5	19.5	16.0	19.0	16.0
2	10.0	9.0	13.0	12.5	19.0	16.0	20.0	17.0	20.0	17.5	17.0	16.0
3	10.0	9.5	13.0	12.5	19.0	15.0	19.5	17.5	19.0	15.0	18.0	15.5
4	10.5	9.5	13.5	12.5	18.5	17.0	18.0	16.5	19.5	16.5	19.0	15.5
5	10.5	9.5	14.0	13.5	18.0	17.0	20.0	16.5	21.0	17.5	17.5	15.5
6	10.5	9.5	14.0	13.0	19.0	16.5	18.0	17.0	20.5	17.5	18.0	15.5
7	10.0	9.5	16.5	13.5	19.0	17.0	19.0	16.5	20.5	17.5	18.0	15.0
8	11.0	10.0	17.0	15.0	20.0	17.5	19.5	17.5	20.0	18.0	17.5	15.0
9	11.0	11.0	17.0	13.5	21.0	18.0	18.5	18.0	20.5	17.5	17.5	15.5
10	11.0	11.0	16.5	13.5	20.0	17.5	18.5	17.5	20.5	18.0	16.5	15.5
11	11.0	10.5	16.5	14.5	18.5	16.5	18.0	17.0	21.5	18.5	17.0	15.0
12	10.5	10.5	16.5	14.0	17.0	15.5	19.0	17.0	21.0	18.0	17.0	15.0
13	10.5	10.0	18.5	14.5	18.0	15.0	22.5	17.0	19.5	16.5	16.5	14.5
14	11.0	10.5	18.0	16.0	18.0	16.0	22.0	19.0	20.0	18.5	18.5	15.0
15	11.0	11.0	17.5	14.0	17.0	15.5	19.0	16.0	19.5	17.0	17.5	15.5
16	11.0	11.0	17.5	15.0	18.0	14.5	19.5	17.0	19.0	16.0	17.5	15.0
17	11.5	11.0	18.0	14.5	19.0	16.5	20.0	18.0	21.5	18.0	18.0	15.0
18	11.5	10.5	18.0	15.5	18.0	16.5	19.0	17.5	19.0	16.0	17.5	15.0
19	11.0	10.5	17.5	16.0	19.0	16.5	19.0	15.5	18.5	15.5	17.0	15.5
20	12.0	11.0	18.0	16.0	19.0	16.5	19.5	17.5	19.0	15.0	16.5	14.5
21	12.0	12.0	18.5	16.0	20.0	17.5	20.0	17.5	18.0	15.0	16.5	14.5
22	12.0	11.0	18.5	15.0	20.5	18.0	20.5	17.5	17.5	14.5	17.5	15.5
23	12.0	11.0	18.5	15.0	20.5	18.0	20.5	17.5	17.5	15.5	17.0	15.0
24	12.0	11.5	18.5	15.5	21.0	18.0	19.5	16.0	18.5	16.0	17.0	15.5
25	12.5	11.5	18.5	17.0	19.5	17.5	19.5	18.0	17.5	15.5	17.5	14.5
26	12.5	12.0	18.5	16.0	21.0	17.5	21.0	18.0	18.0	16.0	17.5	15.0
27	12.5	12.0	18.5	17.0	20.0	17.5	20.0	18.0	20.5	16.5	16.5	14.0
28	13.0	12.5	19.0	17.0	18.0	16.0	20.5	18.5	17.0	14.5	17.5	14.5
29	13.0	12.5	18.5	16.0	17.0	16.0	21.0	18.5	17.5	15.5	18.0	15.0
30	13.0	12.0	19.0	15.0	18.0	15.0	22.0	18.0	17.0	15.5	17.0	15.5
31	---	---	19.5	17.5	---	---	20.5	17.5	17.5	15.0	---	---
MONTH	13.0	9.0	19.5	12.0	21.0	14.5	22.5	15.5	21.5	14.5	19.0	14.0

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 mi².

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 National Geodetic Vertical Datum of 1929 (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, 1956; 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 is 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, 704,200 acre-ft, May 9, elevation, 440.04 ft; minimum, 171,600 acre-ft, Sept. 30, elevation, 360.28 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			
380	270,000	400	393,300
390	327,800	420	548,300

(Survey by U.S. Bureau of Reclamation in 1992)

Jan. 17 to Sept. 30			
345	123,600	400	376,900
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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	504500	417400	406100	352900	348700	505200	609600	697100	650300	459800	294600	191400
2	500200	416500	404300	352800	348200	508400	612900	698600	645000	452200	289700	190900
3	495600	415300	403800	352300	347600	511400	615900	699800	640300	445500	285300	190200
4	493200	414200	403300	352000	347500	514100	618800	700400	634600	439900	281300	189400
5	491000	413500	403900	353700	347500	517600	621800	701600	628600	433500	277200	188800
6	486500	413200	403400	354900	347800	526600	624700	702700	620500	426600	273300	187800
7	480900	411900	403800	356200	347600	533900	627700	703100	611900	421200	269800	186100
8	476400	410800	402900	357700	347600	538100	629400	703000	602900	416700	265500	185500
9	471500	409900	402600	359400	347800	542400	631300	704200	596100	411900	260800	185200
10	466500	408200	402600	360000	349100	545900	633300	704000	589600	406600	255200	185200
11	462000	402900	401700	361000	351300	549100	635900	703700	583600	400100	251400	185000
12	457200	400900	398800	361400	359900	551700	640100	703200	577800	392800	247200	185100
13	452500	401100	396300	361700	365000	554400	645600	701800	572400	384900	243900	184800
14	447600	401000	393800	362500	370100	557100	649200	700100	566400	379200	240600	183500
15	443000	401700	390800	361700	383800	560300	652500	699000	559900	375000	237700	182600
16	439300	401200	388000	361700	393700	564600	655300	697800	553800	371800	234300	181500
17	436200	401400	384800	346900	400800	568700	658900	696500	548600	367500	229600	180900
18	434600	402600	383600	346900	406000	572200	664900	694500	543500	364300	227700	179800
19	433100	403900	380900	346600	411100	575500	669100	692500	538700	360700	225900	179500
20	431800	405100	378400	347500	434400	578100	671600	690800	533500	356000	223900	178500
21	430300	406500	373800	347800	451500	580500	674600	688800	528400	352300	221700	177700
22	430200	407500	369800	348800	465200	584000	678000	686300	522500	348100	218300	177200
23	427900	407800	366800	349400	474000	586300	680700	683900	516500	343900	214100	176800
24	427200	407200	363600	348700	480700	588800	681900	681200	510600	340000	209500	176400
25	426800	407200	360400	347800	485800	590400	684500	678200	503600	334500	206900	175800
26	427300	408400	357200	347400	489500	592900	686500	675400	496600	328800	204100	175500
27	426600	408900	356100	347800	493000	595400	689000	672100	489700	322300	201100	175100
28	424100	408500	355100	348000	497700	598000	691300	670300	481200	316400	199300	173800
29	422600	408500	353800	348500	501600	600600	693600	665900	474000	310700	197500	173000
30	421300	407400	352500	349000	---	603100	696100	662000	467000	304900	195600	171600
31	418900	---	352200	349300	---	606500	---	656600	---	299200	192800	---
MAX	504500	417400	406100	362500	501600	606500	696100	704200	650300	459800	294600	191400
MIN	418900	400900	352200	346600	347500	505200	609600	656600	467000	299200	192800	171600
a	403.60	402.00	393.87	395.74	417.04	429.48	439.19	435.00	412.61	387.43	365.82	360.28
b	-87200	-11500	-55200	-2900	+152300	+104900	+89600	-39500	-189600	-167800	-106400	-21200
c	3220	1360	467	259	524	1511	3192	6056	5085	4505	3224	1623

CAL YR 1991 b +195100

WTR YR 1992 b -334500

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.

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929. See WSP 2131 for history of changes prior to July 15, 1970.

REMARKS.--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 ft³/s, Nov. 21, 1950, gage height, 31.85 ft, site and datum then in use; minimum, 3.6 ft³/s, Aug. 16, 1924. Maximum discharge since regulation by Folsom Lake in 1955, 134,000 ft³/s, Feb. 19, 1986, gage height, 27.96 ft; minimum daily, 160 ft³/s, Apr. 17, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,060 ft³/s, June 27, gage height, 7.88 ft; minimum daily, 631 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1770	1030	1560	1180	823	810	885	747	3720	4670	e3240	e1250
2	2340	965	1540	933	814	814	890	750	3720	4660	e3220	e1130
3	2350	964	1290	917	809	810	889	753	3710	4210	e3220	e1120
4	2340	963	1040	915	808	813	889	754	4160	3740	e2710	e1130
5	2350	969	1030	921	810	813	896	755	4140	3700	e2690	e1120
6	2910	972	1020	918	812	854	900	755	4630	3710	e2690	e1120
7	2930	983	1030	917	809	825	900	1210	4660	3240	e2690	e1120
8	2950	998	1280	916	812	823	903	1230	4640	3190	e3200	e810
9	2960	1510	1260	826	811	813	906	1250	4170	3220	e3230	e800
10	2970	1520	1290	825	810	814	742	1260	3660	3690	e3220	e800
11	2970	3270	1290	834	816	819	726	1320	3670	4150	e2710	e800
12	2760	2250	2020	831	815	831	733	1250	3690	4140	e2680	811
13	2690	1040	2050	829	811	831	733	1260	3680	4130	e2700	811
14	2700	974	2060	828	811	837	732	1560	3690	3680	e2690	812
15	2450	978	2040	834	812	837	728	1570	3690	3210	e2700	810
16	2160	979	2010	837	809	844	730	1570	3710	2700	e2690	811
17	2120	979	2420	837	814	845	732	1550	3470	2670	e2700	812
18	1520	980	2560	832	813	841	738	1550	3450	2680	e2220	812
19	1480	989	2650	831	813	854	738	1550	3460	2690	e2180	814
20	1480	1010	2610	835	819	855	737	1540	3460	2680	e2190	816
21	1480	1010	2600	835	825	853	735	1540	3470	2690	e2190	815
22	1480	1010	2610	837	825	859	739	2070	3470	2690	e2680	813
23	2450	1010	2570	835	819	868	742	2080	3710	2690	e2700	723
24	2560	1010	2640	833	821	867	741	2080	3710	3180	e2700	716
25	2580	1010	2650	838	818	867	745	2090	4160	3670	e2180	716
26	2650	1010	2400	834	817	876	750	2620	4190	3650	e2180	714
27	2690	1020	2110	835	814	877	750	3100	4570	3660	e2180	713
28	2690	1030	1740	839	840	871	749	1670	4130	e3700	e1680	710
29	2140	1020	1740	836	832	883	749	3620	4150	e3700	e1680	636
30	1540	1530	1740	841	---	886	748	2870	4660	e3700	e1720	631
31	1480	---	1460	835	---	881	---	3760	---	e3700	e1700	---
TOTAL	71940	34983	58310	26794	23662	26171	23575	51684	117400	107790	79160	25696
MEAN	2321	1166	1881	864	816	844	786	1667	3913	3477	2554	857
MAX	2970	3270	2650	1180	840	886	906	3760	4660	4670	3240	1250
MIN	1480	963	1020	825	808	810	726	747	3450	2670	1680	631
AC-FT	142700	69390	115700	53150	46930	51910	46760	102500	232900	213800	157000	50970

e Estimated.

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	1988	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
LOWEST ANNUAL MEAN	731
HIGHEST DAILY MEAN	132000
LOWEST DAILY MEAN	4.6
ANNUAL SEVEN-DAY MINIMUM	4.8
INSTANTANEOUS PEAK FLOW	180000
INSTANTANEOUS PEAK STAGE	31.85
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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1911	2490	4000	5010	5279	4890	4230	3936	3618	3492	2783	2260
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1956 - 1992

ANNUAL TOTAL	537602	647165	
ANNUAL MEAN	1473	1768	3652
HIGHEST ANNUAL MEAN			8854
LOWEST ANNUAL MEAN			778
HIGHEST DAILY MEAN	4440	Jul 11	4670
LOWEST DAILY MEAN	341	Mar 20	631
ANNUAL SEVEN-DAY MINIMUM	346	Mar 18	691
INSTANTANEOUS PEAK FLOW			5060
INSTANTANEOUS PEAK STAGE			7.88
ANNUAL RUNOFF (AC-FT)	1066000	1284000	2645000
10 PERCENT EXCEEDS	2950	3680	7520
50 PERCENT EXCEEDS	1240	1130	2510
90 PERCENT EXCEEDS	386	800	852

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929. 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 NGVD.

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, 13.20 ft, Feb. 16; minimum, 0.67 ft, Nov. 15.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.92	2.70	e3.00	1.16	3.47	1.18	5.05	3.44	4.77	2.18	6.39	5.31
2	4.67	2.65	e3.10	e1.20	3.75	1.42	4.55	2.68	4.30	2.26	5.88	4.91
3	4.46	2.62	e3.30	e1.25	3.84	1.48	4.64	2.48	4.44	2.05	5.66	4.63
4	4.42	2.67	e3.50	e1.30	4.10	1.46	4.79	2.37	4.51	2.24	5.23	4.18
5	4.58	2.92	3.69	e1.40	4.17	1.62	5.02	2.79	4.41	2.30	5.35	3.92
6	3.36	2.90	3.91	1.30	4.36	1.63	4.65	2.78	4.36	2.25	5.80	4.41
7	4.36	2.83	4.00	1.38	4.27	1.95	4.93	3.01	4.32	2.32	7.16	5.54
8	4.42	2.77	4.38	1.44	4.04	1.69	4.85	3.62	4.36	2.31	8.00	7.10
9	4.39	2.73	4.22	1.76	3.82	1.65	4.88	3.85	4.52	2.19	7.99	6.95
10	4.46	2.55	4.06	1.72	3.87	1.52	4.82	4.00	5.34	2.79	7.11	5.86
11	4.65	2.53	3.85	1.64	3.40	1.60	4.25	3.13	5.42	2.98	6.35	4.96
12	4.52	2.54	3.52	1.70	3.06	1.32	3.92	2.51	7.07	3.56	5.82	4.38
13	4.18	2.36	3.38	1.30	3.02	1.21	4.85	2.13	9.88	7.07	5.77	4.17
14	3.97	2.12	3.38	1.38	3.17	1.28	4.16	2.10	11.52	9.83	5.81	4.28
15	3.92	1.90	2.50	.67	3.42	1.54	4.24	1.95	13.16	11.52	8.87	4.30
16	3.81	1.88	3.14	.91	3.75	1.73	4.42	2.00	13.70	13.16	5.95	4.30
17	3.60	1.87	4.15	1.42	4.32	2.07	4.78	2.12	13.57	13.15	7.60	5.25
18	3.61	1.60	3.67	1.69	5.10	2.32	4.79	2.26	13.15	11.91	9.02	7.56
19	3.29	1.52	3.62	1.40	4.36	2.80	4.50	2.24	11.91	10.86	9.51	8.92
20	3.52	1.56	3.85	1.26	4.71	2.44	4.31	2.11	11.50	10.75	9.62	8.86
21	4.25	1.74	3.97	1.39	4.71	2.51	4.07	1.97	12.46	11.50	8.96	7.88
22	4.51	2.42	4.23	1.48	4.81	2.56	3.49	1.86	12.46	12.92	8.01	6.90
23	4.16	2.21	4.13	1.50	4.68	2.68	3.11	1.61	12.92	12.38	7.25	5.90
24	4.44	2.00	4.26	1.43	4.35	2.61	3.14	1.43	12.38	11.24	6.55	5.25
25	4.61	2.06	4.14	1.55	3.86	2.38	3.66	1.51	11.24	9.58	6.25	4.99
26	5.35	2.61	3.87	1.54	3.70	2.21	4.08	1.71	9.58	8.31	5.92	4.62
27	4.64	2.46	3.56	1.58	4.06	2.22	3.91	1.68	8.32	7.38	5.71	4.45
28	4.05	1.85	3.16	1.17	4.73	2.74	4.12	1.76	7.54	6.64	5.50	4.16
29	3.86	1.85	2.88	1.19	5.08	3.02	e4.30	1.79	6.94	5.98	5.18	3.83
30	3.66	1.35	2.70	.83	4.66	2.85	e4.50	e1.90	---	---	5.07	3.64
31	3.08	1.11	---	---	4.87	2.92	4.62	e2.00	---	---	4.72	3.31
MONTH	5.35	1.11	4.38	.67	5.10	1.18	5.05	1.43	13.70	2.05	9.62	3.31

e Estimated.

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.70	3.25	3.74	.90	5.20	2.80	4.83	2.56	4.15	2.27	4.67	2.65
2	4.94	3.24	3.66	1.02	5.53	2.77	4.68	2.48	3.87	2.13	4.76	2.82
3	5.01	3.20	3.90	1.21	5.47	2.82	4.47	2.42	4.08	2.16	4.76	2.80
4	5.11	3.10	4.35	1.47	5.23	2.78	4.31	2.33	4.15	1.98	4.65	2.49
5	4.72	2.67	4.49	1.62	5.26	3.06	3.93	2.12	4.22	2.06	4.37	2.30
6	4.60	2.44	4.70	1.85	5.02	2.93	4.02	1.94	4.31	2.08	4.30	2.20
7	4.60	2.32	4.21	1.45	4.77	2.64	3.96	1.52	4.40	2.03	4.04	2.09
8	4.72	2.42	3.87	1.24	4.61	2.61	3.96	1.73	4.57	2.18	4.01	2.18
9	4.71	2.39	3.17	.78	4.45	2.54	4.17	1.78	4.38	2.04	4.06	2.35
10	4.45	2.18	3.17	1.35	4.48	2.43	4.39	2.04	4.34	2.07	4.38	2.66
11	4.44	2.31	3.80	1.83	4.62	2.39	4.82	2.40	4.41	2.22	4.10	2.60
12	4.48	2.70	3.96	1.86	4.46	2.00	4.84	2.38	4.52	2.38	3.79	2.35
13	4.35	2.71	4.12	1.86	4.28	1.76	4.67	2.42	4.47	2.39	3.82	2.28
14	4.50	2.70	4.15	1.87	4.41	1.88	4.63	2.38	4.29	2.43	4.36	2.38
15	4.91	3.05	4.37	1.94	4.41	1.92	4.54	2.35	4.03	2.27	4.22	2.56
16	5.02	3.18	4.69	1.95	4.11	1.72	4.42	2.22	3.87	2.30	4.45	2.51
17	5.02	2.99	4.70	1.97	4.04	1.85	4.29	2.28	3.92	2.41	4.51	2.76
18	4.66	2.35	4.58	1.92	4.13	2.01	3.97	2.01	4.04	2.16	4.52	2.55
19	4.65	2.48	4.45	1.80	3.86	1.86	3.62	1.94	3.97	2.26	4.52	2.49
20	4.92	2.78	4.28	1.56	3.66	1.78	3.84	1.87	4.16	2.28	4.62	2.40
21	5.06	2.82	3.92	1.46	3.52	1.92	3.77	1.75	4.42	2.37	4.56	2.39
22	4.34	2.08	3.72	1.49	4.03	1.79	3.93	1.87	4.66	2.36	4.58	2.50
23	4.06	1.50	3.35	1.50	3.76	1.65	4.03	1.98	4.53	2.17	4.40	2.38
24	3.71	1.23	3.47	1.75	3.89	1.82	4.32	2.12	4.67	2.38	4.24	2.33
25	3.67	1.20	3.87	1.69	4.20	2.20	4.65	2.38	4.90	2.50	3.79	1.97
26	3.33	1.13	3.85	1.77	4.38	2.14	4.88	2.60	4.66	2.41	4.02	2.19
27	3.33	1.00	4.16	2.05	4.56	2.42	4.97	2.60	3.60	2.52	4.26	2.26
28	3.31	1.00	4.69	2.30	4.82	2.26	5.06	2.71	4.63	2.74	4.37	2.35
29	3.54	1.00	4.70	2.37	4.77	2.20	5.10	2.77	4.45	2.82	4.66	2.31
30	3.62	1.19	4.80	2.31	4.83	2.46	4.99	2.79	4.41	2.82	4.53	2.44
31	---	---	5.05	2.63	---	---	4.64	2.56	4.47	2.63	---	---
MONTH	5.11	1.00	5.05	.78	5.53	1.65	5.10	1.52	4.90	1.98	4.76	1.97

SACRAMENTO RIVER BASIN

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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. 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 ft³/s, Feb. 19, 1986, elevation, 25.00 ft; minimum daily, 3,970 ft³/s, Oct. 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known prior to Nov. 21, 1950, 103,000 ft³/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, 48,300 ft³/s, Feb. 17, elevation, 9.60 ft; maximum elevation, 10.17 ft, Feb. 16; minimum daily, 4,340 ft³/s, Apr. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11500	7090	7270	14400	7830	20700	11900	4760	8970	9170	9000	10300
2	11800	6310	7360	12600	8150	18200	11500	4640	9050	9380	8430	10700
3	11500	6380	7340	10100	8160	16400	11100	4750	8960	8990	8360	10900
4	11000	6300	7080	9100	8800	15400	11000	4850	9050	8690	8160	11000
5	10800	6280	7250	9950	8480	14600	10800	4960	8650	8770	7830	10700
6	11400	6250	7010	10600	7910	16600	10500	5030	9950	8790	7720	10400
7	11400	6250	7820	13800	7860	21300	9930	5440	10500	8170	7230	9910
8	11300	5930	7760	16100	7990	26700	9650	5440	10700	7510	7980	9820
9	11400	6780	7790	17400	7500	27200	9530	5950	10100	7150	8320	9590
10	10900	7340	7380	17400	8010	23800	9440	5980	8870	7030	8350	9780
11	10400	8200	7880	14800	9690	20600	9030	6380	7650	7320	8000	10300
12	10200	8510	8090	12500	16000	18400	9530	6240	8020	8330	7960	10400
13	10100	7260	8660	11100	31800	16400	10400	6060	7420	8400	8330	9940
14	9720	7650	9130	10100	38500	15800	10300	5920	7800	8570	8550	9350
15	9560	6880	9340	9660	43700	15400	11700	6230	8320	8410	8760	10200
16	8990	6550	9130	9060	47000	16000	12100	6320	8210	8250	8810	9890
17	8450	5970	8900	8850	46800	22800	11100	6480	8360	7490	9100	10200
18	8120	7160	9250	8930	43800	30800	10700	6680	8530	7790	8860	9950
19	7170	6920	11100	9060	39200	32900	9970	6510	8610	7390	8570	10000
20	6830	6700	10800	8810	38000	32800	10800	6960	8240	7830	8450	10300
21	6260	6780	11100	8550	41500	29300	10700	7050	7490	7700	8600	10300
22	6730	6740	11200	8730	43800	25500	10200	7550	7910	7920	9680	9750
23	7820	6950	11100	8540	44200	22600	9240	7220	7680	7880	9630	9590
24	7720	6790	11000	8370	41800	20100	8290	6710	7380	8200	9590	9160
25	7730	6960	10700	8060	37300	18800	7430	7390	7370	8970	9320	8950
26	8130	7330	10400	8230	32700	17900	6600	7450	8140	9230	9360	8840
27	9630	7710	10200	8250	29300	16600	6020	7670	8180	9180	9060	8760
28	8900	7670	10300	7850	26500	15700	5250	7130	8140	8910	8930	8770
29	9100	7600	10900	7740	23500	14700	4400	8010	8320	8840	9290	8150
30	8890	7510	11100	7650	---	13700	4340	8310	8730	8180	9820	8550
31	7890	---	12700	7380	---	12700	---	8760	---	9130	10200	---
TOTAL	291340	208750	287040	323670	755780	630400	283450	198830	255300	257570	270250	294450
MEAN	9398	6958	9259	10440	26060	20340	9448	6414	8510	8309	8718	9815
MAX	11800	8510	12700	17400	47000	32900	12100	8760	10700	9380	10200	11000
MIN	6260	5930	7010	7380	7500	12700	4340	4640	7370	7030	7230	8150
AC-FT	577900	414100	569300	642000	1499000	1250000	562200	394400	506400	510900	536000	584000

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12570	17010	26580	33490	38760	36600	29260	24060	17080	13910	13740	14430
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	6687	7208	8884	8003	6573	5961	6414	6865	6345	7061	6838
(WY)	1978	1978	1960	1991	1977	1977	1977	1992	1977	1949	1949	1977

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1949 - 1992	
ANNUAL TOTAL	3801650		4056830		23050	
ANNUAL MEAN	10420		11080		46900	1983
HIGHEST ANNUAL MEAN					7608	1977
LOWEST ANNUAL MEAN					115000	Feb 19 1986
HIGHEST DAILY MEAN	46900	Mar 27	47000	Feb 16	3970	Oct 15 1977
LOWEST DAILY MEAN	4730	Apr 30	4340	Apr 30	4060	Oct 13 1977
ANNUAL SEVEN-DAY MINIMUM	5760	Apr 27	4670	Apr 29	117000	Feb 19 1986
INSTANTANEOUS PEAK FLOW			48300	Feb 17	25.00	Feb 19 1986
INSTANTANEOUS PEAK STAGE			10.17	Feb 16		
ANNUAL RUNOFF (AC-FT)	7541000		8047000		16700000	
10 PERCENT EXCEEDS	13300		17400		53400	
50 PERCENT EXCEEDS	9230		8860		15600	
90 PERCENT EXCEEDS	6790		6720		8810	

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 current year.

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 current year.

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.

Interruptions of record were due to malfunctions of the recording instruments. 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, 26, 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, 284 microsiemens, Mar. 16; minimum recorded, 101 microsiemens, July 13.

WATER TEMPERATURE: Maximum recorded, 26.0°C, Aug. 15-17; minimum recorded, 7.0°C, Jan. 23-27.

SEDIMENT CONCENTRATION: Maximum daily mean, 725 mg/L, Feb. 16, minimum daily mean, 2 mg/L, Nov. 21.

SEDIMENT LOAD: Maximum daily, 92,000 tons, Feb. 16; minimum daily, 37 tons, Nov. 21.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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 HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATUR-ATION	COLI-FORM, FECAL, UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)
DEC 18...	1130	7830	144	7.8	10.0	4.4	762	10.2	90	K12	22	51
MAR 16...	1030	19400	265	7.9	13.0	19	761	9.3	88	130	140	86
JUN 16...	1230	14600	135	7.8	20.0	5.3	764	8.9	98	410	16	50
SEP 16...	1130	10500	189	7.7	20.5	8.8	760	7.6	85	7	9	67
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)	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)
DEC 18...	0	11	5.7	9.1	27	0.6	1.4	69	57	6.2	6.4	<0.10
MAR 16...	1	18	10	18	31	0.8	1.5	104	85	18	15	0.10
JUN 16...	2	11	5.4	7.8	25	0.5	1.0	58	48	5.8	8.3	<0.10
SEP 16...	0	14	7.8	13	29	0.7	1.2	89	73	9.4	10	0.10
DATE	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 TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
DEC 18...	17	101	92	0.14	0.010	<0.010	0.130	0.130	0.020	0.030	<0.20	0.050
MAR 16...	19	149	152	0.20	0.020	<0.010	0.260	0.260	0.050	0.030	0.30	0.060
JUN 16...	15	78	83	0.11	<0.010	<0.010	0.084	0.078	0.030	0.020	<0.20	<0.010
SEP 16...	17	117	117	0.16	<0.010	<0.010	0.081	0.079	0.040	0.040	<0.20	0.040

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	COBALT, DIS- SOLVED (UG/L AS CO)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
DEC 18...	0.030	0.040	0.040	<10	20	<3	22	<4	3	<10	<1	<1
MAR 16...	0.030	0.070	0.050	20	32	<3	50	<4	4	<10	<1	<1
JUN 16...	<0.010	0.040	0.020	<10	22	<3	19	<4	5	<10	<1	<1
SEP 16...	0.060	0.040	0.040	<10	24	<3	19	<4	4	<10	<1	<1

DATE	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
DEC 18...	<1.0	81	<6	<0.6	<0.6	1.7	<0.6	1.4	<0.6	0.04	0.21
MAR 16...	<1.0	140	<6	--	--	--	--	--	--	--	--
JUN 16...	<1.0	80	<6	<0.6	<0.6	1.5	<0.6	1.3	<0.6	0.04	0.14
SEP 16...	<1.0	110	<6	--	--	--	--	--	--	--	--

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	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)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 18...*	1030	17.2	180	144	7.9	10.0	762	10.3	91	11
DEC 18...*	1037	22.7	290	144	7.9	10.0	762	10.2	90	12
DEC 18...*	1040	23.5	368	144	7.8	10.0	762	10.2	90	16
DEC 18...*	1042	25.1	460	142	7.8	10.0	762	10.2	90	14
DEC 18...*	1044	26.3	525	145	7.8	10.0	762	10.2	90	12
JUN 16...*	1054	21.0	180	132	7.9	20.0	765	9.1	100	18
JUN 16...*	1059	22.0	290	137	7.8	20.0	765	9.2	101	16
JUN 16...*	1109	22.0	368	135	7.8	20.0	765	8.6	94	14
JUN 16...*	1118	24.0	460	136	7.9	20.0	765	8.6	94	14
JUN 16...*	1126	26.0	525	135	7.9	20.0	765	8.9	98	14

* Instantaneous streamflow at the time of cross-sectional measurement: Dec. 18, 11,200 ft³/s;
June 16, 14,200 ft³/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 18...	1130	7830	10.0	13	275	95
FEB 14...	1135	37300	10.5	359	36200	88
FEB 18...	1127	44800	9.5	213	25800	--
FEB 24...	1100	40600	12.0	144	15800	--
MAR 16...	1030	19400	13.0	56	2930	98
JUN 16...	1230	14600	20.0	15	591	94
SEP 16...	1130	10500	20.5	20	567	97

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	155	132	186	135	207	162	181	169	216	159	239	189
2	155	140	198	136	195	160	180	167	196	158	244	198
3	152	139	204	140	198	156	192	168	195	161	244	202
4	152	131	193	143	194	155	212	167	209	165	226	187
5	141	129	197	150	202	156	184	168	209	166	224	186
6	129	122	210	150	181	153	180	167	206	165	217	182
7	127	121	189	146	190	152	187	167	222	166	252	195
8	130	122	197	146	192	152	195	179	205	160	246	182
9	131	122	208	149	194	150	200	168	208	159	182	154
10	136	120	218	156	203	150	178	172	209	165	189	167
11	153	118	189	153	210	159	176	166	202	163	215	172
12	165	115	171	140	176	164	175	164	209	164	223	186
13	148	117	197	144	170	154	177	167	228	114	230	206
14	143	120	191	147	168	153	195	168	118	106	233	210
15	150	120	186	156	172	150	204	179	123	107	241	215
16	150	122	216	156	183	148	217	182	116	103	284	228
17	160	127	204	158	175	147	221	184	115	108	269	226
18	159	128	189	155	161	142	226	185	116	109	226	148
19	190	128	208	155	197	144	219	182	127	111	176	151
20	182	130	205	157	168	142	227	182	140	118	173	150
21	199	132	194	156	164	144	210	186	139	118	185	157
22	168	133	212	156	148	141	232	181	133	117	201	177
23	183	132	216	160	164	145	192	176	129	121	214	194
24	188	131	223	154	168	144	220	175	134	124	229	204
25	168	127	218	155	146	137	205	171	142	120	235	212
26	148	127	214	155	141	138	201	170	160	131	237	221
27	143	123	208	156	161	140	213	169	177	146	238	220
28	175	124	196	165	192	143	208	166	194	162	247	226
29	162	125	206	169	189	144	208	165	211	174	249	224
30	161	127	191	163	152	141	207	166	---	---	243	224
31	177	130	---	---	169	152	206	164	---	---	240	214
MONTH	199	115	223	135	210	137	232	164	228	103	284	148
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	226	207	219	187	152	120	155	104	136	107	186	159
2	268	211	211	186	154	119	128	107	163	110	180	159
3	226	215	211	184	147	115	152	111	164	116	191	165
4	226	214	210	183	156	118	134	114	158	111	225	184
5	224	212	211	170	152	115	138	116	147	112	225	200
6	224	211	200	165	130	114	159	119	142	119	232	197
7	238	209	192	164	143	114	157	123	155	121	224	195
8	233	201	188	154	143	114	158	126	155	123	236	198
9	238	201	184	148	163	114	153	121	156	119	231	197
10	254	207	182	152	162	117	149	113	152	119	221	194
11	245	204	182	153	146	118	129	111	164	121	228	194
12	241	205	174	153	159	116	155	106	149	118	201	193
13	232	196	181	145	182	115	157	101	169	127	245	193
14	231	202	172	142	173	115	153	107	158	126	214	193
15	235	192	163	139	157	119	167	109	192	130	241	186
16	212	181	170	136	179	121	155	114	199	136	230	182
17	192	177	159	133	171	123	157	113	178	137	198	179
18	214	180	161	134	157	127	155	112	165	132	213	179
19	208	180	169	135	193	133	153	113	178	138	201	174
20	211	180	178	139	200	158	162	117	190	143	205	176
21	185	175	173	138	177	150	180	116	183	146	209	179
22	202	183	172	139	178	136	173	117	178	134	199	172
23	198	170	159	137	178	132	160	115	180	142	210	146
24	211	173	162	134	163	129	148	114	174	145	193	157
25	216	179	159	130	151	115	142	110	177	143	197	152
26	216	178	162	132	150	106	140	105	170	143	207	153
27	202	180	165	132	166	106	137	106	198	149	213	153
28	228	192	157	130	158	110	152	113	241	159	202	153
29	212	185	170	131	151	106	149	113	191	162	199	151
30	214	187	170	126	146	103	136	105	181	159	184	143
31	---	---	158	120	---	---	127	105	218	157	---	---
MONTH	268	170	219	120	200	103	180	101	241	107	245	143

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	21.0	14.5	13.0	11.0	10.0	10.0	9.5	9.5	8.5	14.0	13.5
2	21.5	21.0	15.0	13.0	10.5	9.5	9.5	9.0	9.5	9.0	14.0	13.5
3	21.5	21.0	15.0	13.5	11.0	9.5	10.0	9.0	10.0	9.0	14.0	13.5
4	21.5	21.0	15.5	13.5	10.5	9.5	10.0	9.0	10.0	9.5	14.0	13.5
5	21.0	20.5	15.5	14.0	11.0	9.5	9.0	8.5	10.0	9.5	13.5	13.0
6	20.5	20.0	16.0	14.5	11.0	10.0	9.0	9.0	10.0	9.5	13.0	13.0
7	20.5	20.0	15.5	15.0	11.0	10.0	9.0	8.5	10.5	9.5	13.0	12.5
8	20.0	20.0	16.5	15.5	11.5	10.5	8.5	8.5	11.0	10.0	12.5	12.5
9	20.0	20.0	17.0	15.5	12.0	10.5	8.5	8.0	11.5	10.5	12.5	11.5
10	20.0	19.5	17.5	16.0	11.5	10.5	8.5	7.5	11.5	11.0	12.5	12.0
11	20.5	19.5	17.5	16.0	11.5	10.5	8.5	8.5	11.5	11.0	13.0	12.5
12	20.5	19.5	17.0	16.5	10.5	10.0	8.5	8.0	12.0	11.5	13.5	13.0
13	20.0	19.5	17.0	16.5	10.5	10.0	8.0	7.5	11.5	11.0	14.0	13.5
14	20.5	19.5	17.0	15.5	10.5	10.0	8.0	7.5	11.0	10.5	14.0	13.5
15	20.5	19.5	15.5	14.0	10.5	10.0	8.0	7.5	10.5	10.0	13.5	13.0
16	20.5	19.5	15.0	13.5	10.5	9.5	8.5	7.5	10.0	9.5	13.5	12.5
17	20.5	19.5	14.5	13.0	10.5	9.5	8.5	7.5	10.0	9.5	13.0	12.5
18	20.5	19.5	14.0	12.5	10.5	9.5	8.5	7.5	10.0	9.5	12.5	11.5
19	20.5	19.5	13.5	12.5	11.0	10.0	8.5	7.5	10.0	9.5	12.0	11.5
20	20.5	19.5	13.5	12.5	10.5	9.5	8.5	7.5	11.0	10.0	12.0	11.5
21	20.5	19.0	13.5	12.5	10.0	9.0	8.0	7.5	11.0	10.5	13.0	12.0
22	19.5	18.5	13.5	12.5	9.0	9.0	8.5	7.5	11.5	11.0	13.5	13.0
23	18.5	17.0	13.5	12.5	9.5	9.0	7.5	7.0	12.0	11.5	14.0	13.5
24	17.5	16.5	13.5	12.0	9.5	9.0	8.0	7.0	12.0	12.0	14.5	13.5
25	17.0	16.5	13.5	12.0	9.0	9.0	7.5	7.0	12.5	12.0	14.5	14.0
26	16.5	16.5	13.5	12.0	9.5	9.0	7.5	7.0	13.0	12.0	15.0	14.5
27	16.5	15.5	13.0	12.5	9.5	9.0	8.0	7.0	13.5	13.0	16.0	15.0
28	15.5	15.0	12.5	12.0	10.5	9.0	8.5	7.5	14.0	13.5	16.0	15.5
29	15.5	14.5	12.5	11.0	10.0	9.5	8.5	7.5	14.0	13.5	16.5	16.0
30	15.0	14.0	11.5	10.0	10.0	9.5	9.0	8.0	---	---	16.5	16.0
31	14.5	13.5	---	---	10.0	9.5	9.0	8.5	---	---	17.0	16.5
MONTH	21.5	13.5	17.5	10.0	12.0	9.0	10.0	7.0	14.0	8.5	17.0	11.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17.5	16.5	22.0	21.5	23.0	22.0	21.0	19.5	23.5	22.0	22.5	21.5
2	18.0	17.5	22.0	21.5	23.0	21.5	22.0	20.0	24.0	22.5	22.0	21.5
3	18.5	17.5	22.5	22.0	23.0	22.0	22.5	21.0	24.0	23.0	22.0	21.5
4	18.0	17.5	23.0	22.5	23.5	22.0	22.0	21.0	24.0	23.0	22.0	21.0
5	18.0	17.5	23.5	23.0	23.0	21.5	22.5	21.0	24.0	23.0	22.5	21.5
6	18.0	17.5	23.5	23.0	22.5	21.0	22.5	21.5	24.5	23.0	22.5	21.5
7	18.5	17.5	23.5	23.0	22.0	20.5	22.5	22.0	24.5	23.0	23.0	21.5
8	18.0	17.5	23.5	22.5	22.0	20.0	23.5	22.0	24.5	23.0	23.0	22.0
9	18.0	17.5	23.0	22.0	22.0	20.5	24.5	22.5	24.5	23.0	23.0	22.0
10	18.5	17.5	23.0	21.5	22.0	20.5	25.0	23.5	25.0	23.5	22.5	21.5
11	18.0	17.5	22.5	21.5	21.0	20.0	24.0	22.0	25.5	24.5	22.0	21.0
12	18.0	17.5	22.5	21.5	20.5	19.5	22.0	20.5	25.5	25.0	22.0	21.0
13	18.0	17.0	22.5	21.5	20.5	19.5	21.5	20.0	25.5	25.0	22.0	21.0
14	18.5	16.5	22.0	21.0	20.5	19.0	22.0	20.0	25.5	25.0	21.5	21.0
15	18.0	17.0	22.0	21.0	20.5	19.5	22.5	20.5	26.0	25.0	21.5	20.5
16	17.5	17.0	22.0	21.0	20.5	19.5	23.0	22.0	26.0	25.0	21.5	20.0
17	18.0	17.0	22.0	21.0	21.0	19.5	24.0	23.0	26.0	25.0	21.0	20.0
18	18.0	17.5	22.0	21.0	21.5	20.5	24.0	23.0	25.5	25.0	21.0	20.0
19	18.5	17.5	22.0	21.5	22.0	21.0	23.5	23.0	25.5	25.0	21.5	20.5
20	18.5	18.0	22.0	21.0	22.5	21.5	23.5	22.5	25.5	24.5	21.5	20.5
21	19.0	18.5	22.0	21.0	23.5	22.5	23.5	22.5	25.5	24.5	22.5	21.0
22	19.0	18.5	22.0	21.0	24.0	22.5	23.5	22.5	24.5	23.5	22.5	21.0
23	19.5	18.5	22.5	21.5	23.5	22.5	24.0	22.5	23.5	23.0	22.0	21.0
24	19.5	19.0	22.5	21.5	23.5	22.5	24.0	22.5	23.5	22.5	22.0	21.0
25	21.0	19.0	23.0	21.5	24.0	22.0	24.0	23.0	23.5	22.5	21.5	21.0
26	20.5	19.5	23.5	21.5	23.0	22.0	23.5	22.5	23.0	22.5	21.5	20.5
27	21.5	19.5	23.5	21.5	23.0	21.5	23.5	22.5	23.5	22.0	21.0	20.0
28	22.0	20.0	23.5	21.5	22.0	21.5	24.0	23.0	23.5	22.5	21.5	20.0
29	21.5	21.0	24.5	22.0	21.5	20.5	24.0	23.0	23.0	22.5	21.5	20.5
30	22.0	21.0	23.5	22.5	21.0	20.0	23.5	23.0	22.5	22.0	21.5	20.5
31	---	---	24.0	21.5	---	---	23.5	22.5	22.5	21.5	---	---
MONTH	22.0	16.5	24.5	21.0	24.0	19.0	25.0	19.5	26.0	21.5	23.0	20.0

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	11500	12	373	7090	4	77	7270	5	98
2	11800	15	478	6310	6	102	7360	4	79
3	11500	13	404	6380	9	155	7340	4	79
4	11000	11	327	6300	15	255	7080	4	76
5	10800	13	379	6280	14	237	7250	4	78
6	11400	11	339	6250	10	169	7010	5	95
7	11400	8	246	6250	8	135	7820	16	338
8	11300	7	214	5930	7	112	7760	12	251
9	11400	7	215	6780	10	183	7790	9	189
10	10900	6	177	7340	13	258	7380	8	159
11	10400	6	168	8200	15	332	7880	8	170
12	10200	6	165	8510	10	230	8090	8	175
13	10100	6	164	7260	6	118	8660	18	421
14	9720	5	131	7650	10	207	9130	19	468
15	9560	5	129	6880	6	111	9340	16	403
16	8990	12	291	6550	3	53	9130	12	296
17	8450	12	274	5970	4	64	8900	9	216
18	8120	9	197	7160	5	97	9250	15	375
19	7170	7	136	6920	4	75	11100	12	353
20	6830	6	111	6700	3	54	10800	10	288
21	6260	5	85	6780	2	37	11100	11	342
22	6730	6	109	6740	7	127	11200	10	312
23	7820	8	169	6950	13	244	11100	9	278
24	7720	6	125	6790	13	238	11000	9	267
25	7730	5	104	6960	12	226	10700	9	259
26	8130	9	198	7330	14	277	10400	10	282
27	9630	22	572	7710	20	416	10200	13	354
28	8900	15	360	7670	13	269	10300	13	364
29	9100	11	270	7600	8	164	10900	13	390
30	8890	8	192	7510	6	122	11100	14	421
31	7890	5	107	---	---	---	12700	16	570
TOTAL	291340	---	7209	208750	---	5144	287040	---	8446
JANUARY			FEBRUARY			MARCH			
1	14400	27	1040	7830	5	106	20700	50	2790
2	12600	25	846	8150	11	242	18200	27	1340
3	10100	15	404	8160	14	308	16400	15	675
4	9100	11	270	8800	12	285	15400	10	409
5	9950	17	444	8480	6	137	14600	8	325
6	10600	31	890	7910	4	85	16600	16	755
7	13800	38	1420	7860	5	106	21300	89	5350
8	16100	51	2180	7990	8	173	26700	209	15000
9	17400	81	3800	7500	7	142	27200	144	10500
10	17400	61	2900	8010	19	411	23800	109	7040
11	14800	38	1540	9690	31	811	20600	96	5330
12	12500	22	748	16000	128	6140	18400	86	4260
13	11100	11	325	31800	286	25100	16400	54	2370
14	10100	7	197	38500	378	39700	15800	33	1380
15	9660	6	153	43700	626	74300	15400	36	1560
16	9060	5	122	47000	725	92000	16000	59	2580
17	8850	6	143	46800	374	47400	22800	85	5400
18	8930	8	193	43800	201	23900	30800	145	12200
19	9060	10	245	39200	141	14900	32900	236	21000
20	8810	9	214	38000	122	12500	32800	198	17500
21	8550	9	208	41500	140	15700	29300	164	12900
22	8730	16	377	43800	217	25700	25500	135	9320
23	8540	18	415	44200	244	29100	22600	110	6730
24	8370	13	294	41800	159	17900	20100	91	4900
25	8060	12	261	37300	138	13800	18800	80	4050
26	8230	12	267	32700	105	9320	17900	72	3480
27	8250	10	223	29300	73	5740	16600	65	2910
28	7850	7	148	26500	65	4670	15700	59	2500
29	7740	5	104	23500	64	4050	14700	53	2110
30	7650	4	83	---	---	---	13700	39	1430
31	7380	5	100	---	---	---	12700	27	915
TOTAL	323670	---	20554	755780	---	464726	630400	---	169009

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	11900	22	724	4760	11	141	8970	27	654
2	11500	21	668	4640	9	113	9050	28	684
3	11100	21	619	4750	9	115	8960	25	605
4	11000	20	600	4850	9	118	9050	18	440
5	10800	20	585	4960	10	134	8650	11	257
6	10500	23	652	5030	15	204	9950	10	269
7	9930	37	992	5440	20	294	10500	16	454
8	9650	49	1280	5440	19	279	10700	18	520
9	9530	48	1240	5950	24	386	10100	15	409
10	9440	35	892	5980	17	274	8870	10	239
11	9030	22	536	6380	21	362	7650	6	124
12	9530	20	524	6240	15	253	8020	6	130
13	10400	21	586	6060	12	196	7420	6	120
14	10300	18	489	5920	11	176	7800	6	126
15	11700	15	473	6230	11	185	8320	8	180
16	12100	13	425	6320	10	171	8210	14	310
17	11100	36	1090	6480	13	227	8360	18	406
18	10700	50	1450	6680	13	234	8530	17	392
19	9970	42	1130	6510	11	193	8610	14	325
20	10800	50	1460	6960	14	263	8240	11	245
21	10700	38	1100	7050	18	343	7490	9	182
22	10200	18	496	7550	16	326	7910	8	171
23	9240	10	249	7220	14	273	7680	8	166
24	8290	8	179	6710	15	272	7380	8	159
25	7430	12	241	7390	24	479	7370	8	159
26	6600	23	410	7450	20	402	8140	9	198
27	6020	26	423	7670	16	331	8180	7	155
28	5250	12	170	7130	11	212	8140	4	88
29	4400	13	154	8010	9	195	8320	8	180
30	4340	15	176	8310	12	269	8730	8	189
31	---	---	---	8760	19	449	---	---	---
TOTAL	283450	---	20013	198830	---	7869	255300	---	8536
JULY			AUGUST			SEPTEMBER			
1	9170	8	198	9000	15	364	10300	46	1270
2	9380	29	734	8430	10	228	10700	54	1530
3	8990	32	777	8360	7	158	10900	52	1520
4	8690	17	399	8160	6	132	11000	46	1360
5	8770	11	260	7830	6	127	10700	46	1340
6	8790	8	190	7720	5	104	10400	29	831
7	8170	8	176	7230	6	117	9910	21	569
8	7510	9	182	7980	9	194	9820	16	424
9	7150	10	193	8320	13	292	9590	13	337
10	7030	9	171	8350	12	271	9780	14	368
11	7320	6	119	8000	10	216	10300	14	399
12	8330	5	112	7960	10	215	10400	12	328
13	8400	6	136	8330	11	247	9940	9	253
14	8570	9	208	8550	14	323	9350	9	233
15	8410	9	204	8760	16	378	10200	13	355
16	8250	8	178	8810	15	357	9890	29	739
17	7490	7	142	9100	12	295	10200	33	927
18	7790	7	147	8860	9	215	9950	21	570
19	7390	6	120	8570	7	162	10000	17	468
20	7830	5	106	8450	7	160	10300	17	478
21	7700	5	104	8600	8	186	10300	18	490
22	7920	6	128	9680	11	287	9750	19	493
23	7880	8	170	9630	9	234	9590	22	578
24	8200	12	266	9590	8	207	9160	28	692
25	8970	14	339	9320	7	176	8950	26	637
26	9230	11	274	9360	9	227	8840	24	564
27	9180	8	198	9060	23	563	8760	18	426
28	8910	6	144	8930	13	313	8770	11	260
29	8840	7	167	9290	21	523	8150	8	176
30	8180	20	442	9820	30	793	8550	15	346
31	9130	24	592	10200	44	1210	---	---	---
TOTAL	257570	---	7576	270250	---	9274	294450	---	18961
YEAR	4056830		747317						

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 mi².

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 National Geodetic Vertical Datum of 1929. 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 ft³/s, Jan. 26, 1983, gage height, 13.31 ft; maximum gage height, 13.48 ft, Jan. 5, 1965; minimum daily, 0.13 ft³/s, Sept. 6-11, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	0130	*2,380	*9.14				

Minimum daily, 0.13 ft³/s, Sept. 6-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	2.4	5.1	17	16	43	30	13	2.5	5.3	.62	.16
2	.62	2.4	5.1	14	14	53	28	12	2.4	4.3	.57	.15
3	.63	2.4	5.2	12	11	47	26	11	2.6	3.4	.54	.14
4	.63	2.4	5.2	14	10	42	25	10	3.1	3.2	.53	.14
5	.65	2.4	5.2	284	9.3	94	23	9.9	2.8	3.0	.52	.14
6	.65	2.4	5.2	84	8.8	90	22	9.4	2.8	2.8	.50	.13
7	.65	2.5	6.0	54	8.5	70	21	9.0	2.7	2.4	.49	.13
8	.66	2.5	6.2	39	8.6	59	20	8.5	2.6	2.1	.49	.13
9	.66	2.7	5.7	27	10	52	20	8.2	2.6	1.8	.46	.13
10	.66	2.8	5.5	21	405	47	19	7.8	2.6	1.6	.44	.13
11	.67	2.8	5.4	18	680	43	19	7.4	2.7	1.5	.43	.13
12	.67	2.9	5.4	15	842	40	34	7.1	3.0	1.5	.41	.14
13	.66	3.0	5.3	13	310	37	35	6.7	3.3	1.4	.40	.14
14	.66	2.9	5.3	12	544	46	26	6.4	3.3	1.3	.39	.14
15	.67	3.0	5.3	11	385	579	23	6.2	3.4	1.3	.39	.14
16	.68	3.2	5.3	10	309	319	22	5.9	3.4	1.2	.38	.14
17	.69	8.4	5.4	10	169	176	22	5.6	3.4	1.2	.36	.15
18	.70	13	13	9.6	150	124	20	5.3	3.2	1.1	.35	.15
19	.71	7.8	11	8.7	296	98	19	5.0	2.9	1.1	.34	.15
20	.72	6.9	8.3	8.2	348	82	18	4.9	2.5	1.0	.33	.16
21	.74	7.3	7.2	7.7	190	70	17	4.9	2.1	.99	.32	.16
22	.81	6.3	6.6	7.2	133	63	17	4.7	2.0	.97	.33	.16
23	.85	5.8	6.2	6.8	102	59	16	4.4	2.0	.92	.33	.17
24	.92	5.5	6.1	6.4	82	53	15	4.3	2.0	.86	.31	.18
25	1.1	5.3	5.9	6.2	69	48	15	4.0	2.2	.85	.29	.19
26	5.2	5.2	5.8	5.9	59	44	14	3.7	2.0	.81	.29	.20
27	4.7	5.1	7.1	5.7	52	41	14	3.5	1.9	.77	.28	.20
28	3.0	5.3	75	9.7	47	37	13	3.3	1.8	.74	.27	.21
29	2.6	5.2	174	9.4	44	34	13	3.1	3.0	.70	.22	.22
30	2.4	5.1	41	8.2	---	35	13	2.9	6.7	.66	.20	.22
31	2.3	---	23	7.7	---	33	---	2.7	---	.65	.18	---
TOTAL	37.88	134.9	482.0	762.4	5312.2	2658	619	200.8	83.5	51.42	11.96	4.73
MEAN	1.22	4.50	15.5	24.6	183	85.7	20.6	6.48	2.78	1.66	.39	.16
MAX	5.2	13	174	284	842	579	35	13	6.7	5.3	.62	.22
MIN	.62	2.4	5.1	5.7	8.5	33	13	2.7	1.8	.65	.18	.13
AC-FT	75	268	956	1510	10540	5270	1230	398	166	102	24	9.4

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.3	48.9	127	188	203	148	79.1	28.7	11.7	5.37	3.41	3.72
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 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1947 - 1992	
ANNUAL TOTAL	12837.82		10358.79			
ANNUAL MEAN	35.2		28.3		70.9	
HIGHEST ANNUAL MEAN					206	
LOWEST ANNUAL MEAN					4.78	
HIGHEST DAILY MEAN	2160	Mar 4	842	Feb 12	6020	Feb 17 1986
LOWEST DAILY MEAN	.56	Sep 9	.13	Sep 6	.13	Sep 6 1992
ANNUAL SEVEN-DAY MINIMUM	.60	Sep 22	.13	Sep 5	.13	Sep 5 1992
INSTANTANEOUS PEAK FLOW			2380	Feb 12	9200	Jan 26 1983
INSTANTANEOUS PEAK STAGE			9.14	Feb 12	13.48	Jan 5 1965
ANNUAL RUNOFF (AC-FT)	25460		20550		51390	
10 PERCENT EXCEEDS	54		53		146	
50 PERCENT EXCEEDS	5.1		5.1		12	
90 PERCENT EXCEEDS	.67		.29		2.5	

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 mi².

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 National Geodetic Vertical Datum of 1929 (California State Land Commission bench mark). 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, 4.56 ft, Apr. 18-20; minimum daily, 0.45 ft, Dec. 12, 13, 15, 18, and 24.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	.61	.50	.63	.91	3.43	4.54	4.50	4.07	3.18	2.21	1.36
2	.98	.61	.51	.65	.91	3.43	4.53	4.51	4.06	3.17	2.16	1.33
3	.97	.60	.49	.66	.94	3.44	4.51	4.50	4.03	3.14	2.12	1.28
4	.95	.60	.48	.66	.92	3.46	4.49	4.50	4.00	3.08	2.08	1.27
5	.93	.59	.49	.74	.91	3.52	4.49	4.49	3.95	3.06	2.04	1.24
6	.92	.59	.48	.77	.91	3.58	4.50	4.48	3.93	3.04	2.01	1.22
7	.90	.60	.48	.82	.91	3.61	4.50	4.47	3.89	3.01	1.96	1.21
8	.89	.60	.50	.82	.92	3.63	4.50	4.45	3.85	3.00	1.94	1.19
9	.88	.59	.47	.82	.95	3.65	4.49	4.45	3.81	2.96	1.92	1.17
10	.87	.58	.47	.81	1.05	3.66	4.49	4.43	3.77	2.93	1.89	1.15
11	.87	.57	.48	.82	1.27	3.67	4.50	4.41	3.69	2.89	1.87	1.13
12	.85	.57	.45	.83	1.59	3.70	4.54	4.40	3.65	2.87	1.83	1.11
13	.83	.53	.45	.83	1.76	3.69	4.54	4.38	3.60	2.83	1.80	1.10
14	.82	.52	.46	.82	1.93	3.75	4.54	4.36	3.57	2.80	1.78	1.08
15	.80	.51	.45	.82	2.14	3.89	4.55	4.35	3.55	2.77	1.76	1.07
16	.80	.52	.46	.82	2.32	4.06	4.55	4.33	3.53	2.75	1.75	1.05
17	.79	.53	.47	.84	2.44	4.19	4.55	4.32	3.50	2.71	1.72	1.03
18	.78	.55	.45	.84	2.55	4.27	4.56	4.29	3.49	2.68	1.70	1.02
19	.77	.55	.48	.82	2.70	4.32	4.56	4.26	3.48	2.64	1.68	1.01
20	.77	.57	.47	.82	2.88	4.34	4.56	4.25	3.46	2.57	1.65	1.00
21	.73	.57	.47	.82	3.04	4.38	4.51	4.25	3.43	2.53	1.57	.99
22	.68	.56	.47	.82	3.15	4.41	4.51	4.23	3.41	2.48	1.55	.96
23	.67	.56	.47	.82	3.22	4.44	4.53	4.22	3.37	2.46	1.54	.94
24	.66	.56	.45	.83	3.28	4.45	4.53	4.19	3.36	2.44	1.52	.89
25	.65	.55	.46	.82	3.31	4.46	4.53	4.17	3.32	2.41	1.50	.91
26	.66	.55	.46	.82	3.34	4.47	4.52	4.16	3.30	2.38	1.49	.90
27	.66	.52	.48	.83	3.36	4.48	4.51	4.15	3.26	2.35	1.46	.89
28	.65	.54	.59	.87	3.37	4.49	4.51	4.13	3.23	2.33	1.44	.87
29	.63	.55	.65	.87	3.39	4.49	4.51	4.12	3.22	2.29	1.42	.86
30	.64	.54	.65	.88	---	4.50	4.49	4.10	3.20	2.26	1.40	.84
31	.61	---	.64	.88	---	4.53	---	4.09	---	2.23	1.38	---
MEAN	.79	.56	.49	.80	2.08	4.01	4.52	4.32	3.60	2.72	1.75	1.07
MAX	.99	.61	.65	.88	3.39	4.53	4.56	4.51	4.07	3.18	2.21	1.36
MIN	.61	.51	.45	.63	.91	3.43	4.49	4.09	3.20	2.23	1.38	.84

CAL YR 1991 MEAN 1.88 MAX 3.99 MIN .32
WTR YR 1992 MEAN 2.23 MAX 4.56 MIN .45

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 mi².

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder and rain gage. Datum of gage is 1,279.64 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 2, 1987, at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Flow completely regulated by Clear Lake (station 11450000) 500 ft upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/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, 431 ft³/s, Aug. 12, gage height, 4.80 ft; minimum daily, 0.34 ft³/s, Jan. 31, and Feb. 4-6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	9.7	9.1	.36	1.9	1.9	3.6	98	170	202	8.6
2	13	10	9.6	9.0	.37	2.0	1.9	3.5	157	173	215	41
3	13	11	9.6	9.0	.37	2.0	1.9	3.5	218	174	215	101
4	10	13	10	9.0	.34	2.0	1.9	3.3	225	182	224	91
5	9.8	14	10	9.2	.34	2.0	1.9	3.3	223	202	245	93
6	13	14	10	9.3	.34	2.0	1.9	3.2	218	221	258	93
7	14	14	10	6.2	.37	2.0	1.9	3.2	172	238	249	93
8	13	14	9.7	1.2	.38	2.0	1.9	3.2	131	260	237	92
9	12	13	8.9	.97	.38	2.0	1.9	3.1	163	294	238	92
10	12	13	8.6	.87	.54	2.0	1.9	3.0	158	314	261	92
11	12	16	8.3	.81	.85	1.9	1.9	2.9	142	313	294	72
12	12	22	8.1	.69	1.9	1.9	1.9	3.0	158	296	333	7.6
13	14	16	9.3	.66	1.3	1.9	1.9	3.0	201	268	212	7.4
14	13	29	11	.64	1.6	1.9	1.9	3.1	241	248	1.9	7.4
15	12	28	11	.58	1.4	2.1	1.9	3.1	230	239	1.7	7.5
16	12	28	11	.54	1.4	2.1	2.0	3.1	193	260	1.6	7.6
17	11	28	10	.54	1.5	2.1	2.0	3.0	164	276	2.1	7.5
18	11	27	11	.49	1.5	2.1	1.9	2.8	153	276	2.6	7.1
19	11	25	10	.47	1.7	2.1	1.9	2.8	153	277	8.9	7.1
20	9.8	25	9.8	.46	1.8	2.2	1.9	2.7	169	277	9.3	7.1
21	12	25	9.6	.46	1.8	2.2	1.9	2.7	207	269	9.2	7.2
22	14	24	9.1	.45	1.9	2.2	4.1	2.7	227	245	7.6	7.0
23	13	24	8.8	.43	1.9	2.2	4.2	2.7	227	232	6.2	7.0
24	12	24	8.8	.40	2.0	2.1	4.0	2.8	210	234	7.0	7.2
25	12	24	9.0	.41	2.0	2.2	3.9	2.8	195	234	7.3	7.1
26	15	24	9.0	.41	2.0	2.2	3.9	2.7	180	220	7.6	7.1
27	13	25	8.9	.42	2.0	2.1	3.8	2.7	165	197	8.3	7.0
28	12	24	8.9	.44	1.9	2.0	3.7	2.7	180	191	8.5	6.6
29	12	17	9.0	.41	1.9	2.0	3.7	2.7	194	188	8.4	6.5
30	11	9.8	9.0	.37	---	2.0	3.6	2.8	181	187	8.5	6.3
31	11	---	8.9	.34	---	1.9	---	2.8	---	188	8.6	---
TOTAL	376.6	591.8	294.6	74.26	36.14	63.3	75.0	92.5	5533	7343	3298.3	1003.9
MEAN	12.1	19.7	9.50	2.40	1.25	2.04	2.50	2.98	184	237	106	33.5
MAX	15	29	11	9.3	2.0	2.2	4.2	3.6	241	314	333	101
MIN	9.8	9.8	8.1	.34	.34	1.9	1.9	2.7	98	170	1.6	6.3
AC-FT	747	1170	584	147	72	126	149	183	10970	14560	6540	1990
a	0.53	0.96	3.05	2.32	9.00	3.31	0.67	0.16	0.52	0	0	0

a Precipitation, in inches.

SACRAMENTO RIVER BASIN

11451000 CACHE CREEK NEAR LOWER LAKE, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.9	18.1	119	561	692	718	528	304	367	386	311	158
MAX	73.3	683	2584	2915	3604	4919	3538	951	642	609	500	302
(WY)	1972	1984	1984	1965	1958	1983	1958	1983	1946	1946	1946	1971
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1945 - 1992

ANNUAL TOTAL	10716.50	18782.40	
ANNUAL MEAN	29.4	51.3	347
HIGHEST ANNUAL MEAN			1342
LOWEST ANNUAL MEAN			.67
HIGHEST DAILY MEAN	257	Aug 3	5280
LOWEST DAILY MEAN	.12	Feb 6	.00
ANNUAL SEVEN-DAY MINIMUM	.15	Feb 4	.00
INSTANTANEOUS PEAK FLOW		431	Aug 12
INSTANTANEOUS PEAK STAGE		4.80	Aug 12
ANNUAL RUNOFF (AC-FT)	21260	37250	251600
10 PERCENT EXCEEDS	160	219	574
50 PERCENT EXCEEDS	.60	8.6	42
90 PERCENT EXCEEDS	.18	1.4	1.0

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 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Jan. 13, 1980, at datum 2.0 ft higher. Recording rain gage 4.7 mi northwest of gage. Elevation of rain gage is 2,050 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s, Feb. 17, 1986, gage height, 12.84 ft, from rating curve extended above 2,700 ft³/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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 12	unknown	*1,900	*6.97				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.25	2.0	19	e17	77	57	26	e5.4	3.5	.13	.00
2	.00	.27	2.1	15	e23	68	53	23	e5.0	2.8	.10	.00
3	.00	.29	2.1	14	e15	55	e49	22	e4.6	e2.7	.05	.00
4	.00	.31	2.1	15	e13	53	e46	21	e5.0	e2.5	.01	.00
5	.00	.39	2.2	199	e11	134	e45	20	e4.9	e2.3	.03	.00
6	.00	.45	2.3	121	e10	130	e45	19	e4.5	e2.1	.03	.00
7	.00	.59	2.4	69	e10	108	e45	18	e3.9	e1.9	.03	.00
8	.00	.69	2.2	51	e15	92	e46	17	e3.8	e1.6	.03	.00
9	.02	.85	2.1	36	e25	79	e50	16	e3.8	e1.3	.02	.00
10	.02	.86	2.2	28	e350	69	e51	16	e4.0	e1.2	.03	.00
11	.02	.95	2.4	22	e900	62	53	15	e4.2	e1.1	.02	.00
12	.02	.92	2.3	19	e1300	57	62	14	e4.5	e1.0	e.01	.00
13	.04	1.0	2.0	16	e480	53	63	14	e4.8	e.95	e.01	.01
14	.03	1.2	2.4	15	e920	e200	47	13	e5.2	e.88	e.00	.03
15	.03	1.2	2.1	13	437	e750	42	13	e5.4	e.78	e.00	.00
16	.04	1.2	2.2	e12	323	e500	40	12	e5.4	e.70	e.00	.00
17	.07	5.6	2.7	e12	242	e330	50	11	e5.0	e.65	e.00	.00
18	.05	4.8	8.5	e11	355	248	47	11	e4.5	e.58	e.00	.00
19	.05	2.2	6.0	e10	716	185	42	11	e4.2	e.55	e.00	.00
20	.04	4.6	4.5	e9.5	705	150	39	11	e3.8	e.52	e.00	.00
21	.03	7.1	3.5	e9.0	450	133	36	11	e3.4	e.52	.00	.03
22	.04	3.4	3.2	e8.4	344	137	34	9.9	e3.0	e.48	.00	.00
23	.10	2.2	3.0	e7.9	246	120	32	9.8	e2.7	e.46	.00	.00
24	.09	1.8	3.0	e7.5	182	104	31	9.1	e3.5	e.45	.00	.03
25	.32	1.7	3.0	e7.2	135	92	29	e8.8	e2.3	e.45	.00	.06
26	3.0	1.8	3.1	e7.0	104	86	28	e8.3	e2.5	e.42	.00	.04
27	.63	1.7	4.7	e6.8	86	80	26	e7.8	e2.9	e.40	.00	.01
28	.37	1.7	62	e14	72	72	26	e7.0	e3.0	e.36	.00	.01
29	.30	1.6	134	e20	65	66	25	e6.5	5.1	.24	.00	.00
30	.23	1.7	45	e12	---	67	26	e6.1	6.0	.19	.00	.06
31	.21	---	25	e9.8	---	62	---	e5.8	---	.17	.00	---
TOTAL	5.75	53.32	346.3	816.1	8551	4419	1265	413.1	126.3	33.75	0.50	0.28
MEAN	.19	1.78	11.2	26.3	295	143	42.2	13.3	4.21	1.09	.016	.009
MAX	3.0	7.1	134	199	1300	750	63	26	6.0	3.5	.13	.06
MIN	.00	.25	2.0	6.8	10	53	25	5.8	2.3	.17	.00	.00
AC-FT	11	106	687	1620	16960	8770	2510	819	251	67	1.0	.6
a	2.06	2.36	4.58	3.83	12.90	5.62	1.32	0	1.17	0.01	0	0

e Estimated.

a Precipitation, in inches.

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.11	64.2	122	208	285	256	117	35.5	10.7	3.16	1.01	.88
MAX	12.4	405	698	615	1287	1019	631	186	34.1	12.7	5.87	4.09
(WY)	1980	1982	1984	1974	1986	1983	1982	1983	1983	1983	1983	1983
MIN	.19	1.11	1.17	4.74	9.59	9.88	5.13	3.93	1.69	.19	.000	.009
(WY)	1992	1977	1977	1991	1991	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1972 - 1992	
ANNUAL TOTAL	13668.04		16030.40		91.3	
ANNUAL MEAN	37.4		43.8		286	
HIGHEST ANNUAL MEAN					3.67	
LOWEST ANNUAL MEAN					1977	
HIGHEST DAILY MEAN	1530	Mar 4	1300	Feb 12	8340	Feb 17 1986
LOWEST DAILY MEAN	.00	Aug 25	.00	Oct 1	.00	Aug 27 1972
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 5	.00	Oct 1	.00	Aug 27 1972
INSTANTANEOUS PEAK FLOW			1900	Feb 12	10800	Feb 17 1986
INSTANTANEOUS PEAK STAGE			6.97	Feb 12	12.84	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	27110		31800		66120	
10 PERCENT EXCEEDS	86		88		229	
50 PERCENT EXCEEDS	3.4		3.8		9.3	
90 PERCENT EXCEEDS	.01		.00		.40	

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map. Recording rain gage located on top of Indian Valley Dam.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Indian Valley Reservoir, capacity 300,000 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,390 ft³/s, Mar. 12, 1986, gage height, 9.80 ft; minimum daily, 0.96 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 490 ft³/s, May 5, gage height, 4.11 ft; minimum daily, 4.5 ft³/s, Nov. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	6.9	9.9	9.3	8.0	5.9	11	114	152	37	9.2	9.9
2	11	6.9	9.9	9.3	8.0	5.9	11	164	96	27	8.7	9.9
3	11	6.9	9.9	9.3	8.0	5.9	11	278	97	26	8.6	9.9
4	11	6.9	9.9	9.4	8.0	5.9	11	364	96	24	8.6	9.7
5	11	6.9	9.9	9.7	8.0	6.1	11	439	95	24	8.6	9.6
6	8.9	6.9	9.9	9.6	8.0	6.2	11	483	95	24	8.6	9.1
7	7.4	6.9	9.9	9.7	8.0	6.1	11	479	95	15	8.6	8.9
8	7.4	6.9	9.9	9.0	8.0	6.1	11	475	94	6.4	8.6	8.7
9	7.4	6.9	9.9	8.1	8.0	6.1	11	458	94	15	8.3	8.4
10	24	6.9	9.9	8.0	11	6.1	11	421	94	13	8.5	8.3
11	17	6.9	9.9	8.0	11	6.1	11	360	85	13	8.7	8.7
12	6.9	7.0	9.9	8.0	8.2	6.1	11	315	83	12	8.8	9.6
13	7.1	7.8	9.9	8.0	7.8	6.1	11	369	80	10	8.9	9.6
14	7.1	7.4	9.9	8.0	9.0	6.5	11	410	79	10	8.9	9.7
15	7.1	7.4	9.9	8.0	9.2	7.4	8.3	399	78	10	8.7	9.9
16	6.9	7.2	9.9	8.0	9.9	7.1	6.1	345	78	11	8.5	9.9
17	6.9	7.1	9.6	8.0	9.6	7.5	6.1	307	77	11	8.3	9.9
18	6.9	7.1	9.6	8.0	10	8.6	5.9	296	68	11	9.4	9.9
19	6.9	4.5	9.6	8.0	10	8.6	5.1	280	59	11	13	9.9
20	6.9	8.2	9.6	8.0	11	8.7	35	261	57	11	11	9.9
21	6.9	9.6	9.4	8.0	9.2	8.9	84	269	61	11	11	9.9
22	6.9	11	9.3	8.0	6.5	9.3	136	276	64	11	10	9.9
23	6.9	7.0	9.3	8.0	5.9	9.3	152	255	66	11	10	9.9
24	6.9	6.8	9.3	8.0	5.9	9.3	187	239	68	11	9.9	9.7
25	7.0	8.3	9.3	8.0	5.9	9.3	259	262	54	11	9.9	9.6
26	7.1	9.4	9.0	8.0	5.9	9.3	357	279	38	11	9.7	9.6
27	6.9	9.9	8.7	8.0	5.9	9.3	410	261	49	11	9.7	9.6
28	6.9	9.9	9.3	8.0	5.9	9.3	420	245	49	11	9.9	9.6
29	6.9	9.9	9.3	8.0	5.9	9.3	443	272	49	11	9.9	9.6
30	6.9	9.9	9.3	8.0	---	9.4	417	298	49	11	9.9	9.6
31	6.9	---	9.3	8.0	---	11	---	286	---	10	9.9	---
TOTAL	266.0	231.3	298.3	259.4	235.7	236.7	3085.5	9959	2299	441.4	290.3	286.4
MEAN	8.58	7.71	9.62	8.37	8.13	7.64	103	321	76.6	14.2	9.36	9.55
MAX	24	11	9.9	9.7	11	11	443	483	152	37	13	9.9
MIN	6.9	4.5	8.7	8.0	5.9	5.9	5.1	114	38	6.4	8.3	8.3
AC-FT	528	459	592	515	468	469	6120	19750	4560	876	576	568
a	1.06	0.95	2.13	1.59	6.87	2.86	0.59	0	0.46	0.01	0	0

a Precipitation, in inches.

11451300 NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.83	10.2	12.9	10.1	106	173	208	241	223	208	99.7	27.4
MAX	12.1	12.0	28.3	11.7	659	849	557	717	576	370	302	64.8
(WY)	1987	1987	1987	1986	1986	1986	1987	1987	1987	1988	1987	1988
MIN	7.64	7.71	9.18	8.37	7.29	5.58	9.30	9.40	8.52	8.16	8.17	9.10
(WY)	1990	1992	1989	1992	1990	1989	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1986 - 1992	
ANNUAL TOTAL	32009.96		17889.0		111	
ANNUAL MEAN	87.7		48.9		222	
HIGHEST ANNUAL MEAN					8.54	
LOWEST ANNUAL MEAN					4970	
HIGHEST DAILY MEAN	509	May 16	483	May 6		Mar 11 1986
LOWEST DAILY MEAN	.96	Aug 4	4.5	Nov 19	.96	Aug 4 1991
ANNUAL SEVEN-DAY MINIMUM	6.0	Aug 3	5.9	Feb 23	4.8	Feb 27 1989
INSTANTANEOUS PEAK FLOW			490	May 5	5390	Mar 12 1986
INSTANTANEOUS PEAK STAGE			4.11	May 5	9.80	Mar 12 1986
ANNUAL RUNOFF (AC-FT)	63490		35480		80210	
10 PERCENT EXCEEDS	377		171		380	
50 PERCENT EXCEEDS	9.9		9.6		11	
90 PERCENT EXCEEDS	6.9		6.9		7.7	

11452500 CACHE CREEK AT YOLO, CA

LOCATION.--Lat 38°43'38", long 121°48'22", in Rio Jesus Maria Grant, Yolo County, Hydrologic Unit 18020129, 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 mi².

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 National Geodetic Vertical Datum of 1929. 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 ft³/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, 2,330 ft³/s, Feb. 15, gage height, 55.21 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	26	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	21	.00	9.5	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	17	.00	1.1	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	11	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	14	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	440	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	271	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	118	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	65	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	32	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	14	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	527	4.6	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	894	.41	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	321	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	1290	5.5	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	668	518	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	429	352	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	236	195	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	275	117	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	1190	79	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	663	57	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	349	42	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	254	59	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	186	63	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	142	39	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	108	28	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	72	19	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	45	11	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	32	4.3	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	1.1	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.15	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	7681.00	2624.06	0.00	10.60	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	265	84.6	.000	.34	.000	.000	.000	.000
MAX	.00	.00	.00	.00	1290	518	.00	9.5	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	15240	5200	.00	21	.00	.00	.00	.00

11452500 CACHE CREEK AT YOLO, CA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.0	64.2	446	1287	1866	1432	872	195	60.7	25.8	10.2	4.66
MAX	335	1593	5644	7446	9262	10930	6353	1655	784	421	189	69.4
(WY)	1963	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 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1903 - 1992		
ANNUAL TOTAL	14379.46			10315.66			515		
ANNUAL MEAN	39.4			28.2			2449		
HIGHEST ANNUAL MEAN							1883		
LOWEST ANNUAL MEAN							1977		
HIGHEST DAILY MEAN	2720			1290			29300		
LOWEST DAILY MEAN	.00			.00			.00		
ANNUAL SEVEN-DAY MINIMUM	.00			.00			.00		
INSTANTANEOUS PEAK FLOW				2330			41400		
INSTANTANEOUS PEAK STAGE				55.21			88.44		
ANNUAL RUNOFF (AC-FT)	28520			20460			372900		
10 PERCENT EXCEEDS	.00			20			1310		
50 PERCENT EXCEEDS	.00			.00			.00		
90 PERCENT EXCEEDS	.00			.00			.00		

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 National Geodetic Vertical Datum of 1929. 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 ft³/s are computed. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 374,000 ft³/s, Feb. 20, 1986, gage height, 34.87 ft; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,720 ft³/s, Mar. 21, gage height, 19.54 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
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	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	1250	---	---	---	---	---	---	---
15	---	---	---	---	1990	---	---	---	---	---	---	---
16	---	---	---	---	2460	---	---	---	---	---	---	---
17	---	---	---	---	2440	---	---	---	---	---	---	---
18	---	---	---	---	2450	1630	---	---	---	---	---	---
19	---	---	---	---	2330	1710	---	---	---	---	---	---
20	---	---	---	---	2270	1430	---	---	---	---	---	---
21	---	---	---	---	2650	1040	---	---	---	---	---	---
22	---	---	---	---	2630	---	---	---	---	---	---	---
23	---	---	---	---	2520	---	---	---	---	---	---	---
24	---	---	---	---	2360	---	---	---	---	---	---	---
25	---	---	---	---	1970	---	---	---	---	---	---	---
26	---	---	---	---	1480	---	---	---	---	---	---	---
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 19 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	

SACRAMENTO RIVER BASIN

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 164,094 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, 439,060 acre-ft, Sept. 30, 1992, elevation, 363.36 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 632,750 acre-ft, Apr. 3, 4, elevation, 380.03 ft; minimum, 439,060 acre-ft, Sept. 30, elevation, 363.36 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 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	573580	556060	548820	545630	545860	601880	632490	620980	581220	542810	502240	463240
2	572980	555700	548470	545630	545860	602250	632620	619850	579770	541640	501000	461840
3	572370	555470	548230	545630	545630	602370	632750	618840	578310	540580	499760	461190
4	571760	555110	547990	546330	545390	602500	632750	617720	576980	539530	498410	460220
5	571160	554870	547750	547160	545510	605340	632620	616720	575640	538470	497070	459140
6	570430	554640	547630	547400	545510	609080	632490	615840	574310	537410	495730	458390
7	569710	554520	547520	547630	545510	610330	632360	614590	573100	536480	494490	457520
8	568990	554280	547280	547630	545390	611330	632360	613340	571760	535300	493260	456660
9	568150	554040	547040	547750	545630	611960	632360	611710	570430	534140	492030	456020
10	567310	553690	546800	547750	546450	612330	632240	610460	569230	532980	490910	455170
11	566590	553450	546570	547630	550360	612710	632240	609330	568030	531580	489570	454310
12	565870	553210	546330	547520	557840	612960	632620	608080	566590	530190	488350	453250
13	565270	552970	546100	547520	559270	613090	632620	606830	565150	528920	487130	452400
14	564790	552740	545860	547400	565750	613210	632620	605590	563830	527520	485910	451650
15	564190	552380	545630	547280	570310	619340	632490	604350	562510	526130	484690	450800
16	563590	552030	545390	547160	574070	623510	632360	603240	561310	524860	483480	449840
17	562990	551670	545390	547160	576010	625160	632110	602000	560110	523460	482260	448880
18	562510	551670	545280	547160	577710	626290	631860	600760	558910	521860	481040	447920
19	561910	551310	545040	547160	583910	627560	631480	599520	557720	520360	479710	447170
20	561190	551430	544690	547160	593100	628190	631100	598160	556300	518870	478390	446430
21	560710	551310	544450	547040	596050	628700	630590	596920	555110	517380	476960	445790
22	560110	551190	544340	546920	597420	629200	629960	595680	553810	515890	475540	445160
23	559510	551080	544220	546800	598530	629710	629200	594450	552500	514400	474230	444320
24	559030	550840	543990	546570	599400	630470	628700	592980	551310	512910	473030	443690
25	559030	550600	543870	546210	599890	630970	627690	591510	550130	511650	471830	443050
26	558910	550250	543750	545980	600390	631480	626670	588810	548820	510180	470630	441790
27	558790	549890	543630	545750	600760	631860	625910	587460	547630	508820	469310	441060
28	558200	549770	544810	545510	601010	632110	624400	587460	546330	507340	468000	440320
29	557720	549530	545630	545390	601260	632110	623260	585990	545160	506100	466910	439690
30	557010	549180	545630	545280	---	632360	622120	584150	543990	504740	465620	439060
31	556530	---	545630	545510	---	632360	---	582800	---	503490	464430	---
MAX	573580	556060	548820	547750	601260	632360	632750	620980	581220	542810	502240	463240
MIN	556530	549180	543630	545280	545390	601880	622120	582800	543990	503490	464430	439060
a	373.84	373.22	372.92	372.91	377.52	380.00	379.19	376.02	372.78	369.27	365.74	363.36
b	-17660	-7350	-3550	-120	+55750	+31100	-10240	-39320	-38810	-40500	-39060	-25370
c	4903	2043	1236	726	1144	2299	4146	7309	6801	8029	8134	5399

CAL YR 1991 b -47470

WTR YR 1992 b -135130

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.

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 mi².

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 National Geodetic Vertical Datum of 1929 (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 ft³/s, Feb. 27, 1940, gage height, 30.5 ft, present datum, from rating curve extended above 30,000 ft³/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 ft³/s, Mar. 2, 1983, gage height, 19.55 ft; minimum daily, 6.1 ft³/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 ft³/s, Aug. 23, gage height, 8.01 ft; minimum daily, 32 ft³/s, Mar. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	302	73	61	48	41	33	53	465	612	500	509	478
2	276	65	61	48	41	45	62	487	632	500	513	443
3	276	65	62	48	41	65	62	470	649	454	509	376
4	274	65	63	49	41	60	62	447	603	440	538	380
5	294	67	70	49	41	54	61	444	559	445	545	384
6	273	69	81	48	40	58	61	482	561	448	563	362
7	238	85	79	49	40	52	61	513	530	491	578	362
8	274	122	79	48	39	43	61	548	488	523	555	358
9	273	122	79	53	39	35	82	576	479	563	509	353
10	243	123	80	60	41	34	112	550	497	579	488	341
11	235	108	70	60	49	39	113	516	517	546	545	368
12	235	76	60	59	68	35	128	513	527	525	551	386
13	234	65	60	59	42	34	120	540	535	560	536	342
14	233	64	60	59	55	34	107	546	535	598	547	330
15	225	65	60	57	53	36	130	542	544	623	536	364
16	226	71	59	54	44	37	149	509	546	636	519	382
17	221	85	60	59	41	35	173	520	524	654	519	384
18	210	84	63	60	39	34	214	557	524	691	528	386
19	199	87	61	71	55	33	226	594	581	674	582	350
20	186	93	68	83	78	32	228	577	597	658	575	325
21	184	93	82	83	44	39	280	593	560	645	587	333
22	193	94	82	84	40	46	341	610	575	645	578	344
23	213	94	83	83	37	47	357	644	585	645	527	317
24	174	81	82	83	36	46	358	647	581	611	519	287
25	137	62	81	83	36	46	401	564	538	583	517	285
26	123	62	81	69	34	46	403	543	536	583	522	285
27	108	61	69	57	35	47	428	590	528	583	559	280
28	108	62	60	57	33	47	461	662	524	612	598	280
29	108	62	55	57	34	46	452	690	497	609	559	298
30	103	60	47	50	---	46	454	655	499	545	502	298
31	88	---	47	42	---	45	---	622	---	535	481	---
TOTAL	6466	2385	2105	1869	1257	1329	6200	17216	16463	17704	16694	10461
MEAN	209	79.5	67.9	60.3	43.3	42.9	207	555	549	571	539	349
MAX	302	123	83	84	78	65	461	690	649	691	598	478
MIN	88	60	47	42	33	32	53	444	479	440	481	280
AC-FT	12830	4730	4180	3710	2490	2640	12300	34150	32650	35120	33110	20750

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 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	226	89.8	117	464	592	766	660	562	591	620	540	397
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 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1960 - 1992

ANNUAL TOTAL	100143	100149	
ANNUAL MEAN	274	274	468
ANNUAL MEAN a	286	159	550
HIGHEST ANNUAL MEAN			1580
LOWEST ANNUAL MEAN			132
HIGHEST DAILY MEAN	631	Jul 24	691 Jul 18
LOWEST DAILY MEAN	11	Mar 11	32 Mar 20
ANNUAL SEVEN-DAY MINIMUM	48	Mar 5	34 Feb 24
INSTANTANEOUS PEAK FLOW			735 Aug 23
INSTANTANEOUS PEAK STAGE			8.01 Aug 23
ANNUAL RUNOFF (AC-FT)	198600	198600	339200
ANNUAL RUNOFF (AC-FT) a	207000	115600	398500
10 PERCENT EXCEEDS	539	581	713
50 PERCENT EXCEEDS	233	213	350
90 PERCENT EXCEEDS	61	43	50

a Adjusted for change in contents and evaporation from Lake Berryessa.

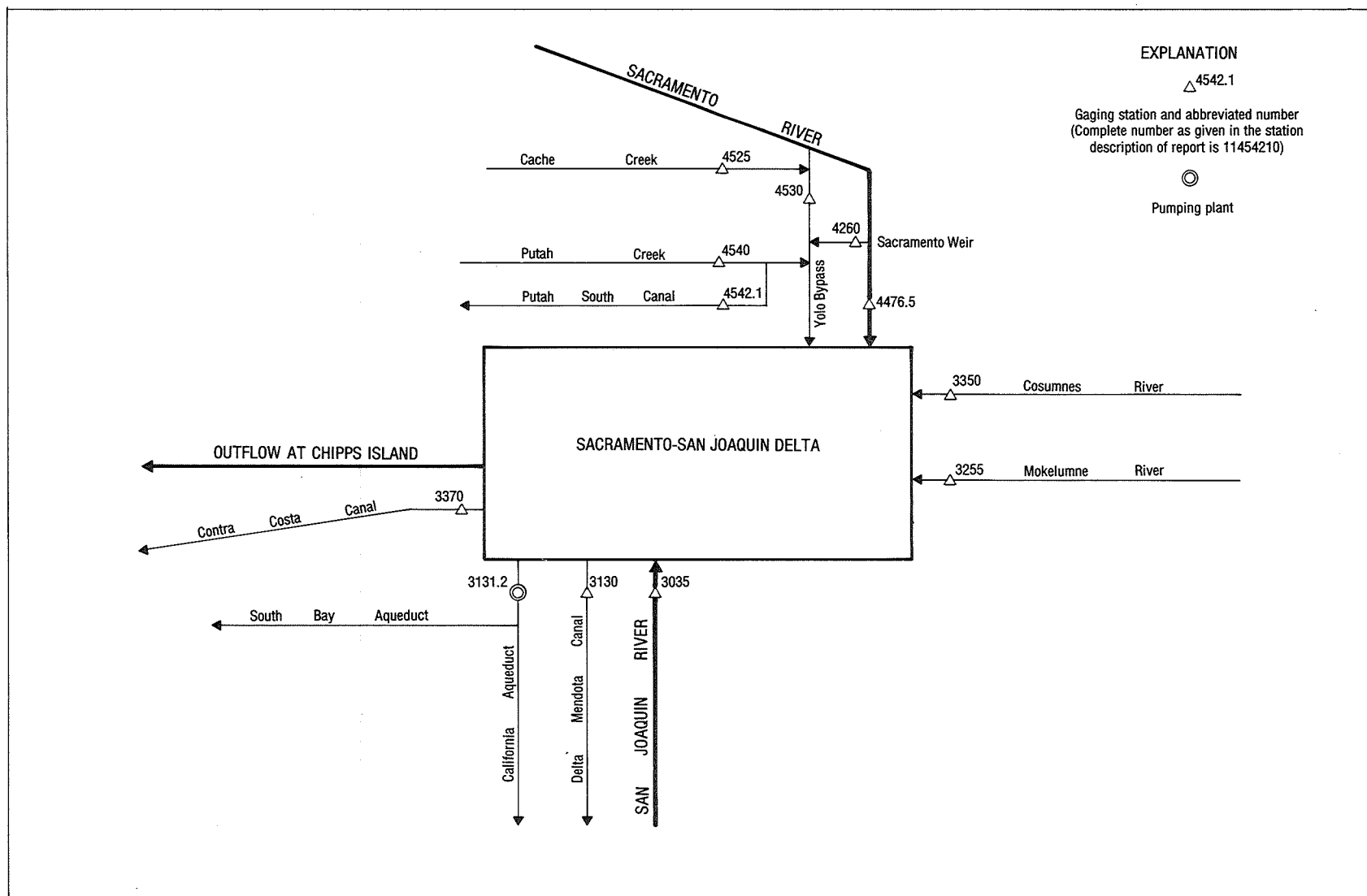


Figure 39. Principal inflows and diversions, Sacramento-San Joaquin Delta.

SACRAMENTO-SAN JOAQUIN DELTA, INFLOWS AND DIVERSIONS

LOCATION.--See schematic diagram of inflows and diversions, Sacramento-San Joaquin Delta.

PERIOD OF RECORD.--October 1971 to current year. Data for periods prior to October 1971 can be obtained from published records for stations tabulated below.

REMARKS.--Minor inflow streams and diversions are not included. Total for water year may not equal the sum of the individual months because of rounding.

COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals provided by U.S. Bureau of Reclamation; Records for California Aqueduct and Sacramento Weir spill provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Inflows, in thousands of acre-feet												
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Month Apr.	May	June	July	Aug.	Sept.	Water year
11303500 SAN JOAQUIN RIVER NEAR VERNALIS												
48.48	64.50	55.02	58.98	120.3	90.37	84.40	54.82	28.60	27.47	29.69	37.76	700.4
11325500 MOKELUMNE RIVER AT WOODBRIDGE												
2.61	13.90	7.72	7.53	9.09	8.56	5.45	2.04	2.25	2.17	2.02	1.96	65.30
11335000 COSUMNES RIVER AT MICHIGAN BAR												
1.02	1.54	2.26	3.72	36.80	36.09	16.75	4.69	1.07	.76	.02	.00	104.7
11426000 SACRAMENTO WEIR SPILL												
0	0	0	0	0	0	0	0	0	0	0	0	0
11447650 SACRAMENTO RIVER AT FREEPORT												
577.9	414.1	569.3	642.0	1499	1250	562.2	394.4	506.4	510.9	536.0	584.0	8046
11453000 YOLO BYPASS NEAR WOODLAND ¹												
0	0	0	0	571.2	11.52	0	0	0	0	0	0	582.7
11454000 PUTAH CREEK NEAR WINTERS												
12.83	4.73	4.18	3.71	2.49	2.64	12.30	34.15	32.65	35.12	33.11	20.75	198.7
TOTAL												
642.8	498.8	638.5	715.9	2239	1399	681.1	490.1	571.0	576.4	600.8	644.5	9698
Diversion, in thousands of acre-feet												
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Month Apr.	May	June	July	Aug.	Sept.	Water year
11313000 DELTA-MENDOTA CANAL												
106.3	119.5	114.1	196.5	141.7	251.7	102.2	52.02	46.99	55.18	60.82	94.87	1342
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)												
208.3	63.97	78.59	185.3	202.9	386.0	70.76	43.02	56.14	23.11	91.12	164.8	1574
11337000 CONTRA COSTA CANAL												
9.33	6.54	6.92	6.38	5.26	4.56	8.56	11.40	11.35	11.84	12.25	10.15	104.5
11454210 PUTAH SOUTH CANAL												
9.98	2.53	2.12	1.75	1.65	1.57	10.90	31.55	27.68	29.37	27.38	17.63	164.1
TOTAL												
333.9	192.5	201.7	389.9	351.5	643.8	192.4	138.0	142.2	119.5	191.6	287.4	3184

¹Flow not computed below 1,000 ft³/s.

Discharge measurements made at miscellaneous sites during water year 1992

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, 1986-92	2-13-92	874
					9-03-92	b3.73
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	c1955-90, 1991-92	10-07-91	134
					11-01-91	34.4
					12-04-91	15.8
					1-02-92	10.2
					2-03-92	8.95
					3-02-92	31.8
					4-01-92	30.6
					5-07-92	102
					6-16-92	96.7
					7-01-92	112
					8-13-92	536

a Published as a miscellaneous measurement.

b Base flow.

c Operated as a continuous-record station.

INDEX

	Page		Page
ACCESS TO WATSTORE DATA.....	15	BUTT CREEK BELOW ALMANOR-BUTT CREEK	
Accuracy of the Records.....	12	TUNNEL, NEAR PRATTVILLE.....	184
Acre-foot, definition of.....	16	BUTT VALLEY RESERVOIR NEAR CARIBOU.....	186
Adenosine triphosphate, definition of.....	16	BUTTE CREEK BELOW CENTERVILLE	
Algae, definition of.....	16	DIVERSION DAM, NEAR PARADISE.....	154
Algal growth potential, definition of.....	16	BUTTE CREEK BELOW DIVERSION DAM,	
ALMANOR, LAKE, AT PRATTVILLE.....	181	NEAR STIRLING CITY.....	152
Almanor-Butt Creek tunnel.....	184	BUTTE CREEK BELOW FORKS OF BUTTE	
Alpine County, location of discharge		DIVERSION DAM NEAR DE SABLE.....	153
stations.....	26	BUTTE CREEK NEAR CHICO.....	157
Amador County, location of discharge		Butte County, location of discharge	
stations.....	27	and water-quality stations.....	28
AMERICAN RIVER AT FAIR OAKS.....	404	CACHE CREEK AT YOLO.....	425
AMERICAN RIVER, SOUTH FORK, BELOW		CACHE CREEK NEAR LOWER LAKE.....	419
SILVER CREEK, NEAR POLLOCK PINES.....	386	CACHE CREEK, NORTH FORK, NEAR	
AMERICAN RIVER, SOUTH FORK, NEAR CAMINO.....	392	CLEARLAKE OAKS.....	423
AMERICAN RIVER, SOUTH FORK, NEAR KYBURZ.....	374	CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)...	432
AMERICAN RIVER, SOUTH FORK, NEAR LOTUS.....	398	CAMINO RESERVOIR NEAR POLLOCK PINES.....	383
AMERICAN RIVER, SOUTH FORK, NEAR		Camino powerplant.....	386
PLACERVILLE.....	396	CAMPTONVILLE TUNNEL AT INTAKE, NEAR	
American River basin, Middle Fork,		CAMPTONVILLE.....	246
schematic diagram of.....	326	CANYON CREEK BELOW BOWMAN LAKE.....	286
American River basin, South Fork,		CANYON CREEK BELOW FAUCHERIE LAKE,	
schematic diagram of.....	363	NEAR CISCO.....	276
ANDERSON-COTTONWOOD IRRIGATION DISTRICT		CANYON CREEK BELOW FRENCH LAKE, NEAR	
CANAL AT SHARON STREET, AT REDDING.....	106	CISCO.....	274
Annual 7-day minimum.....	17	CANYON CREEK BELOW SAWMILL LAKE,	
Annual departure from 1951-80 normal		NEAR GRANITEVILLE.....	278
discharge.....	5	CAPLES LAKE NEAR KIRKWOOD.....	371
Annual mean, explanation of.....	11	CAPLES LAKE OUTLET NEAR KIRKWOOD.....	372
Annual runoff, explanation of.....	12	Caribou powerplants.....	186
Annual total, explanation of.....	11	Cell volume determination.....	17
Aquifer, definition of.....	16	Cells per volume.....	17
Arrangement of Records.....	13	Centerville powerplant.....	154
Artesian, definition of.....	16	Chemical oxygen demand, definition of.....	17
Artificial substrate, definition of.....	21	CHICAGO PARK FLUME NEAR DUTCH FLAT.....	306
Ash mass, definition of.....	16	Chlorophyll, definition of.....	17
Bacteria, definition of.....	16	Classification of Records.....	13
BAILEY CREEK BELOW DIVERSION TO PONDEROSA-		CLEAR CREEK AT FRENCH GULCH.....	107
BAILEY CREEK POWERPLANT, NEAR MANTON.....	125	CLEAR CREEK NEAR IGO.....	112
BANGOR CANAL BELOW MINERS RANCH		CLEAR LAKE AT LAKEPORT.....	418
RESERVOIR, NEAR OROVILLE.....	177	COLEMAN POWERPLANT NEAR COTTONWOOD.....	123
BATTLE CREEK BASIN, POWERPLANTS IN.....	123	COLLETT RESERVOIR NEAR LITTLE VALLEY.....	65
BATTLE CREEK BELOW COLEMAN FISH		Color unit, definition of.....	17
HATCHERY, NEAR COTTONWOOD.....	132	Colusa County, location of discharge	
Battle Creek basin, schematic		and water-quality stations.....	29
diagram of.....	120	Comparison of 7-day low flow for 1990 water	
BEAR RIVER BELOW DRUM AFTERBAY, NEAR		year to 7-day, 10-year low flow and minimum	
BLUE CANYON.....	304	daily flow for 30-year base period 1951-80	
BEAR RIVER BELOW DUTCH FLAT		at selected stations.....	2
AFTERBAY, NEAR DUTCH FLAT.....	307	Comparison of peak discharge for 1990 water	
BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX...	312	year with those for period of record for	
BEAR RIVER CANAL INTAKE NEAR COLFAX.....	310	selected stations.....	2
BEAR RIVER FISH RELEASE BELOW NEW CAMP		Contents, definition of.....	17
FAR WEST RESERVOIR, NEAR WHEATLAND.....	314	Continuing-record station.....	13
BEAR RIVER NEAR EMIGRANT GAP.....	301	CONTRA COSTA CANAL.....	432
BEAR RIVER NEAR WHEATLAND.....	315	Control structure, definition of.....	17
Bear River basin, schematic diagram of.....	300	Control, definition of.....	17
Bed material, definition of.....	16	COOPERATION.....	2
Bedload discharge, definition of.....	20	COSUMNES RIVER AT MICHIGAN BAR.....	432
Bedload, definition of.....	20	COTTONWOOD CREEK NEAR COTTONWOOD.....	118
Belden powerplant.....	187	COW CREEK NEAR MILLVILLE.....	116
Benthic organisms, definition of.....	16	Cross-Sectional Data.....	14
BERRYESSA, LAKE, NEAR WINTERS.....	428	Cubic foot per second, definition of.....	17
Biochemical oxygen demand, definition of....	16	Cubic foot per second-day, definition of....	17
Biomass, definition of.....	16	Daily mean values, data table of.....	11
Blue-green algae, definition of.....	20	Data Collection and Computation.....	9
Bottom material, definition of.....	17	Data Presentation.....	10, 14
BOWMAN LAKE NEAR GRANITEVILLE.....	282	De Sable powerplant.....	155
BOWMAN-SPAULDING CANAL AT JORDAN CREEK		DEER CREEK NEAR SMARTVILLE.....	294
SIPHON VENTURI, NEAR EMIGRANT GAP.....	284	DEER CREEK NEAR VINA.....	142
BOWMAN-SPAULDING CANAL INTAKE NEAR		Deer Creek powerplant.....	268
GRANITEVILLE.....	283	DEFINITION OF TERMS.....	16
BRUSH CREEK BELOW BRUSH CREEK DAM,		DELTA-MENDOTA CANAL.....	432
NEAR POLLOCK PINES.....	389	Diatoms, definition of.....	20
BRUSH CREEK RESERVOIR NEAR POLLOCK PINES...	388	Discharge and precipitation during water	
BUCK-LOON TUNNEL NEAR MEEKS BAY.....	340	year 1992 and long-term statistics at	
BUCKS CREEK BELOW DIVERSION DAM,		four representative gaging stations.....	4
NEAR BUCKS LODGE.....	201	Discharge, definition of.....	17
BUCKS CREEK TUNNEL OUTLET NEAR STORRIE.....	202	Dissolved solids concentration, comparison	
BUCKS LAKE NEAR BUCKS LODGE.....	199	of, at two selected stations.....	7
Bucks Creek powerplant.....	205		

	Page		Page
Dissolved, definition of.....	17	Instantaneous low flow, explanation of.....	12
Dissolved-solids concentration, definition of.....	17	Instantaneous peak flow, explanation of.....	12
Diversity index, definition of.....	18	Instantaneous peak stage, explanation of.....	12
Dog Creek at Delta.....	433	INTRODUCTION.....	1
Downstream Order System.....	8	IRON CANYON CREEK BELOW IRON CANYON DAM, NEAR BIG BEND.....	83
Drainage area, definition of.....	18	IRON CANYON RESERVOIR NEAR BIG BEND.....	76
Drainage basin, definition of.....	18	JACKSON CREEK BELOW JACKSON LAKE, NEAR SIERRA CITY.....	281
DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP.....	266	JACKSON LAKE NEAR SIERRA CITY.....	280
Dry mass, definition of.....	17	JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY..	234
DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS.....	332	JAMES B. BLACK POWERPLANT NEAR BIG BEND.....	82
DUNCAN CREEK NEAR FRENCH MEADOWS.....	330	Jones Fork powerplant.....	379
DUTCH FLAT NO 1 POWERPLANT NEAR DUTCH FLAT.....	302	JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH.....	109
DUTCH FLAT NO 2 FLUME NEAR BLUE CANYON.....	303	JUNCTION RESERVOIR NEAR POLLOCK PINES.....	381
EAST PARK RESERVOIR NEAR STONYFORD.....	144	KELLY LAKE NEAR CISCO.....	322
ECHO LAKE CONDUIT NEAR PHILLIPS.....	364	Kelly Ridge powerplant.....	176
El Dorado County, location of discharge and water-quality stations.....	30	KELSEY CREEK NEAR KELSEYVILLE.....	416
El Dorado powerplant.....	386	KIDD LAKE NEAR SODA SPRINGS.....	258
ELDER CREEK NEAR PASKENTA.....	136	KILARC CANAL DIVERSION TO OLD COW CREEK NEAR WHITMORE.....	115
EXPLANATION OF THE RECORDS.....	8	Laboratory Measurements.....	14
FAUCHERIE LAKE NEAR CISCO.....	275	Lakes and reservoirs:	
FEATHER RIVER AT OROVILLE.....	224	ALMANOR, LAKE, AT PRATTVILLE.....	181
FEATHER RIVER NEAR GRIDLEY.....	228	BERRYESSA, LAKE, NEAR WINTERS.....	428
FEATHER RIVER, SOUTH FORK, BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY.....	168	BOWMAN LAKE NEAR GRANITEVILLE.....	282
Feather River at Lake Oroville, schematic diagram of.....	213	BRITTON, LAKE, NEAR BURNEY.....	76
Feather River basin, North Fork, schematic diagram of.....	180	BRUSH CREEK RESERVOIR NEAR POLLOCK PINES..	388
Feather River basin, South Fork, schematic diagram of.....	163	BUCKS LAKE NEAR BUCKS LODGE.....	199
Fecal-coliform bacteria, definition of.....	16	BUTT VALLEY RESERVOIR NEAR CARIBOU.....	186
Fecal-streptococcal bacteria, definition of.....	16	CAMINO RESERVOIR NEAR POLLOCK PINES.....	383
FOLSOM LAKE NEAR FOLSOM.....	403	CAPLES LAKE NEAR KIRKWOOD.....	371
Forbestown powerplant.....	174	CLEAR LAKE AT LAKEPORT.....	418
FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO.....	263	COLLETT RESRVOIR NEAR LITTLE VALLEY.....	65
FORDYCE LAKE NEAR CISCO.....	262	EAST PART RESERVOIR NEAR STONYFORD.....	144
FRENCH LAKE NEAR CISCO.....	273	FAUCHERIE LAKE NEAR CISCO.....	275
FRENCH MEADOWS RESERVOIR NEAR FORESTHILL.....	327	FOLSOM LAKE NEAR FOLSOM.....	403
French Meadows powerplant.....	328	FORDYCE LAKE NEAR CISCO.....	262
Gage datum, definition of.....	18	FRENCH LAKE NEAR CISCO.....	273
Gage height, definition of.....	18	FRENCH MEADOWS RESERVOIR NEAR FORESTHILL FORESTHILL.....	327
Gaging station, definition of.....	18	HELL HOLE RESERVOIR NEAR MEEKS BAY.....	342
GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY.....	347	ICE HOUSE RESERVOIR NEAR KYBURZ.....	378
Glenn County, location of discharge stations.....	31	IRON CANYON RESERVOIR NEAR BIG BEND.....	76
Green algae, definition of.....	20	JACKSON LAKE NEAR SIERRA CITY.....	280
GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE.....	205	JACKSON MAEDOWS RESERVOIR NEAR SIERRA CITY.....	234
GRIZZLY FOREBAY NEAR STORRIE.....	204	JUNCTION RESERVOIR NEAR POLLOCK PINES.....	381
Hardness, definition of.....	18	KELLY LAKE NEAR CISCO.....	322
HAT CREEK BELOW HAT NO. 1 DIVERSION DAM, NEAR BURNEY.....	73	KIDD LAKE NEAR SODA SPRINGS.....	258
HAT CREEK NEAR HAT CREEK.....	70	LAKE VALLEY RESERVOIR NEAR CISCO.....	321
HAT CREEK NO. 1 POWERPLANT NEAR BURNEY.....	74	LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE.....	164
HAT NO. 2 POWER CANAL DIVERSION TO HAT CREEK NEAR BURNEY.....	75	LOON LAKE NEAR MEEKS BAY.....	346
HATCHET CREEK BELOW DIVERSION TO HATCHET CREEK POWERPLANT, NEAR MONTGOMERY CREEK...	87	LOWER BUCKS LAKE NEAR BUCKS LODGE.....	200
HELL HOLE RESERVOIR NEAR MEEKS BAY.....	342	LOWER CASCADE LAKE NEAR SODA SPRINGS.....	259
Highest annual mean, explanation of.....	11	McCLOUD, LAKE, NEAR McCLOUD.....	76
Hydrologic Bench-Mark Network.....	7	NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN.....	255
Hydrologic Bench-Mark Network, definition of.....	18	OROVILLE, LAKE, NEAR OROVILLE.....	214
Hydrologic unit, definition of.....	18	ROLLINS RESERVOIR NEAR COLFAX.....	309
ICE HOUSE RESERVOIR NEAR KYBURZ.....	378	SAWMILL LAKE NEAR GRANITEVILLE.....	277
Identifying Estimated Daily Discharge.....	12	SHASTA LAKE NEAR REDDING.....	99
INDIAN CREEK NEAR CRESCENT MILLS.....	191	SILVER LAKE NEAR KIRKWOOD.....	368
INSKIP POWERPLANT NEAR MANTON.....	123	SLAB CREEK RESERVOIR NEAR CAMINO.....	391
Instantaneous discharge, definition of.....	17	SLY CREEK RESERVOIR NEAR STRAWERRY VALLEY.....	170
		SPAULDING, LAKE, NEAR EMIGRANT GAP.....	265
		STONY GORGE RESERVOIR NEAR ELK CREEK.....	144
		UNION VALLEY RESERVOIR NEAR RIVERTON.....	377
		WHISKEYTOWN LAKE NEAR IGO.....	111
		LAKE ALMANOR AT PRATTVILLE.....	181
		LAKE BERRYESSA NEAR WINTERS.....	428
		LAKE BRITTON NEAR BURNEY.....	76
		LAKE McCLOUD NEAR McCLOUD.....	76
		LAKE OROVILLE NEAR OROVILLE.....	214
		LAKE SPAULDING NEAR EMIGRANT GAP.....	265
		LAKE VALLEY CANAL NEAR EMIGRANT GAP.....	323
		LAKE VALLEY RESERVOIR NEAR CISCO.....	321

	Page		Page
Lake County, location of discharge stations.....	32	National Stream Quality Accounting Network, definition of.....	19
Lassen County, location of discharge and water-quality stations.....	33	Natural substrate, definition of.....	21
Latitude-Longitude System.....	8	Nekton, definition of.....	19
Light-attenuation coefficient, definition of.....	18	Nevada County, location of discharge and water-quality stations.....	36
LINDEY CREEK BELOW LOWER LINDSEY LAKE, NEAR GRANITEVILLE.....	289	NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN.....	255
LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE.....	164	NEW COLGATE POWERPLANT NEAR FRENCH CORRAL.....	254
LITTLE RUBICON RIVER BELOW BUCK ISLAND DAM, NEAR MEEKS BAY.....	341	NORTH FORK AMERICAN RIVER AT NORTH FORK DAM.....	324
LOHMAN RIDGE TUNNEL AT INTAKE, NEAR CAMPTONVILLE.....	241	NORTH FORK BATTLE CREEK BELOW DIVERSION TO CROSS COUNTRY CANAL, NEAR MANTON.....	126
LONG CANYON CREEK NEAR FRENCH MEADOWS.....	359	NORTH FORK BATTLE CREEK BELOW DIVERSION TO EAGLE CANYON CANAL, NEAR MANTON.....	127
LONG VALLEY CREEK NEAR SCOTTS.....	49	NORTH FORK BATTLE CREEK BELOW DIVERSION TO KESWICK DITCH, NEAR MANTON.....	124
LOON LAKE NEAR MEEKS BAY.....	346	NORTH FORK BATTLE CREEK BELOW DIVERSION TO WILDCAT CANAL, NEAR MANTON.....	128
Loon Lake powerplant.....	347	NORTH FORK BATTLE CREEK BELOW MCCUMBER DAM, NEAR MANZANITA.....	122
LOST CREEK BELOW DIVERSION TO LOST CREEK POWERPLANT NO. 1, NEAR OLD STATION.....	72	NORTH FORK BATTLE CREEK BELOW NORTH BATTLE CREEK DAM, NEAR MANZANITA LAKE.....	121
LOST CREEK NEAR CLIPPER MILLS.....	172	NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS.....	421
LOWER BUCKS LAKE NEAR BUCKS LODGE.....	200	NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS.....	423
LOWER CASCADE LAKE NEAR SODA SPRINGS.....	259	NORTH FORK FEATHER RIVER AT PULGA.....	209
Lower Sacramento River basin, schematic diagram of.....	145	NORTH FORK FEATHER RIVER BELOW BELDEN DAM.....	187
Lowest annual mean, explanation of.....	11	NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK.....	207
Lowest daily mean, explanation of.....	12	NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM.....	195
Macrophytes, definition of.....	18	NORTH FORK FEATHER RIVER NEAR PRATTVILLE.....	182
McCLOUD RIVER ABOVE SHASTA LAKE.....	97	NORTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE.....	358
McCLOUD RIVER AT AH-DI-NA, NEAR McCLOUD.....	95	NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE.....	357
McCLOUD RIVER BASIN, RESERVOIRS IN.....	76	NORTH YUBA RIVER BELOW GOODYEARS BAR.....	249
McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD.....	94	NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN.....	256
McCLOUD RIVER NEAR McCLOUD.....	91	Onsite Measurements and Sample Collection... ..	13
McCloud River basin, schematic diagram of... ..	58	OREGON CREEK AT CAMPTONVILLE.....	244
McCLOUD-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD.....	93	OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE.....	247
Mean concentration, definition of.....	20	Organic mass, definition of.....	17
Mean discharge, definition of.....	17	Organism count/area, definition of.....	19
Metamorphic stage, definition of.....	18	Organism count/volume, definition of.....	19
Methylene blue active substance, definition of.....	18	Organism, definition of.....	19
Micrograms per gram, definition of.....	18	OROVILLE-WYANDOTTE CANAL NEAR CLIPPER MILLS.....	171
Micrograms per liter, definition of.....	18	Other Records Available.....	13
MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL.....	334	PACIFIC GAS ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE.....	219
MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS.....	328	PALERMO CANAL NEAR OROVILLE.....	215
MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL.....	336	Parameter, definition of.....	19
MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL.....	361	Partial-record station, definition of.....	19
MIDDLE YUBA RIVER AT JACKSON MEADOWS DAM, NEAR SIERRA CITY.....	235	partial-record station.....	13
MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY.....	239	Particle size, definition of.....	19
MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE.....	242	Particle-size classification, definition of.....	19
Middle Fork powerplant.....	343	Percent composition or percent of total, definition of.....	19
MILK RANCH CONDUIT AT OUTLET, NEAR BUCKS LODGE.....	197	Periphyton, definition of.....	19
MILL CREEK NEAR LOS MOLINOS.....	138	Pesticides, definition of.....	19
Milligrams per liter, definition of.....	18	pH, definition of.....	19
MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE.....	237	PHILBROOK CREEK BELOW PHILBROOK DAM, NEAR BUTTE MEADOWS.....	211
MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN.....	176	Phytoplankton, definition of.....	20
Modoc County, location of discharge stations.....	34	Picocurie, definition of.....	19
MOKELENE RIVER AT WOODBRIDGE.....	432	PILOT CREEK ABOVE STUMPY MEADOWS LAKE.....	351
Monthly mean data, statistics of.....	11	PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN.....	353
MORMON RAVINE NEAR NEWCASTLE.....	317	PIT AND McCLOUD RIVER BASINS, RESERVOIRS IN.....	76
MUCK VALLEY POWERPLANT NEAR LITTLE VALLEY... ..	66	PIT NO. 1 POWERPLANT NEAR FALL RIVER MILLS.. ..	67
Nanograms per liter, definition of.....	19	PIT RIVER AT BIG BEND.....	80
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		

	Page		Page
PIT RIVER BASIN, RESERVOIRS IN.....	76	Silver Lake.....	369
PIT RIVER BELOW PIT NO 1 POWERPLANT, NEAR FALL RIVER MILLS.....	68	Siskiyou County, location of discharge and water-quality stations.....	42
PIT RIVER BELOW PIT NO 4 DAM.....	78	SLAB CREEK RESERVOIR NEAR CAMINO.....	391
PIT RIVER NEAR CANBY.....	63	SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY.....	252
PIT RIVER NEAR MONTGOMERY CREEK.....	89	SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY.....	251
Pit and McCloud River basins, schematic diagram of.....	58	SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY.....	170
Pit River basin, schematic diagram of.....	58	Sodium-adsorption-ratio, definition of.....	21
Placer County, location of discharge and water-quality stations.....	37	Solute, definition of.....	21
Plankton, definition of.....	19	SOUTH BRANCH WARD CREEK BELOW DIVERSION DAM, NEAR GENESEE.....	189
Plumas County, location of discharge stations.....	38	SOUTH COW CREEK CANAL DIVERSION TO SOUTH COW CREEK NEAR WHITMORE.....	114
Poe powerplant.....	209	SOUTH FORK AMERICAN RIVER BELOW SILVER CREEK, NEAR POLLOCK PINES.....	386
Polychlorinated biphenyls, definition of.....	20	SOUTH FORK AMERICAN RIVER NEAR CAMINO.....	392
Precipitation at Indian Valley Dam.....	423	SOUTH FORK AMERICAN RIVER NEAR KYBURZ.....	374
Precipitation near Clearlake Oaks.....	421	SOUTH FORK AMERICAN RIVER NEAR LOTUS.....	398
Primary productivity, definition of.....	20	SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE..	396
PUBLICATIONS ON TECHNIQUES OF WATER- RESOURCES INVESTIGATIONS.....	23	SOUTH FORK BATTLE CREEK BELOW DIVERSION TO COLEMAN DITCH, NEAR MANTON.....	131
PUTAH CREEK NEAR WINTERS.....	432, 429	SOUTH FORK BATTLE CREEK BELOW DIVERSION TO INSKIP CANAL, NEAR MANTON.....	130
PUTAH SOUTH CANAL.....	432	SOUTH FORK BATTLE CREEK BELOW DIVERSION TO SOUTH BATTLE CREEK CANAL, NEAR MANTON....	129
PYRAMID CREEK AT TWIN BRIDGES.....	366	SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY.....	168
Radiochemical Program, definition of.....	20	SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM.....	174
Ralston powerplant.....	336	SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM.....	165
Records of Stage and Water Discharge.....	9	SOUTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE.....	356
Records of Surface-Water Quality.....	13	SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE.....	355
Recoverable, definition of.....	20	SOUTH FORK PIT RIVER NEAR LIKELY.....	61
Remark Codes.....	47	SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN.....	349
RICHVALE CANAL AT INTAKE, NEAR OROVILLE.....	218	SOUTH FORK SILVER CREEK NEAR ICE HOUSE.....	379
ROARING CREEK BELOW DIVERSION TO ROARING CREEK POWERPLANT, NEAR MONTGOMERY CREEK..	85	SOUTH FORK TUNNEL NEAR STRAWBERRY VALLEY....	167
ROBBS PEAK POWERPLANT NEAR KYBURZ.....	345	SOUTH POWERPLANT NEAR MANTON.....	123
ROCK CREEK NEAR PLACERVILLE.....	394	SOUTH YUBA CANAL NEAR EMIGRANT GAP.....	268
Rock Creek powerplant.....	195	SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY.....	290
ROLLINS RESERVOIR NEAR COLFAX.....	309	SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP.....	271
RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY.....	343	SOUTH YUBA RIVER BELOW SPAULDING NO 2 POWERPLANT, NEAR EMIGRANT GAP.....	269
RUBICON RIVER BELOW RUBICON DAM, NEAR MEEKS BAY.....	339	SOUTH YUBA RIVER NEAR CISCO.....	260
RUBICON RIVER, SOUTH FORK, BELOW GERLE CREEK, NEAR GEORGETOWN.....	349	SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE.....	193
Rubicon River basin, schematic diagram of.....	326	Spaulding No 1 powerplant.....	265
RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY....	338	Spaulding No 2 powerplant.....	265
Runoff in percent of median.....	3	SPECIAL NETWORKS AND PROGRAMS.....	7
SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF.....	134	Specific conductance, definition of.....	21
SACRAMENTO RIVER AT BUTTE CITY.....	148	SPRING CREEK POWERPLANT AT KESWICK.....	110
SACRAMENTO RIVER AT COLUSA.....	150	Stage-discharge relation, definition of.....	21
SACRAMENTO RIVER AT DELTA.....	59	Station Identification Numbers.....	8
SACRAMENTO RIVER AT FREEPORT.....	432, 408	Station manuscript, explanation of.....	10
SACRAMENTO RIVER AT KESWICK.....	101	STONY CREEK BASIN, RESERVOIRS IN.....	144
SACRAMENTO RIVER AT SACRAMENTO.....	406	STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND.....	146
SACRAMENTO RIVER AT VERONA.....	318	STONY GORGE RESERVOIR NEAR ELK CREEK.....	144
SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES.....	159	Stony Creek below Black Butte Dam, near Orland.....	433
SACRAMENTO WEIR SPILL.....	432	Storage in selected reservoirs water years 1990-92.....	6
SACRAMENTO WEIR SPILL TO YOLO BYPASS NEAR SACRAMENTO.....	320	Streamflow, definition of.....	21
Sacramento County, location of discharge and water-quality stations.....	39	Substrate, definition of.....	21
SACRAMENTO-SAN JOAQUIN DELTA, INFLOWS AND DIVERSIONS.....	432	SUCKER RUN AT KANAKA DIVERSION, NEAR FEATHER FALLS.....	178
SAN JOAQUIN RIVER NEAR VERNALIS.....	432	SUMMARY OF HYDROLOGIC CONDITIONS.....	2
SAWMILL LAKE NEAR GRANITEVILLE.....	277	Summary statistics, explanation of.....	11
Sediment.....	14	Surface area, definition of.....	21
Sediment, definition of.....	20	Surface Water.....	2
SHASTA LAKE NEAR REDDING.....	99	Surficial bed material, definition of.....	21
Shasta County, location of discharge and water-quality stations.....	40	SUSAN RIVER AT SUSANVILLE.....	51
Sierra County, location of discharge stations.....	41	Suspended sediment, definition of.....	20
SILVER CREEK BELOW CAMINO DIVERSION DAM.....	384	Suspended, definition of.....	21
SILVER CREEK BELOW JUNCTION DAM, NEAR POLLOCK PINES.....	382	Suspended, recoverable, definition of.....	21
SILVER CREEK, SOUTH FORK, NEAR ICE HOUSE....	379		
SILVER LAKE NEAR KIRKWOOD.....	368		
SILVER LAKE OUTLET NEAR KIRKWOOD.....	369		

	Page		Page
Suspended, total, definition of.....	21	Turbidity, definition of.....	22
Suspended-sediment concentration, definition of.....	20	UNION VALLEY RESERVOIR NEAR RIVERTON.....	377
Suspended-sediment discharge, definition of.....	20	Union Valley powerplant.....	377
Suspended-sediment load, definition of.....	21	Upper Sacramento River basin, schematic diagram of.....	100
Sutter County, location of discharge stations.....	43	VOLTA NO. 1 POWERPLANT NEAR MANTON.....	123
SUTTER-BUTTE CANAL AT INTAKE, NEAR OROVILLE.....	220	VOLTA NO. 2 POWERPLANT NEAR MANTON.....	123
System for numbering miscellaneous sites (latitude and longitude).....	8	Water Quality.....	6
Taxonomy, definition of.....	22	Water Temperature.....	14
Tehama County, location of discharge and water-quality stations.....	44	Water year, definition of.....	22
TEXAS CREEK TRIBUTARY BELOW CULBERTSON LAKE, NEAR GRANITEVILLE.....	288	WDR, definition of.....	22
THERMALITO AFTERBAY NEAR OROVILLE.....	216	Weighted average, definition of.....	22
THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE.....	221	WEST BRANCH FEATHER RIVER BELOW HENDRICKS DIVERSION DAM, NEAR STIRLING CITY.....	212
Thermograph, definition of.....	22	WESTERN CANAL AT INTAKE, NEAR OROVILLE.....	217
THOMES CREEK AT PASKENTA.....	140	Wet mass, definition of.....	17
Time-weighted average, definition of.....	22	WHISKEYTOWN LAKE NEAR IGO.....	111
TOADTOWN CANAL ABOVE BUTTE CANAL, NEAR STIRLING CITY.....	155	WILLOW CREEK NEAR SUSANVILLE.....	56
Tons per acre-foot, definition of.....	22	Woodleaf powerplant.....	172
Tons per day, definition of.....	22	WSP, definition of.....	22
Total coliform bacteria, definition of.....	16	YOLO BYPASS NEAR WOODLAND.....	427, 432
Total load, definition of.....	22	Yolo County, location of discharge and water-quality stations.....	45
Total organism count, definition of.....	19	YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE.....	292
Total, definition of.....	22	YUBA RIVER NEAR MARYSVILLE.....	296
Total, recoverable, definition of.....	22	Yuba County, location of discharge stations.....	46
Total-sediment discharge, definition of.....	21	Yuba River basin, schematic diagram of.....	233
Total-sediment, definition of.....	21	Zooplankton, definition of.....	20

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey, Room W-2233
2800 Cottage Way, Federal Building
Sacramento, CA 95825



OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

SPECIAL 4TH CLASS BOOK RATE

