

Water Resources Data California

Water Year 1982

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-82-4
Prepared in cooperation with the California Department of
Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1982

1981

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	

1982

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					

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

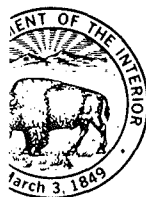
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

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

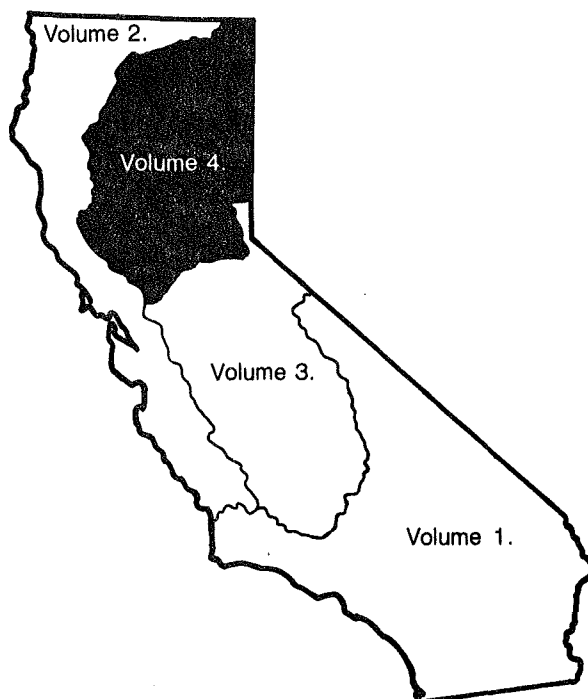
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	



Water Resources Data California Water Year 1982

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

by R.P. Fogelman, J.R. Mullen, W.F. Shelton, and R.G. Simpson



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-82-4
Prepared in cooperation with the California Department of
Water Resources and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

WILLIAM P. CLARK, SECRETARY

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
2800 Cottage Way, Room W-2235
Sacramento, California 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 4 volumes:

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

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data. Debra A. Grillo typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to 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 Timothy J. Durbin, District Chief, California.

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD- 84-021	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data for California, Water Year 1982 Volume 4. Northern California Valley Basins and the Great Basin from Honey Lake Basin to Oregon State Line			5. Report Date March 1984
7. Author(s) R.P. Fogelman, J.R. Mullen, W.F. Shelton, and R.G. Simpson			6.
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division California District 2800 Cottage Way, Room W-2235 Sacramento, CA 95825			8. Performing Organization Rept. No. USGS-WDR-CA-82-4
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division California District 2800 Cottage Way, Room W-2235 Sacramento, CA 95825			10. Project/Task/Work Unit No.
			11. Contract(C) or Grant(G) No. (C) (G)
15. Supplementary Notes Prepared in cooperation with the California Department of Water Resources and with other agencies.			13. Type of Report & Period Covered Annual--Oct. 1, 1981 to Sept. 30, 1982
			14.
16. Abstract (Limit: 200 words) Water-resources data for the 1982 water year for California consists 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 163 gaging stations; stage and contents for 27 lakes and reservoirs; precipitation data for 2 stations; water quality for 7 stations; and water levels for 54 observation wells. Also included are 4 crest-stage partial-record stations and 4 low-flow partial-record stations. Additional water data are collected at various sites, not part of the systematic data collection program, and are published as special investigations. 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, *Ground water, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Sampling sites, Water levels, Water analyses. b. Identifiers/Open-Ended Terms c. COSATI Field/Group			
18. Availability Statement: No restrictions 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 331
		20. Security Class (This Page) Unclassified	22. Price

WATER RESOURCES DIVISION

California District

E. Jerre McClelland, Assistant District Chief for Hydrologic Data

Edward J. Jones, Operations Chief, Northern Area

Richard M. Adorador, Hydrologic Technician
Allan J. Asquith, Hydrologic Technician
Kristen D. Evenson, Hydrologic Technician
William E. Faulkender, Hydrologic Technician
Michael F. Friebe, Hydrologic Technician
Verne L. Gamble, Supervisory Hydrologic Technician
Lois M. Griffin, Computer Aide
Thomas Hankins, Hydrologic Technician
Jerry G. Harmon, Hydrologist
Richard Ireland, Hydrologic Technician
Shirley J. Kaus, Hydrologic Technician
Gail L. Keeter, Hydrologic Technician
Byron R. Laurence, Hydrologic Technician
Rodd C. Lindberg, Hydrologic Technician
Gary W. Moeckli, Hydrologic Technician
Christine O'Neil, Hydrologic Clerk
Lee A. Price, Hydrologic Technician
Gerald L. Rockwell, Hydrologic Technician
Johnnevan M. Shay, Hydrologic Technician
M. Kathy Shay, Computer Technician
Michael R. Simpson, Electronic Technician
Stephen K. Sorenson, Biologist
Donald E. Underwood, Hydrologic Technician
Barbara Van Ummersen, Hydrologic Clerk
Lisa Wulfert, Clerk-Typist

Stuart H. Hoffard, Hydrologist
Rick T. Iwatsubo, Biologist
Verrie F. Pearce, Supervisory Hydrologist

CONTENTS

	Page
Preface.....	III
List of surface-water and water-quality stations, in downstream order, for which records are published.....	IX
Introduction.....	1
Cooperation.....	2
Summary of hydrologic conditions.....	3
Definition of terms.....	5
Downstream order and station number.....	14
Numbering system for wells and miscellaneous sites.....	15
Local well numbers.....	15
Special networks and programs.....	17
Explanation of stage and water-discharge records.....	18
Collection and computation of data.....	18
Accuracy of field data and computed results.....	21
Other data available.....	21
Records of discharge collected by agencies other than the Geological Survey.....	21
Explanation of water-quality records.....	22
Collection and examination of data.....	22
Water analysis.....	22
pH.....	22
Water temperature.....	23
Sediment.....	23
Turbidity.....	24
Explanation of ground-water level records.....	24
Collection of the data.....	24
Publications of Techniques of Water-Resources Investigations.....	25
Gaging-station and water-quality records.....	27
Sacramento-San Joaquin Delta, inflows and diversions.....	286
Discharge at partial-record stations.....	287
Low-flow partial-record stations.....	287
Crest-stage partial-record stations.....	288
Ground-water levels listed by county.....	289
Index.....	317

ILLUSTRATIONS

	Page
Figure 1. Map of California showing runoff for the current water year.....	4
2. System for numbering wells and miscellaneous sites (latitude and longitude).....	15
3. Local well-numbering system.....	16
4-11. Schematic diagrams showing diversions and storage:	
4. Pit and McCloud river basins.....	34
5. South Fork Feather River basin.....	119
6. North Fork Feather River basin.....	131
7. Feather River at Lake Oroville.....	144
8. Yuba River basin.....	163
9. Bear River basin.....	194
10. Middle Fork American and Rubicon river basins.....	218
11. South Fork American River basin.....	245
12. Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta.....	285

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

IX

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

	Page
<u>THE GREAT BASIN</u>	
<u>HONEY LAKE BASIN</u>	
Susan River at Susanville (dcs).....	27
Willow Creek near Susanville (d).....	31
<u>EAGLE LAKE BASIN</u>	
Pine Creek near Susanville (d).....	32
<u>SURPRISE VALLEY BASIN</u>	
Bidwell Creek below Mill Creek, near Fort Bidwell (d).....	33
<u>PACIFIC SLOPE BASINS IN CALIFORNIA</u>	
<u>SACRAMENTO RIVER BASIN</u>	
Sacramento River near Mt Shasta (dt).....	35
Sacramento River at Delta (d).....	38
North Fork Pit River (head of Pit River) at Alturas (d).....	39
South Fork Pit River near Likely (d).....	40
Pit River near Canby (d).....	41
Ash Creek at Adin (d).....	42
Pit River below Pit No. 1 powerhouse, near Fall River Mills (d).....	43
Hat Creek near Hat Creek (d).....	44
Reservoirs in Pit and McCloud River basins (l).....	45
Pit River below Pit No. 4 Dam (d).....	46
Pit River at Big Bend (d).....	47
James B. Black powerplant near Big Bend (d).....	48
Iron Canyon Creek below Iron Canyon Dam, near Big Bend (d).....	49
Pit River near Montgomery Creek (d).....	50
McCloud River near McCloud (d).....	51
McCloud-Iron Canyon diversion tunnel near McCloud (d).....	52
McCloud River below McCloud Dam, near McCloud (d).....	53
McCloud River at Ah-di-na, near McCloud (d).....	54
McCloud River above Shasta Lake (d).....	55
Shasta Lake near Redding (l).....	56
Sacramento River at Keswick (dcts).....	57
Clear Creek at French Gulch (d).....	62
Judge Francis Carr powerplant near French Gulch (d).....	63
Spring Creek powerplant at Keswick (d).....	64
Whiskeytown Lake near Igo (l).....	65
Clear Creek near Igo (d).....	66
Cow Creek near Millville (d).....	67
Bear Creek:	
Middle Fork Cottonwood Creek:	
Cottonwood Creek near Olinda (dcs).....	68
Cottonwood Creek above South Fork, near Cottonwood (d).....	71
South Fork Cottonwood Creek near Olinda (dcs).....	72
South Fork Cottonwood Creek at Evergreen Road, near Cottonwood (dc).....	75
Cottonwood Creek near Cottonwood (dcts).....	77
Battle Creek below Coleman Fish Hatchery, near Cottonwood (d).....	81
Sacramento River above Bend Bridge, near Red Bluff (ds).....	82
Red Bank Creek near Red Bluff (d).....	84
Antelope Creek near Red Bluff (d).....	85
Elder Creek near Paskenta (d).....	86
Mill Creek near Los Molinos (d).....	87
Thomes Creek at Paskenta (dts).....	88
Deer Creek near Vina (d).....	93
Big Chico Creek near Chico (d).....	94

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

	Page
PACIFIC SLOPE BASINS IN CALIFORNIA--Continued	
SACRAMENTO RIVER BASIN--Continued	
Sacramento River--Continued	
Stony Creek:	
Little Stony Creek above East Park Reservoir, near Lodoga (d).....	95
Reservoirs in Stony Creek basin (l).....	96
Stony Creek above Black Butte Lake, near Orland (dts).....	97
South Diversion Canal near Orland (d).....	102
Black Butte Lake near Orland (l).....	103
Stony Creek below Black Butte Dam, near Orland (dt).....	104
Sacramento River at Butte City (d).....	107
Sacramento River at Colusa (d).....	108
Butte Creek:	
Little Butte Creek at Magalia (d).....	109
Butte Creek near Chico (d).....	110
Sacramento River below Wilkins Slough, near Grimes (dt).....	111
Colusa Drain:	
South Fork Willow Creek (head of Willow Creek):	
Stone Corral Creek near Sites (d).....	114
Middle Fork Feather River (head of Feather River):	
Middle Fork Feather River near Clio (t).....	115
Middle Fork Feather River near Merrimac (dt).....	116
Little Grass Valley Reservoir near La Porte (l).....	120
South Fork Feather River below Little Grass Valley Dam (d).....	121
South Fork Feather River below diversion dam, near Strawberry Valley (d).....	122
Lost Creek:	
Sly Creek Reservoir near Strawberry Valley (l).....	123
Oroville-Wyandotte Canal near Clipper Mills (d).....	124
Lost Creek near Clipper Mills (d).....	125
South Fork Feather River below Forbestown Dam (d).....	126
Miners Ranch Canal below Ponderosa Dam, near Forbestown (d).....	127
Bangor Canal below Miners Ranch Reservoir, near Oroville (d).....	128
South Fork Feather River at Ponderosa Dam (d).....	129
Sucker Run near Forbestown (d).....	130
Lake Almanor at Prattville (l).....	132
North Fork Feather River near Prattville (d).....	133
Butt Creek below Almanor-Butt Creek tunnel, near Prattville (d)....	134
North Fork Feather River below Belden Dam (d).....	135
Indian Creek (head of East Branch of North Fork Feather River):	
Indian Creek near Crescent Mills (d).....	136
Spanish Creek above Blackhawk Creek, at Keddie (d).....	137
East Branch of North Fork Feather River near Rich Bar (d).....	138
Bucks Creek:	
Bucks Lake near Bucks Lodge (l).....	139
North Fork Feather River at Pulga (dt).....	140
West Branch Feather River near Paradise (d).....	143
Feather River:	
Lake Oroville near Oroville (l).....	145
Palermo Canal near Oroville (d).....	146
Thermalito Afterbay near Oroville (l).....	147
Western Canal at intake, near Oroville (d).....	148
Richvale Canal at intake, near Oroville (d).....	149
Pacific Gas and Electric Co. lateral at intake, near Oroville (d)...	150
Sutter-Butte Canal at intake, near Oroville (d).....	151
Thermalito Afterbay release to Feather River, near Oroville (dt).....	152
Feather River at Oroville (dt).....	155
Feather River near Gridley (ds).....	158
Honcut Creek:	
South Honcut Creek near Bangor (d).....	162
Middle Yuba River (head of Yuba River):	
Jackson Meadows Reservoir near Sierra City (l).....	164

	Page
PACIFIC SLOPE BASINS IN CALIFORNIA--Continued	
SACRAMENTO RIVER BASIN--Continued	
Middle Fork Feather River--Continued	
Feather River--Continued	
Middle Yuba River below Jackson Meadows Dam, near Sierra City (d)...	165
Milton-Bowman tunnel outlet near Graniteville (d).....	166
Middle Yuba River near Camptonville (d).....	167
Middle Yuba River below Our House Dam, near Camptonville (d).....	168
Oregon Creek at Camptonville (d).....	169
Oregon Creek below Log Cabin Dam, near Camptonville (d).....	170
North Yuba River below Goodyears Bar (d).....	171
North Yuba River above Slate Creek, near Strawberry (d).....	172
Slate Creek:	
Slate Creek tunnel near Strawberry Valley (d).....	173
Slate Creek below diversion dam, near Strawberry Valley (d).....	174
New Colgate powerplant near French Corral (d).....	175
New Bullards Bar Reservoir near North San Juan (l).....	176
North Yuba River below New Bullards Bar Dam, near North	
San Juan (d).....	177
South Yuba River near Cisco (d).....	178
Fordyce Lake near Cisco (l).....	179
Fordyce Creek below Fordyce Dam, near Cisco (d).....	180
Lake Spaulding near Emigrant Gap (l).....	181
Drum Canal at tunnel outlet, near Emigrant Gap (d).....	182
Drum Canal above Drum Forebay, near Blue Canyon (d).....	183
South Yuba Canal near Emigrant Gap (d).....	184
South Yuba River at Langs Crossing, near Emigrant Gap (d).....	185
Canyon Creek:	
Bowman Lake near Graniteville (l).....	186
Bowman-Spaulding Canal intake near Graniteville (d).....	187
Bowman-Spaulding Canal at Jordan Creek siphon venturi, near	
Emigrant Gap (d).....	188
Canyon Creek below Bowman Lake (d).....	189
South Yuba River at Jones Bar, near Grass Valley (d).....	190
Yuba River below Englebright Dam, near Smartville (d).....	191
Deer Creek near Smartville (d).....	192
Yuba River near Marysville (d).....	193
Bear River:	
Boardman Canal near Emigrant Gap (d).....	195
Dutch Flat No. 1 powerplant near Dutch Flat (d).....	196
Dutch Flat No. 2 flume near Blue Canyon (d).....	197
Bear River below Drum Afterbay, near Blue Canyon (d).....	198
Chicago Park flume near Dutch Flat (d).....	199
Bear River below Dutch Flat Afterbay, near Dutch Flat (d).....	200
Rollins Reservoir near Colfax (l).....	202
Bear River Canal intake near Colfax (d).....	203
Bear River below Rollins Dam, near Colfax (d).....	204
New Camp Far West Reservoir near Wheatland (l).....	205
Bear River near Wheatland (d).....	206
Feather River near Nicolaus (dt).....	207
Sacramento River at Verona (d).....	210
Sacramento Weir spill to Yolo Bypass, near Sacramento (d).....	211
North Fork American River (head of American River):	
North Fork of North Fork American River:	
Lake Valley Canal near Emigrant Gap (d).....	212
Shirrtail Creek:	
North Shirrtail Creek:	
Forbes Creek:	
North Fork Forbes Creek near Dutch Flat (d).....	213
North Shirrtail Creek near Dutch Flat (d).....	214
North Fork American River at North Fork Dam (dt).....	215

	Page
PACIFIC SLOPE BASINS IN CALIFORNIA--Continued	
SACRAMENTO RIVER BASIN--Continued	
Middle Fork American River:	
French Meadows Reservoir near Foresthill (l).....	219
Middle Fork American River at French Meadows (d).....	220
Duncan Creek near French Meadows (d).....	221
Duncan Creek below diversion dam, near French Meadows (d).....	222
Middle Fork American River above Middle Fork powerhouse, near Foresthill (d).....	223
Middle Fork American River below interbay dam, near Foresthill (d)...	224
Rubicon River:	
Rubicon-Rockbound tunnel near Meeks Bay (d).....	225
Rubicon River at Rubicon Springs, near Meeks Bay (d).....	226
Little Rubicon River:	
Buck Island Lake:	
Buck-Loon tunnel near Meeks Bay (d).....	227
Hell Hole Reservoir near Meeks Bay (l).....	228
Rubicon River below Hell Hole Dam, near Meeks Bay (d).....	229
South Fork Rubicon River:	
Robbs Peak Reservoir:	
Robbs Peak powerplant near Kyburz (d).....	230
Gerle Creek:	
Loon Lake near Meeks Bay (l).....	231
Gerle Creek below Loon Lake Dam, near Meeks Bay (d).....	232
South Fork Rubicon River below Gerle Creek, near Georgetown (d)...	233
Pilot Creek above Stumpy Meadows Lake (d).....	234
Pilot Creek below Mutton Canyon, near Georgetown (d).....	235
Long Canyon Creek:	
South Fork Long Canyon Creek diversion tunnel near Volcanoville (d).....	236
North Fork Long Canyon Creek diversion tunnel near Volcanoville (d).....	237
Long Canyon Creek near French Meadows (d).....	238
Rubicon River near Foresthill (d).....	239
North Fork of Middle Fork American River near Foresthill (d).....	240
Middle Fork American River near Foresthill (d).....	241
Maine Bar Canyon Creek near Greenwood (d).....	242
Middle Fork American River near Auburn (d).....	243
North Fork American River below Auburn damsite, near Auburn (d).....	244
South Fork American River:	
Echo Lake conduit near Phillips (d).....	246
Pyramid Creek at Twin Bridges (d).....	247
Silver Lake Outlet (head of Silver Fork of South Fork American River) near Kirkwood (d).....	248
Caples Lake Outlet near Kirkwood (d).....	249
South Fork American River near Kyburz (d).....	250
Silver Creek:	
Union Valley Reservoir near Riverton (l).....	252
South Fork Silver Creek:	
Ice House Reservoir near Kyburz (l).....	253
South Fork Silver Creek near Ice House (d).....	254
Silver Creek below Camino diversion dam (d).....	255
South Fork American River below Silver Creek, near Pollock Pines (d).....	256
South Fork American River near Camino (d).....	257
South Fork American River near Placerville (d).....	258
South Fork American River near Lotus (dt).....	259
American River:	
Folsom Lake near Folsom (l).....	262
American River at Fair Oaks (d).....	263
Natomas East Main Drainage Canal:	
Sacramento River at Freeport (dcts).....	264

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

XIII

	Page
PACIFIC SLOPE BASINS IN CALIFORNIA--Continued	
SACRAMENTO RIVER BASIN--Continued	
Yolo Bypass:	
Clear Lake (head of Cache Creek):	
Kelsey Creek near Kelseyville (d).....	272
Clear Lake at Lakeport (l).....	273
Clear Lake at Clearlake (l).....	274
Cache Creek near Lower Lake (dp).....	275
North Fork Cache Creek at Hough Springs, near Clearlake Oaks (dp)..	276
Cache Creek at Rumsey (d).....	277
Cache Creek at Yolo (d).....	278
Yolo Bypass near Woodland (d).....	279
Lake Berryessa near Winters (l).....	280
Putah Creek near Winters (d).....	281
Sacramento River at Rio Vista (s).....	282

INTRODUCTION

Water-resources data for the 1982 water year for California consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and records of water levels in selected observation wells. These data, a contribution to the National Water Data System, were collected by the Geological Survey and cooperating local, State, and Federal agencies in California.

Records of discharge or stage of streams and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface-Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled, "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the Distribution Branch, Text Products Section, U.S. Geological Survey, 604 South Pickett Street, Alexandria, Virginia 22304.

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released, either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry 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-82-4." 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, Virginia 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (916) 484-4606.

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, R. B. Robie, Director.
California Water Resources Control Board, Bill B. Dendy, Executive Officer.
Georgetown Divide Public Utility District, C. F. Gierau, General Manager.
Lake County Flood Control and Water Conservation District, H. C. Porter, Manager.
Modoc County Department of Public Works, J. K. Grove, Director.
Oroville-Wyandotte Irrigation District, Fritz Steppat, General Manager-
Chief Engineer.
Paradise Irrigation District, C. P. Kelly, Manager.
Placer County Water Agency, Elmer Pretzer, General Manager.
Siskiyou County Flood Control and Water Conservation District, D. A. Gravenkamp,
Director of Public Works.
Yolo County Flood Control and Water Conservation District, W. L. McAnlis,
Manager.

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

The following organizations aided in collecting records: Pacific Gas and Electric Co., Placer County Water Agency, Sacramento Municipal Utility District, Nevada and Oroville-Wyandotte Districts, and Yuba County Water Agency.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Precipitation was nearly normal through the first 4 months of the 1982 water year. Heavy amounts of rain with snow at the higher elevations began in mid-February and continued into May. Major flooding did not occur during the winter season. Temperature patterns during the snowmelt season were the typical warm days and cold nights. This produced ideal runoff conditions.

In the area covered by this volume, runoff during the water year ranged from 151 percent of the 1951-80 median for the index station Sacramento River at Keswick to 225 percent at the index station North Fork American River at North Fork Dam. Runoff at selected sites in California is shown in figure 1.

Ground Water

The geography and geology of California are sufficiently complex that a summary of ground-water conditions in the State is difficult. Descriptions of conditions in specific basins and valleys apply only to those areas and cannot be transferred to other areas.

Ground-water levels fluctuate in response to a variety of stresses and changes in stress. Short- and long-term climatic conditions can lead to changes in natural recharge and discharge. Ground-water pumping can also cause changes in ground-water levels.

Water levels continued to rise at an observation well near Zamora in the southern Sacramento Valley, ending the year 5 feet higher than the same time the previous year. The lowest water level for the year was 18.38 ft below land surface datum (lsd) on October 17. The highest water level was 5.97 ft below lsd on May 26, 29, and 30.

In the northern Sacramento Valley near Butte City, the water levels in an observation well were higher throughout the year, although showing the same seasonal fluctuation. The highest water level was 9.78 ft below lsd on April 16, and the lowest was 21.54 ft on August 27.

Water Quality

Water samples taken at three NASQAN stations during the 1982 water year in the area covered by this volume were analyzed for water-quality constituents. Water quality at these sites was similar to previous years' records. No significant changes in any of the constituents sampled was evident, and there were no concentrations of any constituents that were more than maximum permissible EPA or other public health standards or guidelines.

The highest concentrations of indicator bacteria occurred at Sacramento River near Freeport. At this station fecal coliform ranged from 2 to 1,200 col/100 mL, an increase from a maximum of 370 col/100 mL reported in 1981, and fecal streptococci concentrations ranged from 8 to 2,000 col/100 mL an increase from a maximum of 150 col/100 mL in 1981. Fecal streptococci concentrations at Susan River near Susanville were lower in 1982 ranging from 1 to 130 col/100 mL as compared to a range of 15 to 690 col/100 mL in 1981.

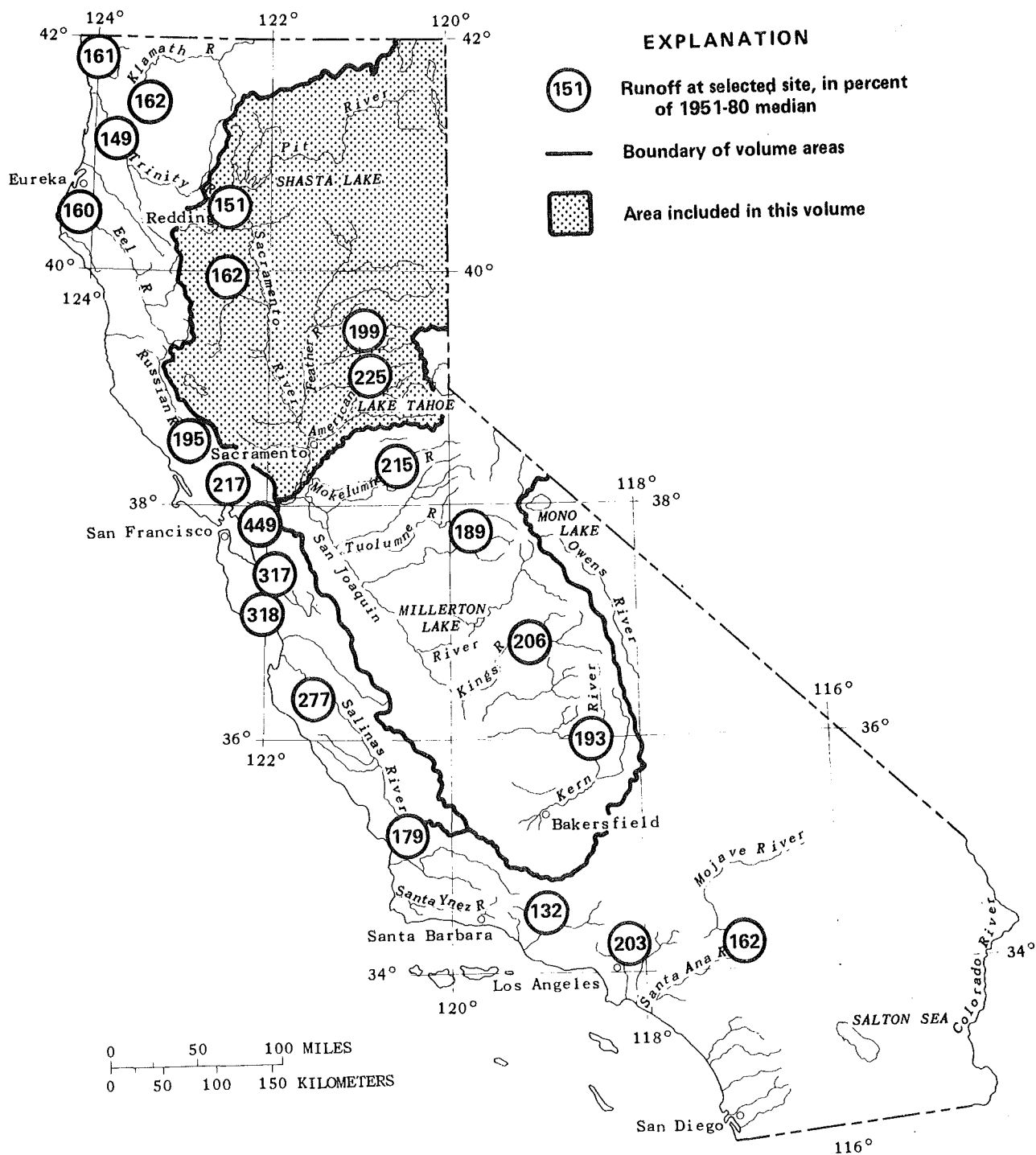


FIGURE 1. — Runoff for the current water year.

DEFINITION OF TERMS

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

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

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 mL 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 mL of sample.

Fecal streptococcal bacteria are also 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 agar medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL 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 organisms 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 microorganisms, such as bacteria.

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

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

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for 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.

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 only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

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).

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, or about 646,000 gallons or 2,445 cubic meters. It represents a runoff of approximately 0.0372 inch from 1 square mile or 0.3468 millimeter from 1 square kilometer.

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 one 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 salt water.

Cubic foot per second (FT³/S, ft³/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.

Discharge is the volume of water (or more broadly, total fluids 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.

Dissolved is 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 a later date.

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

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

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 therein 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 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 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 8-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 element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

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 one 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 mg/L 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.

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.

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

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in chemically dispersed distilled water.

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

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

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

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 are microorganisms attached to and growing upon 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 plants and animals. 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 a 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 to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and 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/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/mL of sample.

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

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

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

Milligrams of carbon per area or volume per unit time [mg C/(m².time) for periphyton and macrophytes and mg C/(m³.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.

Sediment is solid material that is derived mostly from disintegrated rocks and is transformed 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 the 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.

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

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 or 0.09 m above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

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 weight, or volume, that passes a section in a given time. It is computed by multiplying discharge times milligrams per liter times 0.0027.

Suspended-sediment load (tons per day) is the quantity of suspended sediment passing a section in a specified period.

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 weight, that passes a section in a given time.

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 derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids concentration in water. Commonly, dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well, and it may even 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 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 and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures 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.....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.

Tons per acre-foot indicates the dry weight 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 day.

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 mg/L 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, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, 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 both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of 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 degrees from the path of an incident light source (see also p. 24).

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.

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

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is 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 on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each surface-water station, water-quality station, and partial-record station has been assigned a station number. These are in the same downstream order as used in this report. In assigning station numbers, no distinction is made between partial-record and continuous record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left between the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 11407000, which appears just to the left of the station name, includes the 2-digit number "11" plus the 6-digit downstream order number "407000". In this report, the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records for California are in Part 10 (The Great Basin), and Part 11 (Pacific slope basins in California). All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream-order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well- and miscellaneous-site number system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 2.

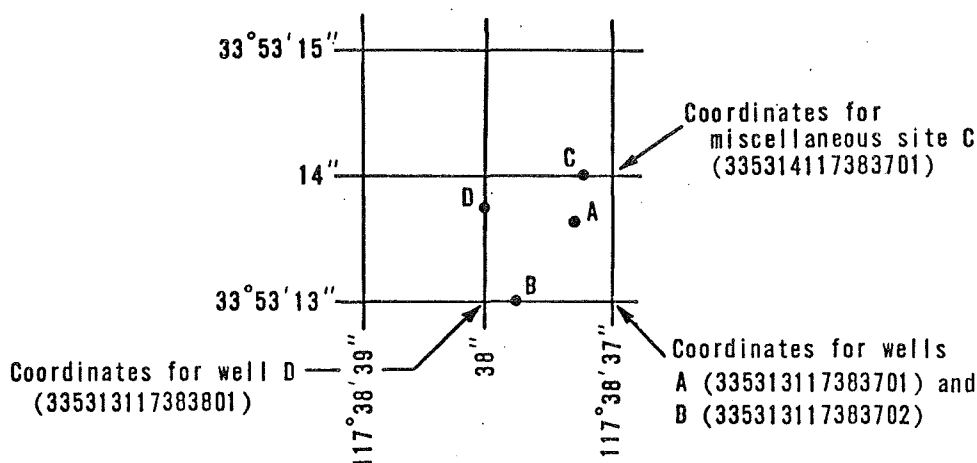
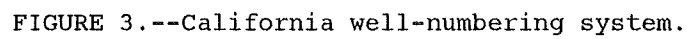


Figure 2.--System for numbering wells and miscellaneous sites (latitude and longitude).

Local well numbers

Wells and springs in California are assigned numbers according to their location on the rectangular system for the subdivision of public land. For example, in the number 005S/010E-22G01 M, the part of the number preceding the slash indicates the township (T.5 S.) and the number between the slash and hyphen indicates the range (R.10 E.); the digits following the hyphen indicate the section (sec.22); the letter following the section number indicates the 40-acre subdivision of the section. Within each 40-acre tract, the wells are numbered serially, as indicated by the final digit. The final letter, separated from the rest of the number by a space, indicates the base line and meridian. Base-line and meridian designations are as follows: H, Humboldt; M, Mount Diablo; S, San Bernardino. See figure 3.



SPECIAL NETWORKS AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped basin. Stations in this network are listed below:

Volume 2:

11475560 Elder Creek near Branscomb, CA

Volume 3:

11264500 Merced River at Happy Isles Bridge, near Yosemite, CA

National stream-quality accounting network is an accounting network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on the river-basin accounting units designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality. Stations in this network are listed below:

Volume 1:

10254670 Alamo River at Drop No. 3, near Calipatria, CA
10254970 New River at International Boundary, at Calexico, CA
10261500 Mojave River at lower narrows, near Victorville, CA
10277400 Owens River below Tinemaha Reservoir, near Big Pine, CA
11042000 San Luis River at Oceanside, CA
11074000 Santa Ana River below Prado Dam, CA
11103010 Los Angeles River at Willow Street Bridge, at Long Beach, CA
11108500 Santa Clara River at Los Angeles-Ventura County line, CA

Volume 2:

11152300 Salinas River near Chualar, CA
11159000 Pajaro River at Chittenden, CA
11458000 Napa River near Napa, CA
11467000 Russian River near Guerneville, CA
11477000 Eel River at Scotia, CA
11530500 Klamath River near Klamath, CA
11532500 Smith River near Crescent City, CA

Volume 3:

11187000 Kern River at Kernville, CA
11218500 Kings River below North Fork, near Trimmer, CA
11303500 San Joaquin River near Vernalis, CA
11325500 Mokelumne River at Woodbridge, CA

Volume 4:

10356500 Susan River at Susanville, CA
11370500 Sacramento River at Keswick, CA
11447650 Sacramento River at Freeport, CA

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

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

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams and canals, and stage and contents of lakes and reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 888, and in the U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For a stream-gaging station, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily figures. 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 computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

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

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

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

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

For some 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 on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of published records. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATIONS" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published, along with the current records, in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are affected by the revision, that fact is brought out by notations 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 the peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum of 1929, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 9.

Information pertaining to the accuracy of the discharge records, and to conditions that affect the natural flow at the gaging station, is given under "REMARKS"; for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is also given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance.

Under "EXTREMES" are given: First, the extremes for the period of record; second, information available outside the period of record; and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks (including the maximum for the year) above the selected base, with the time of occurrence and corresponding gage heights, are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in acre-feet (line headed "AC-FT"). In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but it is not published for reservoirs for which only monthly data are given.

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 discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage 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. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

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

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures 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, consumptive use, regulation by storage, increase or decrease due to artificial causes, or to other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables, is on file in the District Office. Also, most gaging-station records are available in computer-usable form and many statistical analyses have been made. Information on the availability of unpublished data or statistical analyses may be obtained from the District Office.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the District Office.

Records of discharge collected by agencies other than the Geological Survey

Records of discharge not published by the Geological Survey have been collected at numerous sites by many other Federal, State, County, City, and local agencies and by private organizations. A listing of stream-gaging stations and the agencies operating them is published in California Department of Water Resources Bulletin 230-78, "Index to Sources of Hydrologic Data." The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22092, maintains an index of such sites. Information on records at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

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

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

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

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations, listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between the 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 time of 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, minimum, and mean values for each constituent measured and are based upon 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.

Ground-water quality normally does not change significantly during short periods of time; infrequent sampling and analysis of ground water adequately defines ground-water quality at a given site.

pH

At some stations, pH is measured on a continual basis. The results are reported as maximum, minimum, and mean values for each day and month. The mean pH values reported were computed from the pH values recorded by the monitor and is equal to the negative logarithm of the geometric mean of the hydrogen-ion activity.

Water temperature

Water temperatures are measured at most of 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 diel 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 continuously recording thermographs are present, the records consist of maximum and minimum temperatures for each day and month. Water temperatures taken at the time of discharge measurements are on file in the district office. They will be used, with all other temperature data, for reports such as the open-file reports by subregion, "Water Temperature of California Streams, 1970."

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 at the cross sections.

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 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 was computed by the subdivided-day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

In addition to the records of suspended-sediment discharge, estimates of bedload and total-sediment discharge are included for some stations. Also included are particle-size distribution analyses of suspended sediment, surface bed material, and bedload material (sediment in transit within 0.25 ft (0.076 m) of the bed).

Computations of monthly bedload discharges are based on the relation between instantaneous water discharge and corresponding bedload discharge for the station. Values of bedload discharge used in defining this relation are based on samples obtained by use of the Helley-Smith bedload sampler or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bedload-transport relation at a station was made on a daily basis or subdivided-day basis.

The Helley-Smith sampler is designed to collect a time-weighted sample of the sediment moving within 0.25 ft (0.076 m) of the streambed. Sediment moving in this portion of the flow cannot be sampled with standard suspended-sediment samplers. It is assumed that samples obtained by this sampler represent the bedload discharge when used in coarse-material bedded streams (median diameter coarser than about 4 mm) and that these data can be used in conjunction with theoretical computations to define the bedload-transport relation for a station.

Calibration of the Helley-Smith sampler has not been completed, and a trap efficiency of 1.0 has been assumed applicable to this device. Error sources in the theoretical methods, based on analysis of bed-material characteristics, channel geometry, and associated hydraulic factors, are also undefined. In consequence, figures of bedload discharge must be used with caution. They are estimates, at best, and are subject to revision.

Turbidity

At some stations samples for the determination of turbidity were collected at the same frequency as samples collected for determination of suspended sediment. Turbidity, measured in Nephelometric turbidity units (NTU), is shown in relation to the concentration of sediment in the simultaneously collected sample.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water-level data from a basic national network of observation wells are published herein. These water-level measurements are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on the grid system of latitude and longitude as shown in figure 2, and (2) a local number that is provided for continuity with older reports and for other use as dictated by local needs (fig. 3).

Measurements are made in many types of wells under various conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well insure that measurements at a well are of consistent accuracy and reliability.

Water-level measurements in this report are given in feet with reference to either National Geodetic Vertical Datum of 1929 (NGVD) or land-surface datum (lsd). National Geodetic Vertical Datum is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum referred to National Geodetic Vertical Datum is given in the well description. The height of the measuring point (MP above or below land-surface datum), if known, is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-seven manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing 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) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 604 South Pickett Street, Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering 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. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 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-E1. Application of borehole geophysics to water-resources investigations, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. General field and office procedures for indirect discharge measurements, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. Measurement of peak discharge by the slope-area method, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. Measurement of peak discharge at culverts by indirect methods, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3, 1968. 60 pages.
- 3-A4. Measurement of peak discharge at width contractions by indirect methods, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5, 1967. 29 pages.
- 3-A6. General procedure for gaging streams, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968. 13 pages.
- 3-A7. Stage 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 and dispersion in streams by dye tracing, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 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-B1. Aquifer-test design, observation, and data analyses, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. Introduction to ground-water hydraulics, a programed text for self-instruction, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. Type curves for selected problems of flow to wells in confined aquifers, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-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. W. Skougstad, M. J. Fishman, L. C. Friedman, D. E. Erdmann, and S. S. Duncan: USGS--TWRI Book 5, Chapter A1. 1979. 626 p.
- 5-A2. Determination of minor elements in water by emission spectroscopy, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. Methods for analysis of organic substances in water, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. Methods for collection and analysis of aquatic biological and micro-biological samples, edited by P. E. Greenson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 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-C1. Laboratory theory and methods for sediment analyses, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 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-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.

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

LOCATION.--Lat 40°25'03", long 120°40'15", in SW¼NE¼ sec.31, T.30 N., R.12 E., Lassen County, Hydrologic Unit 18080003, on left bank 0.5 mi (0.8 km) west of Susanville, and 1.1 mi (1.8 km) upstream from Piute Creek.

DRAINAGE AREA.--184 mi² (477 km²).

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" 1900-1905. 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.

GAGE.--Water-stage recorder. Datum of gage is 4,225.72 ft (1,287.999 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1950, nonrecording gages at several sites in vicinity of old powerplant 0.9 mi (1.4 km) upstream at various datums.

REMARKS.--Records good except those for the winter periods, which are fair. Flow regulated by McCoy Flat Reservoir and Hog Flat Reservoir, combined usable capacity, 25,300 acre-ft (31.2 hm³). Diversions for irrigation of 1,400 acres (567 hm²) above station.

AVERAGE DISCHARGE.--38 years (water years 1901, 1904-5, 1918-20, 1951-82), 95.4 ft³/s (2.702 m³/s), 69,120 acre-ft/yr (85.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,850 ft³/s (166 m³/s) Jan. 24, 1970, gage height, 8.89 ft (2.710 m) in gage well, 10.4 ft (3.17 m), from floodmarks, from rating curve extended above 1,000 ft³/s (28.3 m³/s) on basis of slope-area measurement at gage height 6.62 ft (2.018 m) and contracted-opening measurement at gage height 8.89 ft (2.710 m); no flow Aug. 15, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,560 ft³/s (129 m³/s) Nov. 23, gage height, 7.95 ft (2.423 m); minimum daily, 4.3 ft³/s (0.122 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	21	152	274	73	293	228	622	167	131	129	11
2	4.4	20	144	262	74	337	200	600	148	116	126	10
3	6.0	18	126	239	74	286	194	639	147	111	123	9.6
4	5.9	17	115	221	69	259	199	656	143	107	120	9.4
5	6.0	16	108	210	53	230	255	612	139	104	117	9.8
6	6.1	15	111	166	48	197	232	602	129	100	115	9.9
7	12	16	155	145	49	183	208	590	120	97	114	9.8
8	10	15	123	142	50	179	196	566	114	94	113	9.5
9	7.7	14	162	143	49	168	213	519	107	91	110	9.0
10	9.0	14	279	139	51	181	284	457	99	88	107	8.4
11	20	14	182	139	50	274	1740	357	94	83	107	7.7
12	12	266	158	133	51	240	1140	332	91	80	105	7.4
13	9.5	576	151	121	78	223	933	272	90	78	105	7.1
14	8.9	541	174	116	536	249	885	273	89	76	104	6.7
15	8.3	629	208	111	1420	276	722	278	86	71	102	6.7
16	7.9	614	172	108	1810	259	622	238	82	69	100	6.7
17	7.5	1200	148	104	1070	240	612	246	79	67	99	6.9
18	7.2	335	205	96	869	224	614	268	74	65	69	8.3
19	7.3	211	864	92	806	215	586	306	71	62	22	17
20	7.4	162	1340	92	759	204	561	298	66	60	19	16
21	7.9	568	776	93	769	194	537	293	99	56	19	15
22	7.4	517	490	84	836	182	549	290	108	54	18	11
23	7.4	2290	374	86	677	173	595	288	125	52	17	10
24	7.2	1310	318	81	563	158	658	284	130	49	16	14
25	7.4	616	290	79	417	158	673	281	124	48	15	16
26	7.0	404	285	92	369	153	660	266	120	96	14	17
27	7.2	303	312	95	328	149	663	262	120	142	14	17
28	126	241	269	96	297	158	680	246	118	142	13	16
29	58	194	298	83	---	163	651	231	126	140	12	15
30	33	166	354	78	---	153	624	214	130	136	12	15
31	25	---	291	78	---	114	---	199	---	132	11	---
TOTAL	460.9	11323	9134	3998	12295	6472	16914	11585	3335	2797	2167	332.9
MEAN	14.9	377	295	129	439	209	564	374	111	90.2	69.9	11.1
MAX	126	2290	1340	274	1810	337	1740	656	167	142	129	17
MIN	4.3	14	108	78	48	114	194	199	66	48	11	6.7
AC-FT	914	22460	18120	7930	24390	12840	33550	22980	6610	5550	4300	660
CAL YR 1981 TOTAL	31040.5			MEAN 85.0	MAX 2290	MIN 1.6	AC-FT 61570					
WTR YR 1982 TOTAL	80813.8			MEAN 221	MAX 2290	MIN 4.3	AC-FT 160300					

HONEY LAKE BASIN

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.
 CHEMICAL ANALYSES: Water years 1952 to current year.
 BIOLOGICAL DATA: Water years 1978-81.
 SEDIMENT RECORDS: Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
NOV 24...	0900	1250	62	7.8	5.5	140	11.2	310	92	26	0
JAN 18...	1530	94	93	8.0	1.0	3.1	11.6	K6	<1	40	0
MAR 23...	0930	166	80	8.0	5.0	2.2	11.2	K2	48	37	0
MAY 11...	1630	348	73	7.8	10.5	3.3	9.2	K3	K4	31	0
JUL 12...	1545	82	72	8.4	24.0	1.4	7.2	40	130	31	0
SEP 21...	1545	15	143	--	15.5	.80	8.9	K8	43	68	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	ALKA- LITY LAB (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)
NOV 24...	6.7	2.3	2.6	17	.2	1.5	34	--	5.0	.6	.3
JAN 18...	10	3.7	3.4	15	.2	1.0	--	49	<5.0	1.2	.1
MAR 23...	9.0	3.5	3.2	16	.2	.8	44	--	<5.0	.8	.1
MAY 11...	7.3	3.0	4.2	22	.3	1.0	39	--	7.0	.7	.2
JUL 12...	6.9	3.3	2.9	16	.2	1.0	35	--	<5.0	1.2	<.1
SEP 21...	16	6.9	5.6	15	.3	1.8	--	77	<5.0	1.0	<.1

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, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV 24...	21	--	54	.08	<.09	.11	1.2	.10	.03	<.02
JAN 18...	23	73	--	.10	.13	.09	.65	<.01	.02	.02
MAR 23...	26	64	--	.09	<.10	.08	.37	.02	.02	.02
MAY 11...	18	52	66	.07	.15	.16	.47	.54	.53	.03
JUL 12...	16	51	--	.07	<.10	.06	1.0	.05	.04	.03
SEP 21...	31	99	--	.13	<.10	<.06	.90	.02	<.01	.01

K Results based on colony count outside the acceptable range (non-ideal colony count).
 < Actual value is known to be less than the value shown.

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)
NOV 24...	0900	2	1	<100	17	2	<1	20	<10	8
JAN 18...	1530	<1	<1	<100	17	1	<1	<10	<10	2
MAY 11...	1630	<1	<1	<100	19	1	<3	<10	<10	<1
SEP 21...	1545	<1	<1	<100	26	<1	<1	<10	<10	<1

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
NOV 24...	<3	24	6	16000	75	8	12	400	14	.3
JAN 18...	<3	13	<1	360	75	1	<1	30	10	.1
MAY 11...	<1	15	3	940	55	49	3	40	10	.2
SEP 21...	1	1	2	130	67	2	<1	30	18	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 24...	.1	11	4	<1	<1	<1	<1	50	12
JAN 18...	<.1	1	<1	<1	<1	<1	<1	300	26
MAY 11...	.1	3	<1	<1	<1	9	<1	50	13
SEP 21...	<.1	1	1	<1	<1	<1	<1	10	<3

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

HONEY LAKE BASIN

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JAN 18...	1530	94	1.0	17	4.3	59
MAR 23...	0930	166	5.0	9	4.0	57
MAY 11...	1630	348	10.5	28	26	54
JUL 12...	1545	82	24.0	10	2.2	65

10358500 WILLOW CREEK NEAR SUSANVILLE, CA

LOCATION.--Lat 40°29'21", long 120°32'10", in SW¼NE¼ sec.5, T.30 N., R.13 E., Lassen County, Hydrologic Unit 18080003, on left bank 4 mi (6 km) upstream from Peters Valley Creek, and 8 mi (13 km) northeast of Susanville.

DRAINAGE AREA.--90.4 mi² (234.1 km²), excludes that of Eagle Lake Basin.

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

REVISED RECORDS.--WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,836.27 ft (1,474.095 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Diversions for irrigation of 5,200 acres (21.0 km²) above station. Some flow at times enters Willow Creek from Eagle Lake through an abandoned tunnel.

AVERAGE DISCHARGE.--32 years, 34.0 ft³/s (0.963 m³/s), 24,630 acre-ft/yr (30.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 816 ft³/s (23.1 m³/s) Feb. 1, 1963, gage height, 5.59 ft (1.704 m); minimum daily, 6.8 ft³/s (0.19 m³/s) on several days during August 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.66 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 17	1730	272 7.70	4.10 1.250	Feb. 16	1415	578 16.40	5.05 1.539
Nov. 23	1130	*615 17.40	5.14 1.567	Apr. 12	0245	383 10.80	4.52 1.378
Dec. 20	1730	390 11.00	4.53 1.381				

Minimum daily, 8.1 ft³/s (0.23 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	26	69	63	33	59	51	23	10	10	9.4	8.7
2	8.2	25	57	60	33	66	52	22	11	10	8.6	8.8
3	8.3	26	46	59	34	59	69	20	11	10	8.4	8.9
4	8.4	24	46	57	32	56	111	18	11	10	8.4	8.9
5	8.4	24	48	54	30	50	133	17	11	10	8.3	8.9
6	8.4	24	43	53	29	48	120	16	11	10	8.4	8.9
7	8.9	24	53	51	30	46	108	15	11	11	8.5	9.4
8	8.7	24	48	48	30	44	97	12	11	15	8.5	9.8
9	8.7	24	49	48	30	43	96	12	11	14	8.5	9.9
10	9.3	23	69	48	31	45	96	12	10	14	8.6	9.6
11	11	24	56	47	30	51	283	12	10	14	8.6	9.6
12	11	32	52	47	30	48	356	11	10	14	8.5	9.5
13	11	96	51	44	42	45	227	10	10	14	8.5	9.3
14	11	165	47	42	191	47	159	11	10	15	8.4	9.3
15	11	118	48	40	356	48	157	11	10	16	8.4	9.4
16	12	100	43	39	544	47	116	11	10	15	8.4	9.5
17	14	246	40	39	412	47	99	11	10	15	8.5	11
18	13	197	43	38	232	47	87	11	9.8	14	8.6	11
19	13	123	108	35	193	46	75	11	9.8	13	8.6	11
20	13	96	351	33	160	43	65	11	9.5	12	8.6	11
21	13	132	275	33	132	39	59	11	9.4	12	8.6	13
22	14	140	153	34	127	23	57	11	9.0	12	8.6	17
23	14	399	128	35	104	22	55	10	9.0	11	8.7	18
24	15	500	102	33	96	22	53	10	9.0	11	8.6	20
25	22	347	93	35	86	29	50	10	9.0	11	8.6	23
26	21	202	81	38	79	34	44	9.9	9.0	11	8.7	26
27	20	141	69	37	75	34	29	10	9.5	11	8.7	26
28	28	105	61	40	68	33	25	11	9.6	11	8.8	32
29	29	85	71	35	---	36	23	11	9.6	11	8.9	32
30	28	75	71	35	---	38	22	10	10	9.0	8.8	28
31	27	---	64	34	---	34	---	10	---	9.6	8.7	---
TOTAL	436.4	3567	2535	1334	3269	1329	2974	390.9	300.2	375.6	266.4	427.4
MEAN	14.1	119	81.8	43.0	117	42.9	99.1	12.6	10.0	12.1	8.59	14.2
MAX	29	500	351	63	544	66	356	23	11	16	9.4	32
MIN	8.1	23	40	33	29	22	22	9.9	9.0	9.0	8.3	8.7
AC-FT	866	7080	5030	2650	6480	2640	5900	775	595	745	528	848
CAL YR 1981	TOTAL	11249.3	MEAN 30.8	MAX 500	MIN 6.8	AC-FT 22310						
WTR YR 1982	TOTAL	17204.9	MEAN 47.1	MAX 544	MIN 8.1	AC-FT 34130						

EAGLE LAKE BASIN

10359300 PINE CREEK NEAR SUSANVILLE, CA

LOCATION.--Lat 40°39'54", long 120°47'25", in NE¼SE¼ sec.1, T.32 N., R.10 E., Lassen County, Hydrologic Unit 18080003, on right bank 0.3 mi (0.5 km) upstream from Eagle Lake, and 18 mi (29 km) northwest of Susanville.

DRAINAGE AREA.--226 mi² (585 km²).

PERIOD OF RECORD.--October 1960 to September 1966, October 1967 to September 1968, October 1969 to September 1982.

GAGE.--Water-stage recorder. Altitude of gage is 5,120 ft (1,561 m), from topographic map. Prior to September 1968, at site 1.0 mi (1.6 km) upstream at different datum.

REMARKS.--No storage or diversion above station except for minor stock ponds.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--20 years (water years 1961-66, 1968, 1970-82), 22.6 ft³/s (0.640 m³/s), 16,370 acre-ft/yr (20.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,140 ft³/s (32.3 m³/s) May 15, 1975, gage height, 5.45 ft (1.661 m); maximum gage height, 5.60 ft (1.707 m) Jan. 24, 1970; no flow for several months in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1967, reached a stage of 5.29 ft (1.612 m), discharge, 826 ft³/s (23.4 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 900 ft³/s (25.5 m³/s) Apr. 12, gage height, 5.22 ft (1.591 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	82	9.5	.53	63	1.1	92	21			
2		0	52	8.4	.53	75	4.9	83	20			
3		0	50	7.8	.53	104	1.1	81	18			
4		0	49	7.2	.86	81	1.1	78	18			
5		0	49	6.6	1.3	56	7.0	77	18			
6		0	45	6.0	1.8	44	13	74	16			
7		0	53	5.4	2.5	40	14	70	15			
8		0	54	4.8	3.3	38	16	68	13			
9		0	49	4.3	3.6	37	20	64	11			
10		0	57	3.8	4.1	43	34	64	9.3			
11		0	63	3.3	4.4	64	235	62	7.5			
12		0	56	2.2	4.8	67	741	55	6.7			
13		0	46	2.2	6.6	55	730	51	5.7			
14		0	41	2.2	27	50	465	50	4.2			
15		55	72	2.2	128	61	351	51	1.1			
16		300	71	1.6	408	54	258	50	0			
17		521	49	1.5	508	30	230	47	0			
18		520	42	1.5	510	13	228	48	0			
19		297	85	1.5	466	15	199	46	0			
20		190	300	1.5	369	15	168	45	0			
21		134	308	1.5	430	16	132	42	0			
22		129	192	1.5	420	13	115	38	0			
23		216	118	1.2	301	9.8	111	34	0			
24		394	72	.92	193	7.6	103	30	0			
25		341	53	.92	130	5.4	95	27	0			
26		229	48	.92	91	2.7	87	26	0			
27		143	43	.92	64	7.0	92	24	0			
28		112	26	.92	60	13	114	24	0			
29		100	18	.92	---	14	107	25	0			
30		99	17	.87	---	14	101	24	0			
31		---	22	.53	---	1.2	---	23	---			---
TOTAL	0	3780	2282	94.62	4139.85	1108.7	4774.2	1573	184.5	0	0	0
MEAN	0	126	73.6	3.05	148	35.8	159	50.7	6.15	0	0	0
MAX	0	521	308	9.5	510	104	741	92	21	0	0	0
MIN	0	0	17	.53	.53	1.2	1.1	23	0	0	0	0
AC-FT	0	7500	4530	188	8210	2200	9470	3120	366	0	0	0
CAL YR 1981	TOTAL	7208.10	MEAN	19.7	MAX	521	MIN	0	AC-FT	14300		
WTR YR 1982	TOTAL	17936.87	MEAN	49.1	MAX	741	MIN	0	AC-FT	35580		

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	6.4	12	19	9.6	39	18	84	86	41	12	5.6
2	4.3	6.5	13	19	9.6	37	17	93	83	40	12	5.5
3	4.8	6.3	13	19	9.6	34	17	97	81	40	12	5.5
4	4.2	6.2	13	18	9.6	31	16	110	79	37	12	5.7
5	4.2	6.2	12	16	9.6	28	15	110	78	35	12	5.6
6	4.1	6.1	14	16	9.6	26	15	107	73	33	12	5.4
7	6.8	6.2	17	16	9.6	25	15	107	68	31	11	5.3
8	5.5	6.0	16	15	9.6	25	15	110	62	29	11	5.1
9	6.2	5.9	15	15	9.6	25	16	108	56	27	11	5.1
10	20	5.9	15	15	9.6	25	18	95	53	26	10	5.2
11	10	5.9	14	15	9.6	24	43	82	53	25	9.9	5.3
12	7.2	8.5	14	15	9.6	24	51	74	57	24	9.7	5.7
13	6.3	14	15	14	15	23	41	73	60	23	9.6	5.8
14	5.9	22	17	14	18	23	38	74	61	21	9.3	5.7
15	5.7	22	27	14	27	22	35	79	62	20	9.0	6.6
16	5.6	42	24	14	68	21	31	83	65	19	8.5	6.7
17	5.6	30	20	13	56	20	30	90	70	19	8.5	6.3
18	5.5	21	22	13	47	20	31	94	73	19	8.1	6.0
19	5.4	16	54	13	68	19	30	93	73	17	8.1	6.7
20	5.3	15	126	13	97	19	30	92	72	17	8.1	6.4
21	5.1	15	85	13	123	18	31	92	67	16	7.7	5.8
22	4.8	20	54	12	125	17	34	97	62	15	7.4	5.6
23	4.8	30	42	12	101	17	42	105	57	15	6.7	5.4
24	4.8	40	35	12	74	18	57	110	53	15	6.5	6.2
25	4.8	25	30	11	60	19	67	113	50	15	6.4	5.9
26	4.8	20	28	11	51	19	72	119	46	14	6.3	6.0
27	4.9	17	27	11	46	19	74	126	43	14	6.2	7.5
28	7.5	15	24	11	40	19	82	125	42	14	6.1	6.6
29	6.5	18	24	10	---	18	83	115	42	14	6.3	6.6
30	6.2	13	22	10	---	18	81	102	42	14	6.1	6.3
31	6.1	---	20	9.6	---	19	---	92	---	13	5.9	---
TOTAL	186.7	471.1	864	428.6	1131.2	711	1145	3051	1869	702	275.4	177.1
MEAN	6.02	15.7	27.9	13.8	40.4	22.9	38.2	98.4	62.3	22.6	8.88	5.90
MAX	20	42	126	19	125	39	83	126	86	41	12	7.5
MIN	3.8	5.9	12	9.6	9.6	17	15	73	42	13	5.9	5.1
AC-FT	370	934	1710	850	2240	1410	2270	6050	3710	1390	546	351
CAL YR 1981	TOTAL	5496.1	MEAN	15.1	MAX	126	MIN	2.9	AC-FT	10900		
WTR YR 1982	TOTAL	11012.1	MEAN	30.2	MAX	126	MIN	3.8	AC-FT	21840		

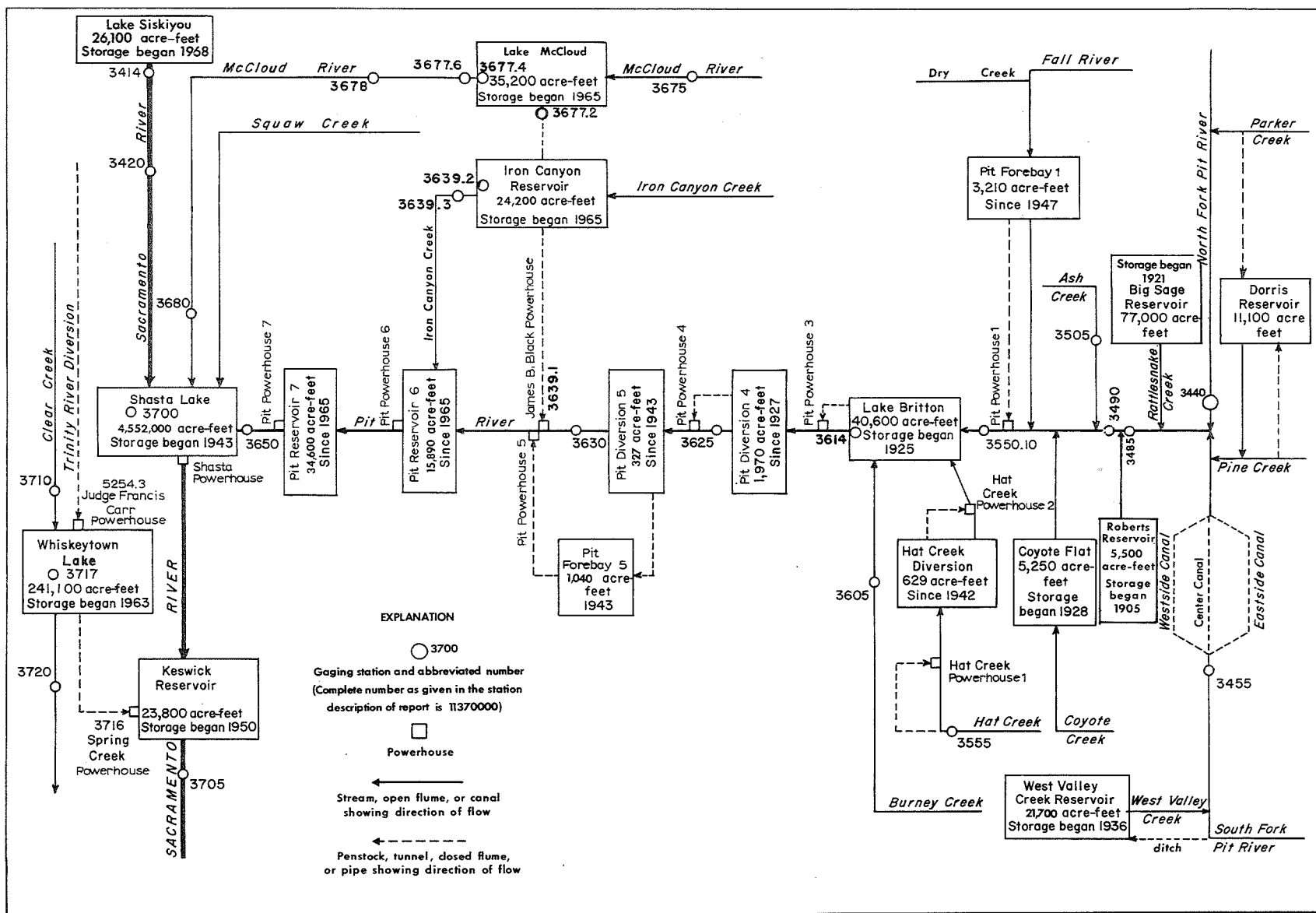


FIGURE 4.—Schematic diagram showing diversions and storage in Pit and McCloud river basins.

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA

LOCATION.--Lat 41°15'56", long 122°18'32", in SE¼SE¼ sec.33, T.40 N., R.4 W., Siskiyou County, Hydrologic Unit 18020005, on left bank 200 ft (61 m) upstream from Stink Creek, 0.3 mi (0.5 km) upstream from Southern Pacific Railroad bridge, 1.7 mi (2.7 km) downstream from Box Canyon Dam, and 3.3 mi (5.3 km) south of town of Mt Shasta.

DRAINAGE AREA.--135 mi² (350 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (853 m), from topographic map. Prior to July 1, 1966, water-stage recorder at site 500 ft (152 m) upstream at datum 7.26 ft (2.213 m) higher, July 1, 1966, to Aug. 13, 1974, at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good. Flow regulated by Box Canyon Dam 1.7 mi (2.7 km) upstream beginning December 1968, capacity, 26,100 acre-ft (32.2 hm³). See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE (adjusted for change in contents in Lake Siskiyou).--23 years, 251 ft³/s (7.108 m³/s), 181,800 acre-ft/yr (224 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s (346 m³/s) Dec. 22, 1964, gage height, 15.6 ft (4.75 m) from floodmarks, present site and datum, from slope-area measurement of maximum flow; minimum, 37 ft³/s (1.05 m³/s) Sept. 6, 1962. Maximum discharge since construction of Box Canyon Dam in 1968, 11,500 ft³/s (326 m³/s) Jan. 16, 1974, gage height, 13.25 ft (4.039 m) from floodmarks, from rating curve extended above 2,900 ft³/s (82.1 m³/s) on basis of flow-over-dam computation of maximum flow; minimum daily, 14 ft³/s (0.40 m³/s) Dec. 8-16, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,600 ft³/s (187 m³/s) Nov. 16, gage height, unknown; minimum daily, 58 ft³/s (1.64 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	110	172	805	172	1760	346	793	510	316	86	73
2	59	110	247	607	172	1200	705	841	459	297	85	73
3	61	109	337	418	176	765	770	859	414	287	86	74
4	62	109	355	417	177	596	673	848	386	256	89	73
5	61	109	360	414	175	501	210	784	361	236	90	73
6	63	103	378	233	176	441	207	783	329	215	87	73
7	82	92	320	164	177	400	207	857	310	199	84	74
8	81	90	288	164	177	388	205	860	293	188	85	66
9	78	90	300	164	177	396	266	713	291	179	83	67
10	79	90	300	164	177	407	308	627	298	172	79	80
11	92	94	288	164	177	432	659	578	315	166	77	77
12	75	110	284	164	177	413	1450	574	324	157	74	80
13	119	120	357	164	190	388	1320	609	347	154	73	75
14	170	130	470	164	255	389	1080	674	329	149	73	66
15	226	850	530	164	429	373	768	682	326	139	73	70
16	230	3700	498	164	1110	372	640	676	322	129	73	70
17	222	2500	573	164	1240	348	579	733	315	129	73	70
18	220	940	667	167	941	381	558	709	301	128	72	78
19	216	890	1960	256	907	340	527	637	291	127	72	93
20	200	840	2780	292	933	312	514	625	294	94	72	92
21	138	870	1450	288	1160	296	522	655	288	68	71	89
22	129	860	989	284	1130	289	554	695	268	87	72	82
23	107	880	756	284	878	288	638	721	248	99	70	80
24	107	870	420	216	687	288	751	738	237	101	70	80
25	106	850	532	172	579	288	803	826	179	98	69	84
26	105	814	476	172	527	288	760	857	166	96	69	83
27	114	792	454	172	484	291	757	819	330	93	69	104
28	154	381	403	175	489	323	822	482	287	89	68	83
29	116	73	448	173	---	318	813	446	455	87	83	93
30	114	94	593	172	---	300	767	447	389	85	81	74
31	111	---	736	172	---	316	---	440	---	84	76	---
TOTAL	3755	17670	18921	7693	14049	13887	19179	21588	9662	4704	2384	2349
MEAN	121	589	610	248	502	448	639	696	322	152	76.9	78.3
MAX	230	3700	2780	805	1240	1760	1450	860	510	316	90	104
MIN	58	73	172	164	172	288	205	440	166	68	68	66
AC-FT	7450	35050	37530	15260	27870	27540	38040	42820	19160	9330	4730	4660
MEAN a	89.6	576	646	207	561	446	646	691	323	148	76.9	78.3
AC-FT a	5510	34280	39760	12720	31150	27410	38440	42510	19200	9070	4703	4660
b	24210	23440	25670	23130	26410	26280	26680	26370	26410	26150	26150	26150

CAL YR 1981 TOTAL 99732 MEAN 273 MAX 3700 MIN 42 AC-FT 197800 MEAN a 276 AC-FT a 199500
WTR YR 1982 TOTAL 135841 MEAN 372 MAX 3700 MIN 58 AC-FT 269400 MEAN a 372 AC-FT a 269400

a Adjusted for change in contents in Lake Siskiyou.

b Contents, in acre-feet, at end of month in Lake Siskiyou.

SACRAMENTO RIVER BASIN

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

CHEMICAL ANALYSES: Water years 1970-72.

WATER TEMPERATURES: Water years 1966 to current year.

SEDIMENT RECORDS: Water year 1972.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to current year.

INSTRUMENTATION.--Temperature recorder since October 1965.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 20.0°C July 25-28, 1974, July 12, 1975; minimum recorded, 1.0°C several days in January and February 1982.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 17.5°C several days in July; minimum recorded, 1.0°C several days during January and February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	9.5	12.0	10.5	7.0	6.0	4.5	4.0	4.0	1.0	5.0	4.5
2	12.0	10.0	12.0	10.5	6.5	6.0	4.5	4.0	2.5	1.0	5.0	4.5
3	13.0	10.5	12.0	10.0	6.5	6.0	4.0	4.0	4.0	1.0	5.0	4.5
4	12.5	9.5	12.0	10.5	7.0	6.0	4.5	4.0	3.5	3.0	5.0	4.5
5	12.5	9.5	11.5	10.5	6.5	6.5	4.0	3.5	3.5	2.5	5.5	4.5
6	13.0	10.5	12.0	10.5	6.5	6.0	3.5	3.0	4.0	2.5	5.5	4.5
7	13.0	11.5	11.5	10.0	7.0	6.0	3.5	2.5	4.0	3.0	5.5	4.5
8	13.0	11.0	12.0	10.0	6.5	6.0	4.0	3.0	4.0	3.0	5.0	5.0
9	12.5	11.0	11.5	10.0	6.5	6.0	4.0	3.0	4.0	3.5	6.0	5.0
10	13.0	11.5	11.5	10.5	6.5	6.0	4.0	3.5	4.0	3.5	6.0	5.5
11	12.5	10.5	11.0	10.5	6.0	5.5	4.0	3.5	4.5	3.0	6.5	5.0
12	12.0	10.0	11.0	10.5	6.0	6.0	4.0	3.5	4.5	3.5	6.0	5.0
13	12.5	10.5	10.5	9.0	6.0	6.0	4.0	3.5	4.5	4.0	6.0	5.0
14	12.5	11.0	10.0	9.0	6.5	6.0	4.0	3.5	5.0	4.0	6.0	5.0
15	11.5	10.5	10.0	8.5	6.5	5.5	4.0	3.5	5.0	4.0	6.0	4.5
16	11.5	10.5	10.0	9.5	6.0	5.5	4.0	3.5	4.5	4.0	5.5	4.5
17	12.0	10.5	9.5	8.5	6.0	5.5	4.0	3.5	4.0	4.0	5.5	4.5
18	12.0	10.5	8.5	8.0	6.0	5.5	4.0	3.5	4.0	4.0	5.5	4.5
19	12.0	10.5	8.0	8.0	6.5	6.0	3.5	3.5	4.5	4.0	6.0	5.0
20	12.0	10.5	8.5	8.0	6.0	5.5	4.0	3.5	4.5	4.0	6.0	5.0
21	13.0	11.0	8.5	8.0	5.5	5.0	3.5	3.0	5.0	4.5	6.0	5.0
22	12.5	11.0	8.5	8.0	5.0	5.0	3.5	3.0	4.5	4.0	6.5	5.0
23	13.5	11.5	8.5	8.0	5.0	5.0	4.0	3.5	4.5	4.0	7.0	5.0
24	13.0	11.5	8.0	7.5	5.0	5.0	4.0	3.5	4.5	3.5	7.0	5.5
25	13.0	11.5	7.5	7.0	5.5	5.0	4.5	3.5	5.0	4.0	6.5	5.0
26	12.5	11.5	7.5	7.0	5.5	5.0	4.0	3.0	4.5	4.5	6.0	5.0
27	12.0	11.0	7.0	7.0	5.0	5.0	4.0	3.0	5.0	4.0	6.0	5.0
28	11.5	10.5	7.0	5.5	5.0	4.5	4.0	1.0	5.0	4.0	6.0	5.0
29	11.5	10.5	6.0	5.0	5.0	4.5	4.0	1.0	---	---	5.5	5.0
30	11.5	10.5	6.5	5.5	5.0	4.5	4.0	1.0	---	---	5.0	4.5
31	12.0	10.5	---	---	5.0	4.5	4.0	1.0	---	---	5.5	5.0
MONTH	13.5	9.5	12.0	5.0	7.0	4.5	4.5	1.0	5.0	1.0	7.0	4.5

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	5.0	9.5	8.0	12.5	11.0	14.5	13.0	16.5	12.5	15.0	11.0
2	5.0	4.5	11.0	8.5	11.5	10.5	14.0	13.0	16.5	12.0	14.0	11.0
3	5.5	5.0	11.5	9.0	11.5	10.0	13.5	12.0	16.5	12.0	13.5	11.5
4	5.5	5.0	10.5	9.0	11.5	10.0	13.5	11.5	16.5	12.5	14.5	10.5
5	5.5	4.5	11.0	8.5	11.5	9.5	14.0	11.5	17.0	12.5	14.5	10.5
6	5.5	4.5	11.5	8.5	11.5	9.5	14.0	11.5	17.0	13.0	14.0	10.5
7	6.0	5.0	11.5	9.5	12.0	9.5	13.5	11.5	15.0	13.0	14.0	10.5
8	6.5	4.5	10.0	9.0	12.0	9.5	13.5	11.0	17.0	13.5	14.0	10.0
9	6.5	4.5	10.0	8.0	12.5	9.5	13.5	11.0	16.5	12.5	14.0	10.0
10	6.0	5.0	10.0	8.0	12.5	10.5	14.0	11.0	16.0	12.0	13.5	10.5
11	5.5	4.5	11.0	8.5	12.0	11.0	14.0	11.0	15.5	12.0	12.5	9.0
12	5.5	5.0	11.5	9.5	12.5	10.5	13.0	10.5	15.5	11.5	13.5	10.5
13	5.5	5.0	10.0	9.0	13.5	11.5	13.0	10.5	16.0	11.0	12.5	9.5
14	6.0	5.0	11.5	9.5	14.0	11.5	13.0	9.5	15.0	11.5	12.5	9.0
15	6.5	5.5	11.5	9.5	14.5	12.0	12.0	9.0	15.5	11.5	11.0	8.5
16	7.5	5.5	12.0	10.0	14.5	13.0	11.5	8.5	15.5	11.0	11.5	9.0
17	8.5	6.0	12.0	10.0	14.5	13.0	12.0	8.0	15.5	11.0	12.5	10.0
18	8.0	6.5	11.5	9.5	14.5	12.5	12.0	8.0	15.5	11.0	11.5	10.5
19	8.5	6.5	11.0	9.5	14.0	12.5	12.0	8.0	14.5	11.0	13.0	11.5
20	8.0	5.5	11.0	9.0	14.5	13.0	14.0	8.5	15.5	11.5	13.5	10.5
21	8.5	6.5	13.0	10.0	14.5	12.5	14.5	9.0	15.5	11.0	13.5	11.0
22	9.5	7.0	13.5	11.0	14.5	12.0	16.5	11.5	15.5	11.5	13.5	10.5
23	8.5	7.5	12.5	10.5	14.0	11.5	17.5	13.5	16.0	11.5	13.5	10.0
24	9.0	7.5	13.5	11.0	13.5	12.0	17.5	13.5	16.0	11.5	13.5	11.5
25	8.5	7.5	13.5	11.0	13.0	8.0	17.0	13.0	15.0	11.0	14.0	11.5
26	9.0	7.5	13.5	10.5	13.0	8.0	17.5	13.0	15.0	11.0	13.0	10.5
27	9.5	8.0	10.5	8.0	15.5	13.0	17.0	12.5	14.5	10.5	12.5	10.5
28	11.0	8.5	12.0	7.0	14.0	13.0	17.5	13.0	12.5	10.0	12.5	10.0
29	9.5	8.5	13.0	10.5	15.5	13.5	17.5	13.5	16.0	11.5	12.0	10.0
30	9.0	8.0	11.5	10.5	16.0	14.0	17.5	13.0	15.5	12.0	12.0	9.5
31	---	---	12.0	11.0	---	---	17.5	13.0	15.0	11.5	---	---
MONTH	11.0	4.5	13.5	7.0	16.0	8.0	17.5	8.0	17.0	10.0	15.0	8.5

SACRAMENTO RIVER BASIN

11342000 SACRAMENTO RIVER AT DELTA, CA

LOCATION.--Lat 40°56'23", long 122°24'58", in SW¼NW¼ sec.35, T.36 N., R.5 W, Shasta County, Hydrologic Unit 18020005, Bureau of Reclamation property, on left bank 0.2 mi (0.3 km) downstream from Dog Creek, 0.6 mi (1.0 km) southeast of Delta, and 2.8 mi (4.5 km) south of Lamoine.

DRAINAGE AREA.--425 mi² (1,101 km²).

PERIOD OF RECORD.--October 1944 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 1,075.00 ft (327.660 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Records excellent. Some regulation since December 1968 by Lake Siskiyou, capacity, 26,100 acre-ft (32.2 hm³). Some minor diversions for irrigation above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--38 years, 1,170 ft³/s (33.13 m³/s), 847,700 acre-ft/yr (1,045 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,800 ft³/s (1,980 m³/s) Jan. 16, 1974, gage height, 27.20 ft (8.291 m), from rating curve extended above 19,000 ft³/s (538 m³/s) on basis of slope-area measurements at gage heights, 19.50 ft (5.944 m) in gage well, 20.0 ft (6.10 m) from floodmarks, and 27.20 ft (8.291 m) in gage well, 28.7 ft (8.75 m) from floodmarks; minimum daily, 117 ft³/s (3.31 m³/s) Aug. 5, 6, 12-15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,200 ft³/s (968 m³/s) Nov. 16, gage height, 17.52 ft (5.340 m); minimum daily, 197 ft³/s (5.58 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	197	342	1240	3190	1170	10200	2250	2720	1250	783	344	265
2	197	322	1250	2650	1180	7080	2820	2760	1190	755	344	260
3	206	308	1290	2090	1260	4720	2990	2750	1100	731	345	259
4	204	298	1310	1960	1270	3640	2740	2710	1060	670	347	263
5	200	292	1270	1760	1210	3010	2090	2520	998	643	347	255
6	207	288	1990	1500	1140	2610	1830	2510	933	607	341	250
7	322	272	2230	1260	1090	2330	1650	2690	893	584	334	247
8	267	265	1850	1210	1040	2410	1530	2630	864	563	339	243
9	245	262	1890	1200	1010	2540	1550	2280	843	546	328	241
10	296	285	2060	1220	973	2590	2130	2050	840	530	319	243
11	289	337	1800	1310	938	2680	10800	1910	858	515	315	243
12	252	1490	1750	1310	907	2480	10400	1890	865	501	311	242
13	239	1920	2270	1280	1480	2280	12200	1960	885	490	303	238
14	301	2300	3330	1270	3900	2250	9260	2160	848	476	302	236
15	346	8630	5530	1260	6800	2110	6120	2110	823	465	298	238
16	363	19400	3830	1260	8830	2130	4670	2070	804	452	296	243
17	360	15700	2930	1250	6390	2000	3900	2170	784	443	293	253
18	355	5090	4500	1240	4720	1990	3520	2090	762	437	287	279
19	352	3030	17400	1240	4360	1910	3200	1880	740	431	284	313
20	349	2380	15300	1320	4110	1810	2990	1820	726	425	283	295
21	301	3340	8400	1230	4510	1710	2860	1880	716	365	276	281
22	279	3140	5710	1160	3970	1630	2860	1960	693	370	273	271
23	261	4930	4270	1120	3260	1570	2990	1980	653	380	269	264
24	253	4250	3380	1080	2730	1530	3200	2000	634	382	267	280
25	250	3140	2820	1040	2380	1500	3190	2090	616	378	264	293
26	250	2990	2500	1420	2340	1470	2960	2060	546	372	261	277
27	534	3150	2260	1460	2420	1430	2890	1880	774	367	260	275
28	1530	2480	2040	1420	2400	1620	2990	1490	732	361	256	268
29	662	1580	2140	1290	---	1560	2870	1230	983	355	295	266
30	435	1330	2180	1220	---	1640	2700	1230	880	352	288	258
31	371	---	2780	1190	---	2790	---	1190	---	347	273	---
TOTAL	10673	93541	113500	44410	77788	81220	118150	64670	25293	15076	9342	7839
MEAN	344	3118	3661	1433	2778	2620	3938	2086	843	486	301	261
MAX	1530	19400	17400	3190	8830	10200	12200	2760	1250	783	347	313
MIN	197	262	1240	1040	907	1430	1530	1190	546	347	256	236
AC-FT	21170	185500	225100	88090	154300	161100	234400	128300	50170	29900	18530	15550
CAL YR 1981 TOTAL	476443	MEAN	1305	MAX	19400	MIN	166	AC-FT	945000			
WTK YR 1982 TOTAL	661502	MEAN	1812	MAX	19400	MIN	197	AC-FT	1312000			

LOCATION.--Lat 41°28'56", long 120°32'16", in SE¼NW¼ sec.13, T.42 N., R.12 E., Modoc County, Hydrologic Unit 18020002, on right bank 10 ft (3 m) downstream from Estes Street bridge in Alturas, and 1.2 mi (1.9 km) upstream from confluence of North and South Forks.

PERIOD OF RECORD.--October 1971 to current year.

REVISED RECORDS.--WDR CA-78-4: 1975(M), 1976(M).

GAGE.--Water-stage recorder. Datum of gage is 4,345.00 ft (1,324.356 m) National Geodetic Vertical Datum of 1929. Since Apr. 10, 1973, a supplementary water-stage recorder for winter periods is located above a concrete weir 0.25 mi (0.40 km) upstream.

REMARKS.--Records good. Flow is regulated by many small irrigation ponds and Dorris Reservoir, capacity 11,100 acre-ft (13.7 hm³). Diversions above station for irrigation of about 7,100 acres (28.7 km²). See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--11 years, 62.7 ft³/s (1.776 m³/s), 45,430 acre-ft/yr (56.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,350 ft³/s (66.6 m³/s) Jan. 14, 1980, gage height, 13.45 ft (41.00 m), from rating curve extended above 1,300 ft³/s (36.8 m³/s) on basis of flow-over-dam computation at 11.90 ft (3.627 m); minimum daily, 0.01 ft/s (<0.001 m/s) July 20, Aug. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,100 ft³/s (59.5 m³/s) Feb. 16, gage height, 13.02 ft (3.968 m); minimum daily, 0.15 ft³/s (0.004 m³/s) Oct. 1, 2.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	2.4	33	121	35	191	97	201	59	41	.34	.54
2	.15	2.6	68	114	36	168	101	199	72	36	.36	.49
3	.30	3.5	82	112	35	147	141	201	61	43	.36	.49
4	.30	3.6	51	85	36	135	174	189	62	35	.36	.49
5	.30	3.5	39	75	38	115	183	146	98	25	.36	.49
6	.22	3.2	31	71	39	106	181	100	85	19	.35	.49
7	.38	2.2	39	51	40	103	164	117	62	11	.37	.40
8	.52	2.1	33	56	42	96	203	123	19	11	.40	.36
9	.48	2.2	28	56	43	98	240	112	2.8	6.8	.43	.40
10	.66	2.6	26	54	43	110	365	99	4.1	1.0	.44	.44
11	3.1	2.8	23	55	43	171	741	102	6.4	.56	.34	.45
12	4.4	3.2	23	51	46	128	551	95	11	.49	.36	.49
13	2.7	37	24	50	47	95	375	72	31	.44	.40	.49
14	1.9	34	40	53	349	114	322	52	33	.44	.44	.49
15	1.9	25	53	69	934	177	278	47	26	.43	.44	.49
16	2.2	387	55	54	1540	160	237	38	23	.36	.36	.47
17	1.4	129	36	55	958	138	221	69	26	.32	.27	.44
18	1.0	107	32	54	580	140	214	237	24	.26	.28	.44
19	1.8	44	91	54	800	147	199	120	24	.44	.29	.47
20	1.9	32	662	53	756	130	184	99	25	.41	.30	.49
21	2.0	27	389	52	673	115	181	93	26	.36	.30	.49
22	1.9	52	196	50	785	98	192	107	23	.39	.34	.49
23	1.6	262	111	46	561	97	203	101	21	.34	.54	.50
24	1.3	487	88	45	406	104	238	105	20	.30	.57	.57
25	1.3	157	140	50	340	111	234	106	17	.30	.68	.59
26	1.5	79	295	59	290	105	197	102	27	.31	.56	.59
27	1.5	54	429	53	247	98	192	102	24	.36	.50	.64
28	1.6	41	156	43	208	92	233	98	24	.36	.49	.59
29	3.6	32	148	37	---	86	223	87	41	.36	.49	.59
30	3.4	31	246	33	---	86	202	74	58	.31	.49	.60
31	3.6	---	162	35	---	91	---	77	---	.28	.49	---
TOTAL	49.06	2050.9	3829	1846	9950	3752	7266	3470	1035.3	236.62	12.70	14.96
MEAN	1.58	68.4	124	59.5	355	121	242	112	34.5	7.63	.41	.50
MAX	4.4	487	662	121	1540	191	741	237	98	43	.68	.64
MIN	.15	2.1	23	33	35	86	97	38	2.8	.26	.27	.36
AC-FT	97	4070	7590	3660	19740	7440	14410	6880	2050	469	25	30
CAL YR 1981	TOTAL	12529.89	MEAN	34.3	MAX	662	MIN	.08	AC-FT	24850		
WTR YR 1982	TOTAL	33512.54	MEAN	91.8	MAX	1540	MIN	.15	AC-FT	66470		

SACRAMENTO RIVER BASIN

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA

LOCATION.--Lat 41°13'51", long 120°26'10", in NE¼SE¼ sec.11, T.39 N., R.13 E., Modoc County, Hydrologic Unit 18020002, on left bank 250 ft (76 m) downstream from highway bridge, 1.4 mi (2.3 km) downstream from West Valley Creek, and 3.5 mi (5.6 km) east of Likely.

DRAINAGE AREA.--247 mi² (640 km²).

PERIOD OF RECORD.--October 1928 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 4,508 ft (1,374 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, at site 1,000 ft (305 m) downstream at different datum.

REMARKS.--Records good except those for the winter period, which are fair. Flow partly regulated by West Valley Creek Reservoir beginning in May 1937, usable capacity, 21,700 acre-ft (26.8 hm³). Diversions for irrigation of about 3,800 acres (1,538 hm²) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--54 years, 78.6 ft³/s (2.226 m³/s), 56,950 acre-ft/yr (70.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,620 ft³/s (45.9 m³/s) June 2, 1971, gage height, 6.05 ft (1.844 m); minimum, 0.2 ft³/s (0.006 m³/s) Feb. 3, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 354 ft³/s (10.0 m³/s) May 27, gage height, 3.84 ft (1.170 m), gage height, 3.94 ft (1.201 m) Feb. 7 (backwater from ice); minimum daily, 2.3 ft³/s (0.065 m³/s) Dec. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	27	2.3	18	11	72	56	173	236	173	183	153
2	20	27	15	15	11	69	67	200	216	177	182	151
3	23	19	23	14	11	58	106	225	206	164	185	150
4	23	5.6	15	13	10	37	112	251	225	145	192	151
5	22	5.2	10	12	10	25	80	260	242	136	191	149
6	21	4.4	4.9	12	9.6	22	68	271	228	119	190	149
7	24	4.1	4.8	11	9.8	26	64	285	202	114	186	129
8	27	3.7	6.7	12	10	25	61	298	176	102	187	116
9	26	3.2	4.9	13	10	23	56	300	157	89	186	113
10	41	3.0	4.6	14	10	41	64	285	143	76	182	116
11	41	2.9	3.4	15	9.8	47	128	263	142	65	174	116
12	18	8.4	2.4	15	9.8	34	126	248	148	70	144	120
13	13	16	3.2	15	12	28	103	254	151	118	143	125
14	10	36	10	14	50	41	95	268	157	109	141	120
15	6.2	12	12	13	159	66	90	268	149	101	140	93
16	15	37	12	12	267	62	83	271	145	98	139	78
17	27	23	7.3	12	178	70	83	289	146	102	136	79
18	27	13	6.3	11	122	70	86	313	151	141	137	82
19	26	7.7	8.5	11	144	80	86	304	154	179	165	90
20	26	6.5	63	11	138	79	87	298	162	174	170	94
21	25	4.5	64	11	138	67	85	299	172	168	167	91
22	25	36	35	10	152	59	92	306	190	166	166	89
23	24	85	25	10	122	57	109	317	169	163	167	89
24	24	60	23	10	107	57	128	322	157	166	164	93
25	24	28	22	11	98	59	143	332	153	163	161	92
26	23	22	25	12	90	57	147	343	141	162	160	91
27	23	15	51	14	81	56	149	350	133	173	161	105
28	25	12	27	13	76	54	167	337	132	190	162	100
29	26	7.9	21	12	---	56	161	309	152	194	162	100
30	26	3.8	35	12	---	53	162	277	138	201	160	72
31	25	---	24	11	---	51	---	256	---	187	157	---
TOTAL	730.2	538.9	571.3	389	2056.0	1601	3044	8772	5073	4385	5140	3296
MEAN	23.6	18.0	18.4	12.5	73.4	51.6	101	283	169	141	166	110
MAX	41	85	64	18	267	80	167	350	242	201	192	153
MIN	6.2	2.9	2.3	10	9.6	22	56	173	132	65	136	72
AC-FT	1450	1070	1130	772	4080	3180	6040	17400	10060	8700	10200	6540

CAL YR 1981 TOTAL 21666.2 MEAN 59.4 MAX 206 MIN 2.3 AC-FT 42970
WTR YR 1982 TOTAL 35596.4 MEAN 97.5 MAX 350 MIN 2.3 AC-FT 70610

LOCATION.--Lat 41°24'22", long 120°55'36", in NW¼SW¼ 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 (6.3 km) southwest of Canby.

PERIOD OF RECORD.--January 1904 to December 1905, May 1929 to current year (1929-31 incomplete).

GAGE.--Water-stage recorder. Datum of gage is 4,266 ft (1,300 m) 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 (30 m) upstream at different datum.

REMARKS.--Records good except those for the winter periods, which are fair. Flow regulated by many small reservoirs, total capacity, about 144,000 acre-ft (178 hm³). Diversions for irrigation of about 39,000 acres (158 km²) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--52 years (water years 1905, 1932-82), 245 ft³/s (6.938 m³/s), 177,500 acre-ft/yr (219 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,000 ft³/s (368 m³/s) Mar. 8, 1904, gage height, 15.0 ft (4.57 m) site and datum then in use; minimum, 0.1 ft³/s (0.003 m³/s) Apr. 29, Aug. 5, Sept. 18, 1934, Aug. 18-21, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,930 ft³/s (140 m³/s) Feb. 17, gage height, 9.59 ft (2.923 m); minimum daily, 2.0 ft³/s (0.057 m³/s) July 23.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	95	181	725	152	790	433	627	453	290	56	62
2	34	71	189	499	156	731	505	606	310	331	53	54
3	31	85	232	372	159	659	678	591	292	345	39	51
4	27	70	274	340	147	613	1000	581	271	343	28	48
5	24	69	245	313	135	548	1070	559	212	328	9.0	52
6	26	79	216	248	138	485	1030	503	280	303	12	60
7	35	64	203	229	140	448	896	442	335	250	22	74
8	44	61	181	210	142	430	822	438	313	219	23	122
9	37	55	172	205	145	394	919	451	276	219	24	134
10	52	50	196	198	148	458	1220	502	181	186	29	97
11	58	49	157	195	140	691	2540	489	155	140	59	80
12	73	55	137	196	142	824	3310	468	126	113	80	65
13	85	108	130	200	144	714	2590	445	119	86	66	58
14	79	161	131	192	450	624	2170	401	110	78	45	59
15	86	503	150	172	1930	707	1830	379	99	75	36	67
16	81	1280	172	156	3910	802	1650	361	107	39	47	73
17	74	1630	170	152	4690	823	1490	413	95	37	50	84
18	65	1100	162	149	3740	742	1260	531	73	89	38	83
19	59	586	383	148	3060	732	1190	722	55	37	36	87
20	75	317	1380	149	2650	732	1120	704	58	27	26	101
21	45	234	2120	143	2490	711	1070	621	101	6.0	23	132
22	53	256	1640	138	2410	634	980	520	144	3.1	16	130
23	62	498	1080	140	2270	534	1000	436	165	2.0	19	134
24	54	1110	708	143	1980	462	990	410	183	9.1	29	143
25	55	1510	567	151	1680	434	860	350	166	24	34	150
26	54	1190	579	168	1390	423	730	291	136	59	22	120
27	56	534	857	192	1140	400	679	292	116	44	13	88
28	111	280	1070	183	936	384	654	249	131	42	21	84
29	87	231	875	162	---	380	677	221	169	49	36	89
30	70	206	784	163	---	380	661	346	236	51	47	185
31	74	---	808	158	---	397	---	427	---	22	65	---
TOTAL	1810	12537	16149	6789	36614	18086	36024	14376	5467	3846.2	1103.0	2766
MEAN	58.4	418	521	219	1308	583	1201	464	182	124	35.6	92.2
MAX	111	1630	2120	725	4690	824	3310	722	453	345	80	185
MIN	24	49	130	138	135	380	433	221	55	2.0	9.0	48
AC-FT	3590	24870	32030	13470	72620	35870	71450	28510	10840	7630	2190	5490
CAL YR 1981	TOTAL	57684.64	MEAN	158	MAX	2200	MIN	.94	AC-FT	114400		
WTR YR 1982	TOTAL	155567.20	MEAN	426	MAX	4690	MIN	2.0	AC-FT	308600		

SACRAMENTO RIVER BASIN

11350500 ASH CREEK AT ADIN, CA

LOCATION.--Lat 41°11'54", long 120°56'32", in SE¼SW¼ sec.21, T.39 N., R.9 E., Modoc County, Hydrologic Unit 18020002, on left bank 300 ft (91 m) upstream from highway at Adin, and 0.4 mi (0.6 km) upstream from Butte Creek.

DRAINAGE AREA.--258 mi² (668 km²).

PERIOD OF RECORD.--March 1904 to December 1905, October 1928 to November 1932, October 1957 to September 1982. Records of daily discharge for Oct. 19-31, 1928, are in error and should not be used.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,190 ft (1,277 m), on basis of bench mark 300 ft (91 m) downstream. Prior to Sept. 12, 1957, water-stage recorder or nonrecording gage at sites within 1 mi (2 km) of present site, at different datums.

REMARKS.--Small diversions above station for irrigation. Flow regulated by many small reservoirs, total capacity, 4,732 acre-ft (5.83 hm³). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--30 years (water years 1905, 1929-32, 1958-82), 76.7 ft³/s (2.172 m³/s), 55,570 acre-ft/yr (68.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,950 ft³/s (83.5 m³/s) Jan. 24, 1970, gage height, 14.69 ft (4.478 m) in gage well, 15.24 ft (4.645 m) from floodmarks; no flow for part of Aug. 26, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,900 ft³/s (82.1 m³/s) Feb. 16, gage height, 13.44 ft (4.097 m); minimum daily, 12 ft³/s (0.34 m³/s) Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	32	101	238	82	247	211	244	33	48	21	18
2	24	32	129	204	86	238	217	237	34	43	20	17
3	25	33	128	184	102	230	255	230	30	40	27	18
4	24	37	101	158	82	227	341	219	39	34	28	20
5	24	33	89	146	63	204	336	202	44	32	23	21
6	24	31	106	103	62	182	300	187	38	27	23	20
7	34	32	125	75	70	171	325	175	32	22	23	21
8	34	32	96	79	64	153	410	167	29	24	24	20
9	29	32	85	82	65	153	491	156	27	24	23	15
10	47	32	93	82	64	259	667	147	25	24	24	12
11	54	33	75	86	61	334	1840	137	24	24	24	13
12	39	39	71	82	56	263	1400	118	26	22	23	14
13	39	41	75	72	63	243	916	104	29	22	23	16
14	33	71	92	73	568	333	747	102	26	22	23	18
15	32	465	112	73	1540	365	600	107	21	21	22	20
16	31	910	87	77	2560	293	470	94	23	20	23	24
17	31	319	69	85	1680	275	396	119	22	23	22	27
18	30	168	105	86	1010	270	352	185	25	24	21	27
19	29	105	727	84	926	282	317	118	26	21	21	29
20	29	90	1170	81	845	272	299	86	27	20	23	28
21	29	121	768	80	852	245	287	78	27	20	24	26
22	29	439	370	73	925	223	284	68	25	18	30	23
23	29	982	265	74	634	208	280	65	25	18	25	22
24	32	692	229	74	464	194	275	57	23	20	24	27
25	31	283	233	95	348	183	279	48	23	19	25	27
26	32	258	406	151	301	172	272	46	23	19	25	30
27	32	223	660	129	280	163	266	44	23	20	25	32
28	48	158	353	117	257	167	263	42	26	24	24	29
29	40	116	284	95	---	187	255	41	37	21	27	33
30	35	96	347	100	---	186	248	37	39	21	25	28
31	33	---	281	86	---	157	---	36	---	22	24	---
TOTAL	1005	5935	7832	3224	14110	7079	13599	3696	851	759	739	675
MEAN	32.4	198	253	104	504	228	453	119	28.4	24.5	23.8	22.5
MAX	54	982	1170	238	2560	365	1840	244	44	48	30	33
MIN	23	31	69	72	56	153	211	36	21	18	20	12
AC-FT	1990	11770	15530	6390	27990	14040	26970	7330	1690	1510	1470	1340
CAL YR 1981 TOTAL	24111.9			MEAN 66.1	MAX 1170	MIN 4.4	AC-FT 47830					
WTR YR 1982 TOTAL	59504.0			MEAN 163	MAX 2560	MIN 12	AC-FT 118000					

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

LOCATION.--Lat 40°59'00", long 121°30'39", in NE¼NW¼ sec.15, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on left bank 0.9 mi (1.4 km) downstream from Pit No. 1 powerhouse and 4 mi (6 km) southwest of Fall River Mills.

DRAINAGE AREA.--3,761 mi² (9,741 km²), excluding Goose Lake basin.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,840 ft (865.6 m), from topographic map.

REMARKS.--Records excellent. Flow regulated by many small reservoirs, total usable reservoir capacity, 210,000 acre-ft (259 hm³), and Pit No. 1 powerplant. Many diversions above station for irrigation.

AVERAGE DISCHARGE.--7 years, 1,835 ft³/s (51.97 m³/s), 1,329,000 acre-ft/yr (1.64 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft³/s (564 m³/s) Jan. 14, 1980, gage height, 14.78 ft (4.505 m), from crest-stage gage; minimum daily, 819 ft³/s (23.2 m³/s) Feb. 1, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1974 reached a stage of 14.8 ft (4.51 m), from floodmarks on right bank, discharge 22,600 ft³/s (640 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,600 ft³/s (442 m³/s) Feb. 18, gage height, 13.47 ft (4.106 m); minimum daily, 1,070 ft³/s (30.3 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1070	1390	2460	4380	1580	4110	3370	3620	2040	1700	1330	1310
2	1140	1370	2250	3960	2010	4150	3450	3560	1940	1650	1370	1340
3	1200	1390	2230	3450	2100	4060	4590	3480	1890	1810	1330	1360
4	1200	1280	2230	3150	2140	3980	5120	3400	1940	1780	1370	1360
5	1210	1370	2240	2960	1950	3710	5250	3260	2120	1800	1360	1380
6	1170	1340	2190	2680	1850	3610	5320	3140	2020	1970	1370	1390
7	1300	1350	2180	2500	1980	3320	4880	3070	1950	1820	1360	1420
8	1330	1180	2220	2320	1830	3200	4940	3050	1780	1800	1380	1410
9	1220	1510	2010	2320	1950	3090	4890	2880	1560	1730	1370	1360
10	1330	1280	2590	2220	1900	3050	5070	2800	1840	1740	1350	1430
11	1310	1390	2540	2230	1860	3220	6010	2770	1750	1730	1350	1400
12	1250	1350	2290	2300	1860	3640	8900	2660	1960	1680	1350	1370
13	1300	1490	2200	2360	1980	3710	11600	2450	1790	1580	1330	1380
14	1270	1740	2170	2150	2740	3770	11500	2520	1770	1470	1340	1300
15	1230	2630	2180	2120	4720	4160	10200	2670	1660	1450	1370	1350
16	1270	7180	2380	2110	8800	4270	8820	2730	1610	1410	1370	1350
17	1290	6360	2390	2090	13300	4170	7100	2490	1640	1440	1480	1400
18	1270	6420	2320	2080	14700	3960	6080	2510	1640	1430	1360	1430
19	1270	5300	3070	2160	12800	3890	5490	2410	1620	1550	1350	1400
20	1260	4270	5260	2100	10200	3780	5090	2600	1690	1430	1370	1470
21	1300	3030	8170	2130	8530	3740	4830	2810	1570	1420	1350	1410
22	1300	3590	9200	2040	8240	3440	4430	2710	1630	1350	1360	1130
23	1350	4870	7890	2070	7820	3350	4240	2680	1550	1400	1370	1670
24	1100	5650	6210	1970	7160	3020	4030	2530	1580	1390	1360	1450
25	1510	6210	5020	2110	6130	3000	3990	2360	1570	1390	1340	1420
26	1300	5770	4110	2210	5490	2840	3990	2230	1570	1380	1340	1500
27	1290	4910	4060	2380	5040	2670	3920	2220	1530	1390	1340	1570
28	1610	4030	4240	2480	4670	2710	3870	2000	1570	1390	1330	1390
29	1640	3080	4360	2340	---	2940	3760	2190	1540	1380	1390	1450
30	1510	2500	4530	2300	---	2860	3690	2030	1540	1360	1390	1520
31	1430	---	4490	2140	---	3450	---	1920	---	1380	1370	---
TOTAL	40230	95430	111680	75810	145330	108870	168420	83750	51860	48200	42200	42120
MEAN	1298	3181	3603	2445	5190	3512	5614	2702	1729	1555	1361	1404
MAX	1640	7180	9200	4380	14700	4270	11600	3620	2120	1970	1480	1670
MIN	1070	1180	2010	1970	1580	2670	3370	1920	1530	1350	1330	1130
AC-FT	79800	189300	221500	150400	288300	215900	334100	166100	102900	95600	83700	83550
CAL YR 1981 TOTAL	635040			MEAN 1740	MAX 9200	MIN 1010	AC-FT 1260000					
WTR YR 1982 TOTAL	1013900			MEAN 2778	MAX 14700	MIN 1070	AC-FT 2011000					

SACRAMENTO RIVER BASIN

11355500 HAT CREEK NEAR HAT CREEK, CA

LOCATION.--Lat 40°41'12", long 121°25'25", in NW¼SE¼ sec.28, T.33 N., R.5 E., Shasta County, Hydrologic Unit 18020003, on right bank 0.8 mi (1.3 km) northeast of Old Station Post Office, and 8 mi (13 km) southeast of Hat Creek Post Office.

DRAINAGE AREA.--162 mi² (420 km²), hydrologic drainage boundary uncertain owing to 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. Altitude of gage is 4,300 ft (1,311 m), from topographic map. July 1926 to April 1928 at site 0.5 mi (0.8 km) upstream at different datum. May 1928 to July 1965 at site 80 ft (24 m) upstream at datum 2.76 ft (0.841 m) higher.

REMARKS.--Records excellent. Diversions for irrigation of 260 acres (1.05 km²) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--55 years, 140 ft³/s (3.965 m³/s), 101,400 acre-ft/yr (125 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,320 ft³/s (94.0 m³/s) Dec. 11, 1937, gage height, 7.75 ft (2.362 m) in gage well, affected by drawdown, site and datum then in use, from rating curve extended above 610 ft³/s (17.3 m³/s) on basis of slope-area measurement of maximum flow; minimum, 67 ft³/s (1.90 m³/s) Sept. 7, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 220 ft³/s (6.23 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 28	0845	247 7.00	3.42 1.042	Feb. 16	0230	397 11.2	4.07 1.241
Nov. 16	0515	*1,330 37.7	6.43 1.960	Apr. 11	1315	278 7.87	3.45 1.052
Nov. 23	2330	435 12.3	4.24 1.292	May 26	2330	293 8.30	3.54 1.079
Dec. 20	0015	658 18.6	5.09 1.551				

Minimum daily, 113 ft³/s (3.20 m³/s) several days during October and November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	116	150	148	128	157	126	178	218	234	159	150
2	114	115	147	152	129	154	136	182	219	230	158	150
3	114	115	144	148	129	153	131	185	229	247	157	150
4	114	114	141	145	125	150	132	190	231	216	157	151
5	114	114	138	145	117	147	139	182	215	209	156	151
6	114	114	147	130	119	146	138	184	208	205	155	150
7	128	114	163	127	131	146	139	196	207	206	156	150
8	118	114	146	134	126	145	138	201	210	203	155	142
9	116	113	146	137	128	143	141	188	208	199	159	136
10	127	113	143	136	128	145	147	181	214	198	163	139
11	126	114	139	135	126	150	246	173	224	199	162	140
12	118	169	138	133	127	146	216	176	219	199	162	138
13	117	184	137	131	139	145	184	185	213	198	161	138
14	116	248	139	131	197	148	174	192	212	197	161	139
15	115	368	148	131	238	146	165	186	226	194	159	140
16	115	876	141	132	313	142	160	196	243	190	158	143
17	115	477	136	135	201	142	158	211	251	184	157	150
18	115	239	148	135	178	141	157	208	255	182	157	161
19	114	194	353	135	187	142	155	197	252	178	150	163
20	114	178	424	133	185	139	154	203	251	181	146	157
21	114	268	244	132	193	139	153	216	248	181	144	154
22	113	234	200	127	197	138	156	224	247	179	143	154
23	113	338	187	133	176	138	159	234	243	178	142	153
24	114	308	177	131	166	138	165	241	235	176	142	160
25	114	215	171	131	161	139	168	255	230	174	141	158
26	113	194	171	135	158	138	167	270	230	173	141	154
27	115	183	170	129	155	137	168	261	247	172	141	154
28	176	169	161	133	153	137	173	235	242	172	139	153
29	129	160	164	125	---	137	172	228	264	171	151	153
30	120	154	163	128	---	136	173	220	235	166	152	152
31	117	---	156	129	---	126	---	225	---	161	151	---
TOTAL	3676	6412	5332	4166	4510	4430	4790	6403	6926	5952	4735	4483
MEAN	119	214	172	134	161	143	160	207	231	192	153	149
MAX	176	876	424	152	313	157	246	270	264	247	163	163
MIN	113	113	136	125	117	126	126	173	207	161	139	136
AC-FT	7290	12720	10580	8260	8950	8790	9500	12700	13740	11810	9390	8890

CAL YR 1981	TOTAL	49532	MEAN 136	MAX 876	MIN 102	AC-FT	98250
WTR YR 1982	TOTAL	61815	MEAN 169	MAX 876	MIN 113	AC-FT	122600

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA

- 11361400 LAKE BRITTON NEAR BURNEY.--Lat 41°01'20", long 121°40'32", in SW¼SW¼ sec.30, T.37 N., R.3 E., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, at control house on right bank 200 ft (61 m) upstream from dam on Pit River, 1.1 mi (1.8 km) downstream from Clark Creek, 1.3 mi (2.1 km) northwest of Burney Falls, and 9 mi (14 km) north of Burney. DRAINAGE AREA, 4,607 mi² (11,932 km²). PERIOD OF RECORD, October 1965 to current year. GAGE, remote telemark read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).
- Reservoir is formed by gravity-type concrete dam. Storage began July 15, 1925. Maximum storage, 40,626 acre-ft (50.1 hm³). Dead storage, 30 acre-ft (370 m³). Normal operating pool is from elevation 2,744.0 ft (836.37 m), capacity, 26,183 acre-ft (32.3 hm³) to 2,757.0 ft (840.33 m), capacity, 40,626 acre-ft (50.1 hm³). Record of contents collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project. See schematic diagram of Pit and McCloud River basins. Records prior to water year 1977 reported usable contents only.
- EXTREMES FOR PERIOD OF RECORD: Maximum total contents, 46,576 acre-ft (57.4 hm³) Jan. 25, 1970, elevation, 2,761.55 ft (841.720 m); minimum total contents, 26,755 acre-ft (33.0 hm³) Oct. 9, 1976, elevation, 2,744.60 ft (836.554 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 43,014 acre-ft (53.0 hm³) Feb. 17, elevation, 2,758.85 ft (840.897 m); minimum, 27,240 acre-ft (33.6 hm³) Feb. 1, elevation, 2,745.10 ft (836.706 m).
- 11363920 IRON CANYON RESERVOIR NEAR BIG BEND.--Lat 41°02'41", long 121°58'52", in SW¼SE¼ sec.21, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, in control house on left bank 500 ft (150 m) upstream from Iron Canyon Dam on Iron Canyon Creek, 3.7 mi (6.0 km) northwest of Big Bend. DRAINAGE AREA, 11.1 mi² (28.7 km²). PERIOD OF RECORD, December 1965 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).
- Reservoir is formed by a rockfill dam completed in 1965. Capacity is 24,200 acre-ft (29.8 hm³) between elevations 2,525.00 ft (769.620 m), invert of sluice pipe and 2,665.00 ft (812.292 m), crest of spillway. No dead storage. Water is diverted from Lake McCloud through a tunnel to Iron Canyon Reservoir and thence into the Pit River via a powerplant. Record of contents collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project. See schematic diagram of Pit and McCloud River basins.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 23,539 acre-ft (29.0 hm³) May 16, 22, 1977, elevation, 2,663.60 ft (811.865 m); normal minimum since initial operation of reservoir, 2,860 acre-ft (3.53 hm³) May 23, 24, 29, June 2, 7, 9, 14, 23, 24, 1966, elevation, 2,590.00 ft (789.432 m). Reservoir drained for inspection Feb. 10, 1971. Contents reduced to 195 acre-ft (240,000 m³), elevation, 2,540.00 ft (774.192 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 14,932 acre-ft (18.4 hm³) July 4, elevation, 2,643.50 ft (805.739 m); minimum, 3,367 acre-ft (4.15 hm³) Nov. 24, Dec. 25, elevation, 2,594.40 ft (790.773 m).
- 11367740 LAKE McCLOUD NEAR McCLOUD.--Lat 41°08'06", long 122°04'26", in SE¼SW¼ 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 (61 m) downstream from Panther Creek, and 8.8 mi (14.1 km) southeast of McCloud. DRAINAGE AREA, 403 mi² (1,044 km²). PERIOD OF RECORD, October 1965 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).
- Reservoir is formed by a rockfill dam completed in 1965. Capacity, 35,234 acre-ft (43.4 hm³) between elevations 2,471.30 ft (753.252 m), invert of sluice pipe and 2,680.00 ft (816.864 m), maximum operational water surface. No dead storage. Water is diverted from Lake McCloud through a diversion tunnel to Iron Canyon Reservoir and thence into the Pit River. Record of contents collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project. See schematic diagram of Pit and McCloud River basins.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 35,967 acre-ft (44.3 hm³) Jan. 15, 1974, elevation, 2,681.40 ft (817.291 m); minimum since storage pool first filled, 13,017 acre-ft (16.0 hm³) Oct. 14-22, 1981, elevation, 2,623.50 ft (799.643 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 35,079 acre-ft (43.3 hm³) Apr. 24, May 23-25, elevation, 2,679.70 ft (816.773 m); minimum, 13,017 acre-ft (16.0 hm³) Oct. 14-22, elevation, 2,623.50 ft (799.643 m).

MONTHEND ELEVATION NGVD AND CONTENTS, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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.....	2754.00	36924	--	2610.60	5898	--	2628.20	14332	--
Oct. 31.....	2749.20	31455	-5469	2623.00	8691	+2793	2629.50	14716	+384
Nov. 30.....	2753.30	36092	+4637	2596.30	3608	-5083	2674.20	32302	+17586
Dec. 31.....	2755.10	38257	+2165	2595.80	3543	-65	2674.60	32498	+196
CAL YR 1981	--	--	+4818	--	--	-5072	--	--	+14954
Jan. 31.....	2746.40	28529	-9728	2604.90	4874	+1331	2640.50	18259	-14239
Feb. 28.....	2754.70	37769	+9240	2598.70	3931	-943	2678.10	34255	+15996
Mar. 31.....	2754.35	37345	-424	2595.80	3543	-388	2668.90	29768	-4487
Apr. 30.....	2754.55	37587	+242	2595.60	3517	-26	2679.50	34975	+5207
May 31.....	2752.75	35446	-2141	2596.40	3621	+104	2678.40	34409	-566
June 30.....	2753.95	36865	+1419	2635.20	12145	+8524	2673.20	31813	-2596
July 31.....	2754.40	37406	+541	2632.10	11199	-946	2669.70	30142	-1671
Aug. 31.....	2754.65	37708	+302	2607.80	5377	-5822	2645.20	19926	-10216
Sept. 30.....	2753.00	35738	-1970	2613.90	6564	+1187	2636.40	16880	-3046
WTR YR 1982	--	--	-1186	--	--	+666	--	--	+2548

SACRAMENTO RIVER BASIN

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 (1.0 km) downstream from Ruling Creek, 1.3 mi (2.1 km) downstream from Pit No. 4 Dam, and 2.7 mi (4.3 km) downstream from Pit No. 3 powerhouse.

DRAINAGE AREA.--4,648 mi² (12,038 km²), 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. Altitude of gage is 2,358 ft (718.7 m), from river-profile map. Prior to November 1922, water-stage recorder at site at Pecks Bridge 7.4 mi (11.9 km) upstream at different datum. November 1922 to June 20, 1927, at site at Lindsay Flat 1.8 mi (2.9 km) upstream at different datum.

REMARKS.--Flow regulated by small reservoirs and powerplants, total usable reservoir capacity, 253,000 acre-ft (312 hm³). Many diversions above station; diversion to Pit No. 4 powerplant began June 9, 1955. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--60 years (water years 1923-82), 2,735 ft³/s (77.46 m³/s), 1,982,000 acre-ft/yr (2.44 km³/yr), adjusted for diversion to Pit No. 4 powerplant.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,000 ft³/s (878 m³/s) Jan. 25, 1970, gage height, 18.04 ft (5.499 m), from rating curve extended above 17,000 ft³/s (481 m³/s); minimum daily, 234 ft³/s (6.63 m³/s) Sept. 13, 1953. Minimum daily discharge since diversion to Pit No. 4 powerplant in 1955, 22 ft³/s (0.62 m³/s) Dec. 2-4, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,800 ft³/s (419 m³/s) Feb. 18, gage height, 13.60 ft (4.145 m); minimum daily, 49 ft³/s (1.39 m³/s) several days during December and January.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	75	50	2140	50	2010	1190	1310	149	149	153	152
2	100	76	49	1780	51	2060	1030	1170	150	154	150	151
3	100	77	50	1060	51	2030	834	1060	151	151	151	152
4	100	76	51	675	51	1810	2810	974	151	149	150	151
5	99	75	51	444	51	1440	2770	821	149	154	152	150
6	101	76	50	152	51	1190	3260	663	152	153	152	153
7	101	74	51	51	50	919	2560	585	149	152	152	151
8	99	77	49	121	51	685	2380	549	154	152	152	152
9	100	75	51	51	50	543	2340	426	149	147	150	156
10	100	77	50	53	51	500	2810	274	153	144	151	152
11	99	77	49	49	50	672	3550	243	154	149	151	150
12	102	75	50	50	51	984	6330	206	148	150	152	152
13	98	78	51	50	52	1190	8900	148	152	153	152	157
14	100	79	49	51	52	1330	10500	151	144	151	155	147
15	100	82	49	53	126	1640	9080	159	149	152	152	152
16	100	4060	49	50	6800	1780	7400	158	149	152	153	150
17	99	6120	49	50	12000	1710	5690	159	148	151	150	151
18	98	5350	50	51	14300	1470	4350	158	150	150	152	152
19	95	3910	252	51	12400	1300	3500	151	147	150	151	151
20	105	2100	3980	51	9720	1120	3000	152	148	153	150	150
21	100	1010	7080	50	7820	1110	2570	156	154	149	149	150
22	101	979	7770	50	6740	908	2220	193	149	152	148	150
23	99	2890	6380	51	6340	855	2000	220	152	152	151	150
24	100	4520	4590	51	5700	455	1810	254	153	150	148	150
25	98	4510	3020	51	4590	250	1740	151	152	152	152	150
26	100	4080	2030	52	3670	219	1720	148	150	150	152	149
27	100	2890	1720	50	2960	136	1650	235	152	156	151	150
28	96	1870	1770	51	2310	52	1570	149	152	147	148	150
29	99	882	1900	52	---	179	1600	150	151	150	151	150
30	102	218	2060	50	---	224	1330	152	150	152	149	150
31	100	---	2140	50	---	801	---	149	---	152	151	---
TOTAL	3095	46538	45590	7591	96188	31572	102494	11474	4511	4678	4681	4531
MEAN	99.8	1551	1471	245	3435	1018	3416	370	150	151	151	151
MAX	105	6120	7770	2140	14300	2060	10500	1310	154	156	155	157
MIN	95	74	49	49	50	52	834	148	144	144	148	147
AC-FT	6140	92310	90430	15060	190800	62620	203300	22760	8950	9280	9280	8990
MEAN a	2230	4679	5320	3885	6999	5382	7514	4173	2787	2511	2234	2408
AC-FT a	137100	278400	327100	238900	388700	330900	447100	256600	165800	154400	137400	143300
CAL YR 1981	TOTAL	126241	MEAN	346	MAX	7770	MIN	47	AC-FT	250400	MEAN a	2698
WTR YR 1982	TOTAL	362943	MEAN	994	MAX	14300	MIN	49	AC-FT	719900	MEAN a	4152
											AC-FT a	3006000

a Adjusted for diversion to Pit No. 4 powerplant.

11363000 PIT RIVER AT BIG BEND, CA

LOCATION.--Lat 41°01'10", long 121°54'36", in NW¼SW¼ sec.31, T.37 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on left bank at Big Bend, 0.4 mi (0.6 km) downstream from Nelson Creek, and 1.5 mi (2.4 km) upstream from Kosk Creek.

DRAINAGE AREA.--4,711 mi² (12,201 km²), 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 (510.378 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 28, 1912, nonrecording gage and Dec. 28, 1912, to June 21, 1924, water-stage recorder at same site at datum 7.69 ft (2.344 m) higher.

REMARKS.--Flow regulated by many reservoirs and powerplants, total usable reservoir capacity, about 253,000 acre-ft (312 hm³). Many diversions above station; diversion to Pit No. 5 powerhouse began May 1, 1944. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to diversion to Pit No. 5 powerplant).--33 years (water years 1911-43), 2,931 ft³/s (83.0 m³/s), 2,122,000 acre-ft/yr (2.62 km³/yr); 39 years (water years 1944-82), 565 ft³/s (16.00 m³/s), 409,300 acre-ft/yr (505 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,000 ft³/s (1,390 m³/s) Jan. 25, 1970, gage height, 18.17 ft (5.538 m) in gage well, 19.0 ft (5.79 m) from floodmarks, from rating curve extended above 17,000 ft³/s (481 m³/s), partly affected by gate operation at Pit No. 4 Dam; minimum daily, 34 ft³/s (0.96 m³/s) Mar. 29, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,300 ft³/s (575 m³/s) Feb. 16, gage height, 14.22 ft (4.334 m); minimum daily, 66 ft³/s (1.87 m³/s) Nov. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	92	310	2930	141	3110	1960	2060	223	182	124	116
2	108	72	197	2570	138	3150	1780	1930	220	185	126	115
3	104	72	125	1810	142	3060	1540	1790	216	174	127	115
4	105	70	114	1390	138	2750	3400	1690	217	162	125	115
5	105	67	108	1080	132	2340	3390	1530	213	162	123	119
6	108	66	128	827	128	2030	3840	1420	209	156	124	119
7	116	66	136	551	125	1760	3270	1270	204	162	122	121
8	105	67	117	276	125	1510	2990	1220	200	159	118	123
9	105	68	135	228	123	1350	2970	1110	194	153	120	115
10	119	68	204	220	123	1350	3450	909	184	148	125	110
11	110	68	163	210	121	1530	4430	836	183	145	127	107
12	107	170	163	199	117	1740	6830	866	195	143	123	112
13	105	172	215	196	190	1930	9280	700	190	146	125	113
14	104	178	295	191	678	2110	11400	499	183	141	120	110
15	100	672	461	185	1700	2410	9790	581	181	137	120	115
16	99	4970	344	181	8610	2520	8170	671	174	136	118	115
17	98	7450	282	177	12500	2430	6370	584	176	130	120	114
18	97	5960	364	175	14300	2210	5130	495	165	131	118	115
19	100	4430	1930	171	12700	1960	4370	588	166	134	116	118
20	94	2660	6170	171	10300	1780	3890	313	166	137	119	116
21	97	1800	8330	163	8450	1760	3370	406	165	139	113	112
22	100	1550	8630	153	7360	1580	3070	678	161	137	117	112
23	99	3650	7340	150	6960	1500	2850	516	162	132	122	112
24	99	5180	5430	147	6280	1120	2680	956	157	129	123	119
25	100	5000	3880	149	5230	851	2580	289	160	124	117	116
26	99	4590	2870	181	4360	865	2540	81	154	134	112	115
27	116	3460	2440	164	3760	811	2450	67	153	133	118	116
28	144	2430	2410	161	3110	707	2370	167	158	132	121	111
29	130	1440	2570	151	---	768	2370	236	173	132	122	111
30	108	772	2700	144	---	903	2080	240	176	129	113	113
31	105	---	2930	143	---	1470	---	225	---	126	115	---
TOTAL	3288	57310	61491	15444	108041	55365	124610	24923	5478	4470	3733	3440
MEAN	106	1910	1984	498	3859	1786	4154	804	183	144	120	115
MAX	144	7450	8630	2930	14300	3150	11400	2060	223	185	127	123
MIN	94	66	108	143	117	707	1540	67	153	124	112	107
AC-FT	6520	113700	122000	30630	214300	109800	247200	49430	10870	8870	7400	6820

CAL YR 1981 TOTAL 151487 MEAN 415 MAX 8630 MIN 52 AC-FT 300500
WTR YR 1982 TOTAL 467593 MEAN 1281 MAX 14300 MIN 66 AC-FT 927500

SACRAMENTO RIVER BASIN

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA

LOCATION.--Lat 40°59'12", long 121°58'35", in SW¼SE¼ sec.9, T.36 N., R.1 W., Shasta County, Hydrologic Unit 18020003, at powerplant on right bank of Pit River, 5.8 mi (9.3 km) downstream from Big Bend.

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

GAGE.--Recorded output from powerplant turbines.

REMARKS.--Water is diverted from Lake McCloud (station 11367740) at SE¼SW¼ sec.22, T.38 N., R.2 W., to Iron Canyon Reservoir (station 11363920), and then into the penstock for James B. Black powerplant. Records are combined flow of diversion from McCloud River at McCloud Dam plus Iron Canyon Creek.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years (water years 1967-82), 966 ft³/s (27.36 m³/s), 699,900 acre-ft/yr (863 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,420 ft³/s (68.5 m³/s) July 15, 1966; no flow for several days most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	755	276	1480	1560	870	1610	1420	1410	1220	983	835	950
2	637	526	1250	1450	979	1680	1360	1490	1330	1060	1120	992
3	629	417	1440	1410	1000	1540	1470	1440	1350	55	1040	943
4	812	426	1340	1370	792	1600	1620	1430	1340	522	1260	1020
5	600	417	1300	1320	537	1490	1390	1450	1380	994	1390	964
6	611	452	1290	1350	974	1510	1440	1440	1330	1010	1130	772
7	618	170	1270	1380	1020	1500	1310	1420	807	1080	765	900
8	538	71	1090	1270	863	1500	1430	1510	1100	787	990	988
9	484	500	1140	1410	944	1410	1360	1490	1290	1010	1070	795
10	608	382	1080	1370	940	1510	1370	1450	1120	1220	1300	896
11	568	776	1340	1100	937	1550	1490	1460	1240	872	1150	457
12	588	395	1130	1010	864	1470	1640	1450	1380	850	1110	740
13	564	1100	929	987	970	1480	1740	1460	874	1020	1180	532
14	537	1070	1330	995	952	1490	1790	1450	1160	885	780	790
15	521	1960	330	1090	1460	1470	1830	1430	1140	939	1030	870
16	454	1930	878	1650	1850	1480	1800	1410	1130	1100	879	770
17	583	1880	1290	1530	1800	1510	1470	1450	1250	831	1300	975
18	540	1700	1700	1180	1580	1420	1580	1440	987	694	1110	597
19	568	1360	1910	1190	1460	1460	1590	1400	830	1030	1130	846
20	527	1340	1850	1130	1500	1410	1490	1350	513	1080	1010	641
21	434	1530	1840	1120	1380	1500	1520	1440	897	1810	952	801
22	438	1500	1520	750	1470	1480	1480	1490	1180	991	782	851
23	527	1430	1440	0	1530	1430	1530	1380	803	833	1150	748
24	104	1650	1450	0	1490	1350	1470	1300	962	1010	1280	777
25	287	1440	1550	1210	1440	1480	1490	1580	675	609	1070	714
26	286	1500	1350	1360	1450	1360	1460	1330	1020	1190	1080	823
27	366	1500	1550	1470	1500	1420	1480	1450	731	1260	1090	812
28	639	1400	1400	1080	1490	1480	1390	1470	840	1410	973	797
29	463	1540	1460	1040	---	1350	1540	1460	989	1170	825	796
30	363	1370	1330	996	---	1440	1500	1370	1180	979	1120	749
31	4.8	---	1440	890	---	1440	---	1480	---	969	1120	---
TOTAL	15653.8	32008	41697	35668	34042	45820	45450	44580	32048	30253	33021	24306
MEAN	505	1067	1345	1151	1216	1478	1515	1438	1068	976	1065	810
MAX	812	1960	1910	1650	1850	1680	1830	1580	1380	1810	1390	1020
MIN	4.8	71	330	0	537	1350	1310	1300	513	55	765	457
AC-FT	31050	63490	82710	70750	67520	90880	90150	88420	63570	60010	65500	48210
CAL YR 1981	TOTAL	303059.20	MEAN	830	MAX	1970	MIN	0	AC-FT	601100		
WTR YR 1982	TOTAL	414546.80	MEAN	1136	MAX	1960	MIN	0	AC-FT	822300		

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

LOCATION.--Lat 41°02'27", long 121°59'02", in NW¼NW¼ sec.28, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, on left bank 0.2 mi (0.3 km) downstream from Iron Canyon Dam, and 4.2 mi (6.8 km) west of Big Bend.

DRAINAGE AREA.--11.6 mi² (30.0 km²).

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

GAGE.--Water-stage recorder, 60° sharp-crested V-notch weir, and concrete control. Datum of gage is 2,461.52 ft (750.271 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow is regulated by Iron Canyon Dam. There is interbasin diversion from Lake McCloud (station 11367790) to Iron Canyon Reservoir (station 11363920) and then into a tunnel to James B. Black powerplant on the Pit River (station 11363910). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 6.50 ft³/s (0.184 m³/s), 4,710 acre-ft/yr (5.81 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 582 ft³/s (16.5 m³/s) Feb. 25, 1978, gage height, 3.24 ft (0.988 m), flow was the result of failure of the James B. Black penstock; no flow July 15-18, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12 ft³/s (0.340 m³/s) Nov. 23, gage height, 1.66 ft (0.506 m); minimum daily, 2.7 ft³/s (0.076 m³/s) Feb. 11, Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.0	3.0	3.2	3.1	3.8	3.1	3.1	3.1	3.0	3.1	3.0
2	3.0	3.0	3.0	3.2	3.1	3.3	3.3	3.1	3.1	3.1	3.1	3.1
3	3.0	3.0	3.0	3.2	3.1	3.1	4.6	3.1	3.1	3.1	3.1	3.1
4	3.0	3.0	3.0	3.2	3.1	3.1	3.2	3.1	3.1	3.1	3.1	3.1
5	3.0	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
6	3.0	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	2.8	3.1	3.1
7	3.0	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
8	3.0	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0
9	3.0	3.0	15	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.0	3.0
10	3.0	3.0	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
11	3.0	3.0	3.1	3.2	2.7	3.1	4.4	3.1	3.1	3.1	3.1	3.1
12	3.0	3.9	3.2	3.2	3.1	3.1	4.9	3.1	3.1	3.1	2.7	3.1
13	3.0	3.1	3.2	3.2	3.2	3.1	5.4	3.1	3.1	3.0	3.1	3.1
14	3.0	3.0	3.2	3.2	3.8	3.1	6.2	3.1	3.1	3.1	3.1	3.1
15	3.0	3.8	3.3	3.1	5.3	3.1	4.5	3.1	3.1	3.1	3.0	3.0
16	3.0	4.2	3.3	3.1	4.8	3.1	3.8	3.1	3.1	3.0	3.0	3.1
17	3.0	3.3	3.2	3.1	4.2	3.1	3.3	3.1	3.1	3.1	3.1	3.1
18	3.0	3.0	3.2	3.1	3.2	3.1	3.1	3.1	3.1	3.0	3.1	3.1
19	3.0	3.0	3.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	3.1
20	3.0	3.0	3.6	3.1	3.1	3.1	3.0	3.1	3.1	3.1	3.0	3.0
21	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	3.0
22	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	3.0	3.1	3.1	3.1
23	3.0	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.0	3.1	3.0	3.1
24	3.0	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.0	3.1	3.1	3.1
25	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	3.0	3.1	3.1	3.0
26	3.0	3.0	3.2	3.1	3.2	3.1	3.1	3.1	3.1	3.1	3.0	3.1
27	3.1	3.0	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	3.1
28	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
29	3.0	3.0	3.2	3.1	---	3.1	3.1	3.1	3.1	3.1	3.1	3.2
30	3.0	3.0	3.2	3.1	---	3.1	3.1	3.1	3.3	3.1	3.0	3.0
31	3.0	---	3.2	3.1	---	3.3	---	3.1	---	3.0	3.1	---
TOTAL	93.1	93.8	110.4	97.5	92.4	97.2	105.5	96.1	92.8	95.3	94.7	92.3
MEAN	3.00	3.13	3.56	3.15	3.30	3.14	3.52	3.10	3.09	3.07	3.05	3.08
MAX	3.1	4.2	15	3.2	5.3	3.8	6.2	3.1	3.3	3.1	3.1	3.2
MIN	3.0	3.0	3.0	3.1	2.7	3.1	3.0	3.1	3.0	2.8	2.7	3.0
AC-FT	185	186	219	193	183	193	209	191	184	189	188	183

CAL YR 1981 TOTAL 1114.1 MEAN 3.05 MAX 15 MIN 2.6 AC-FT 2210
WTR YR 1982 TOTAL 1161.1 MEAN 3.18 MAX 15 MIN 2.7 AC-FT 2300

SACRAMENTO RIVER BASIN

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°50'36", long 122°00'58", in NE¼SW¼ sec. 32, T.35 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, on left bank 0.9 mi (1.4 km) downstream from Pit No. 7 Dam and powerhouse, 1.5 mi (2.4 km) upstream from Potem Creek, and 4.1 mi (6.6 km) west of town of Montgomery Creek.

DRAINAGE AREA.--4,952 mi² (12,823 km²), 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.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). October 1944 to Feb. 17, 1963, at site 0.9 mi (1.4 km) upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 1.7 mi (2.7 km) upstream at different datum. May 21, 1965, to June 20, 1981, at site 1.0 mi (1.6 km) downstream at datum 1,036 ft (315.773 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by many reservoirs and powerplants, total usable reservoir capacity, 337,000 acre-ft (416 hm³). Many diversions above station for irrigation. Diversion from McCloud River to Pit River began December 1965 (station 11367720). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to diversion from McCloud River).--21 years (water years 1945-65), 3,759 ft³/s (106.5 m³/s), 2,721,000 acre-ft/yr (3.35 km³/yr); 17 years (water years 1966-82), 5,106 ft³/s (144.6 m³/s), 3,699,000 acre-ft/yr (4.56 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft³/s (2,070 m³/s) Jan. 24, 1970, gage height, 32.36 ft (9.863 m) site and datum then in use; minimum daily, 30 ft³/s (0.85 m³/s) July 12, 27, 1975, result of construction work below Pit No. 7 powerplant.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,700 ft³/s (813 m³/s) Dec. 19, gage height, 68.57 ft (20.900 m); minimum daily, 811 ft³/s (23.0 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2170	2780	7000	10800	5270	13000	10000	8880	5450	2860	2180	2990
2	2890	3440	6880	9870	4150	13700	11000	9280	5270	3340	4730	3120
3	3160	2940	6930	8810	6030	12100	11400	9020	5670	1140	4430	2920
4	3570	2670	5860	8520	4940	11400	12600	8820	6440	3000	4950	3200
5	3810	2490	6210	7920	4160	10200	11600	8050	6560	4090	3380	4760
6	3460	3020	5790	7680	5640	10000	11700	8060	6160	3790	3610	3000
7	3750	1140	6690	7040	5460	9600	10600	8050	4420	4190	2440	4100
8	3840	1930	5660	6660	5150	9600	10100	8040	3390	4610	1730	4090
9	3130	2930	6170	6590	4180	8600	10300	7830	2950	4420	3540	4000
10	1700	3290	7280	6870	5970	8900	10700	8040	4250	3580	4580	2250
11	2210	4060	7060	6000	5130	9650	14900	7910	3890	4150	4020	1070
12	2470	4610	5910	6340	4910	9440	18300	7690	6600	3800	4030	3200
13	3640	5560	6990	5740	6530	9290	20800	7450	6760	3830	3900	2990
14	3340	7000	8220	5940	9460	9970	27100	7680	3120	4440	1590	3060
15	3610	11400	8280	5930	16000	9800	21200	7320	4180	4050	2970	4220
16	2820	20000	8130	5870	21600	9790	18300	7260	3440	4040	3160	3160
17	1750	17800	8030	6370	23000	9580	15000	5960	3310	1860	3990	3430
18	2390	13900	7840	6080	23300	9450	13800	5450	3680	1950	4270	2640
19	3430	11500	18600	5560	25000	9290	12700	5620	5500	4700	3950	3310
20	4310	9190	22500	6050	20200	8940	11800	5750	4130	3050	4150	2470
21	2870	9900	20100	5220	18500	8840	11400	6070	2710	4530	2020	3640
22	2890	9950	17800	5480	16800	8770	11100	6370	3510	2690	2220	3150
23	1470	14100	15700	3920	15200	8640	10800	6000	3550	4560	3750	3060
24	1160	16000	13100	4190	14200	8630	10500	7750	3540	2220	4100	3540
25	2190	13500	11500	5080	12900	7700	10100	5840	4130	811	3990	3300
26	3000	12800	10200	7210	12300	7080	9950	6340	5600	4840	4100	3020
27	3050	11000	9850	5950	11400	7960	10200	5730	4650	3980	4170	3670
28	4180	9610	9310	6100	10800	8260	9990	6670	1870	4760	2410	3870
29	3620	8680	9820	5360	---	7540	10200	5790	2870	4220	3120	3570
30	3750	7670	9720	5930	---	8330	9380	5100	3000	3370	3390	3490
31	2580	---	11100	5340	---	11200	---	6000	---	2330	3420	---
TOTAL	92210	244860	304230	200420	318180	295250	387520	219820	130600	109201	108290	98290
MEAN	2975	8162	9814	6465	11360	9524	12920	7091	4353	3523	3493	3276
MAX	4310	20000	22500	10800	25000	13700	27100	9280	6760	4840	4950	4760
MIN	1160	1140	5660	3920	4150	7080	9380	5100	1870	811	1590	1070
AC-FT	182900	485700	603400	397500	631100	585600	768600	436000	259000	216600	214800	195000
CAL YR 1981 TOTAL	1609022			MEAN 4408	MAX 22500	MIN 180	AC-FT 3191000					
WTR YR 1982 TOTAL	2508871			MEAN 6874	MAX 27100	MIN 811	AC-FT 4976000					

11367500 McCLOUD RIVER NEAR McCLOUD, CA

LOCATION.--Lat 41°11'18", long 122°03'52", in NW¼NE¼ sec.34, T.39 N., R.2 W., Siskiyou County, Hydrologic Unit 18020004, on right bank 0.4 mi (0.6 km) downstream from Angel Creek, and 6 mi (10 km) southeast of McCloud.

DRAINAGE AREA.--358 mi² (927 km²).

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 (826.37 m) National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Two small diversions above station for irrigation, and one 22-in (0.56-m) pipeline for town of McCloud. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--51 years, 924 ft³/s (26.17 m³/s), 669,400 acre-ft/yr (825 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft³/s (334 m³/s) Dec. 21, 1955, gage heights, 9.42 ft (2.871 m) in gage well, 10.7 ft (3.26 m) from floodmarks, from rating curve extended above 8,800 ft³/s (249 m³/s) on basis of slope-area measurement of maximum flow; minimum, 524 ft³/s (14.8 m³/s) Nov. 23, 24, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 17	0100	3,890 110	4.63 1.411	Feb. 16	0915	2,940 83.3	3.84 1.170
Nov. 24	1245	2,060 58.3	3.00 0.914	Mar. 1	2230	2,520 71.4	3.46 1.055
Dec. 20	0200	*4,210 119	4.88 1.487	Apr. 14	0645	3,050 86.4	3.94 1.201

Minimum daily, 642 ft³/s (18.2 m³/s) Oct. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	650	656	875	987	810	1930	1060	1630	1280	1020	899	857
2	652	652	858	962	810	2060	1060	1630	1270	1020	899	854
3	652	652	846	937	811	1660	1060	1620	1250	1030	897	854
4	649	650	832	929	810	1470	1050	1620	1240	1010	892	854
5	648	647	818	918	805	1360	1050	1580	1220	999	892	854
6	650	647	840	895	800	1290	1030	1560	1190	991	889	854
7	662	647	899	874	802	1250	1020	1580	1170	982	886	851
8	653	647	873	869	799	1250	1020	1590	1160	975	886	847
9	653	647	863	863	799	1300	1020	1540	1150	969	884	847
10	658	647	882	860	798	1310	1060	1490	1150	963	882	847
11	655	650	872	859	797	1410	1640	1450	1160	957	880	847
12	651	680	856	853	793	1370	2300	1420	1160	952	879	847
13	648	875	862	847	819	1310	2490	1420	1150	948	879	844
14	647	1110	933	841	994	1340	2910	1450	1140	944	876	841
15	647	1570	1280	840	1590	1320	2330	1450	1130	939	874	841
16	647	3020	1180	835	2620	1270	1940	1440	1140	939	873	841
17	647	2900	1050	835	2290	1220	1780	1460	1140	936	873	842
18	647	1550	1110	835	1800	1200	1690	1520	1130	932	873	846
19	647	1190	2460	835	1550	1160	1610	1460	1130	932	873	846
20	647	1040	3540	840	1480	1130	1570	1430	1110	928	871	842
21	647	1080	2170	833	1580	1110	1550	1430	1100	920	866	841
22	645	1190	1680	823	1660	1100	1550	1450	1090	919	866	841
23	644	1410	1450	816	1450	1090	1560	1440	1080	919	866	841
24	644	1800	1310	816	1340	1080	1610	1460	1060	913	865	841
25	643	1410	1220	818	1270	1080	1660	1490	1050	912	860	841
26	642	1220	1160	833	1240	1080	1630	1490	1040	912	860	841
27	654	1090	1130	823	1220	1090	1610	1440	1030	909	860	835
28	714	1000	1070	822	1190	1110	1650	1370	1030	905	860	835
29	699	945	1050	814	---	1090	1650	1330	1060	905	865	835
30	673	903	1030	810	---	1080	1630	1300	1040	903	860	835
31	660	---	1010	810	---	1070	---	1290	---	899	860	---
TOTAL	20275	33125	37009	26532	33727	39590	46790	45830	34050	29382	27145	25342
MEAN	654	1104	1194	856	1205	1277	1560	1478	1135	948	876	845
MAX	714	3020	3540	987	2620	2060	2910	1630	1280	1030	899	857
MIN	642	647	818	810	793	1070	1020	1290	1030	899	860	835
AC-FT	40220	65700	73410	52630	66900	78530	92810	90900	67540	58280	53840	50270
CAL YR 1981 TOTAL	294213			806	3540	641	583600					
WTR YR 1982 TOTAL	398797			1093	3540	642	791000					

SACRAMENTO RIVER BASIN

11367720 McCloud-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD, CA

LOCATION.--Lat 41°08'06", long 122°04'26", in SE¼SW¼ 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 (14.2 km) southeast of McCloud.

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

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

GAGE.--None. Water-stage recorders on Lake McCloud and Iron Canyon Reservoir used to compute record.

REMARKS.--Water is diverted from Lake McCloud (station 11367740) to Iron Canyon Reservoir (station 11363920) and thence 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 collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 950 ft³/s (26.90 m³/s), 688,300 acre-ft/yr (849 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,890 ft³/s (53.5 m³/s) May 20-22, June 1-3, 10, 1967; no flow for several days in 1965-68, 1971, 1978.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	651	339	1330	1360	897	1390	1310	1410	1350	933	903	935
2	636	385	1320	1350	891	1400	1300	1410	1350	933	914	918
3	627	387	1320	1340	892	1390	1280	1410	1360	851	919	901
4	671	396	1290	1330	860	1400	1300	1410	1350	829	935	921
5	658	395	1270	1300	785	1410	1290	1400	1350	842	968	909
6	651	395	1250	1290	829	1410	1290	1410	1330	853	965	874
7	657	343	1240	1280	822	1410	1280	1400	1250	863	934	876
8	644	281	1200	1250	832	1410	1270	1410	1230	850	915	875
9	618	342	1170	1250	834	1400	1270	1410	1220	821	926	854
10	629	355	1140	1230	835	1400	1270	1410	1210	882	947	844
11	629	447	1170	1170	836	1410	1290	1410	1210	880	947	768
12	637	454	1140	1110	848	1410	1340	1410	1220	865	953	758
13	648	585	1090	1060	852	1420	1360	1410	1170	876	959	724
14	645	736	1100	1030	841	1420	1340	1420	1170	864	924	718
15	643	985	981	1020	967	1420	1380	1410	1160	864	912	728
16	630	1210	968	1090	1150	1410	1400	1410	1160	884	901	728
17	647	1370	1010	1140	1270	1410	1400	1420	1150	872	927	759
18	645	1400	1100	1130	1310	1400	1400	1410	1120	846	935	724
19	658	1410	1260	1110	1330	1400	1410	1400	1070	849	936	732
20	656	1400	1350	1100	1350	1390	1410	1400	1010	867	898	711
21	641	1400	1410	1080	1360	1380	1410	1400	996	937	910	718
22	624	1400	1400	976	1380	1380	1400	1410	1010	926	877	731
23	630	1400	1400	806	1400	1370	1400	1400	982	910	897	726
24	543	1420	1400	659	1400	1350	1410	1390	975	912	943	728
25	495	1410	1420	760	1400	1360	1410	1410	945	873	941	718
26	463	1410	1400	865	1390	1340	1410	1400	942	895	956	726
27	432	1410	1410	937	1400	1320	1410	1410	917	916	955	731
28	493	1390	1400	937	1370	1330	1390	1410	913	947	939	729
29	492	1380	1390	954	---	1310	1410	1410	916	949	911	733
30	455	1360	1360	945	---	1320	1410	1410	931	935	937	728
31	347	---	1370	916	---	1320	---	1400	---	926	939	---
TOTAL	18495	27595	39059	33775	30331	42890	40650	43630	33967	27450	28823	23525
MEAN	597	920	1260	1090	1083	1384	1355	1407	1132	885	930	784
MAX	671	1420	1420	1360	1400	1420	1410	1420	1360	949	968	935
MIN	347	281	968	659	785	1310	1270	1390	913	821	877	711
AC-FT	36680	54730	77470	66990	60160	85070	80630	86540	67370	54450	57170	46660
CAL YR 1981 TOTAL	279433		MEAN	766	MAX	1420	MIN	281	AC-FT	554300		
WTR YR 1982 TOTAL	390190		MEAN	1069	MAX	1420	MIN	281	AC-FT	773900		

11367760 McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD, CA

LOCATION.--Lat 41°07'44", long 122°04'08", in SW¼NE¼ sec.27, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on left bank 0.1 mi (0.2 km) downstream from Lizard Creek, 0.6 mi (1.0 km) downstream from McCloud Dam, and 9 mi (14 km) southeast of McCloud.

DRAINAGE AREA.--404 mi² (1,046 km²).

PERIOD OF RECORD.--April 1966 to current year (low flow only).

GAGE.--Water-stage recorder. Datum of gage is 2,398.76 ft (731.142 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.) Prior to April 7, 1972, at datum 3.00 ft (0.914 m) higher.

REMARKS.--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. Prior to water year 1974, flow was computed up to 400 ft³/s (11.3 m³/s). During water years 1975-81, because of channel changes, flow was computed only up to 200 ft³/s (5.66 m³/s). Currently, because of maximum required release, flow is computed only to 210 ft³/s (5.95 m³/s). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	192	78	55	93	---	50	---	126	168	180	197
2	204	194	90	53	93	---	50	---	131	164	180	193
3	204	196	96	50	93	---	52	---	133	165	180	193
4	204	198	102	48	92	---	51	---	133	169	180	196
5	204	198	107	47	92	---	49	---	138	170	179	195
6	203	198	96	52	94	---	48	---	142	171	179	194
7	191	199	77	61	94	58	53	---	143	170	178	194
8	202	202	79	64	96	58	62	---	148	173	178	194
9	204	203	78	69	96	57	63	---	148	172	177	195
10	196	201	76	71	98	---	57	193	151	173	177	195
11	194	200	79	72	100	---	72	---	152	175	179	193
12	200	145	82	75	103	176	81	---	151	175	181	191
13	197	96	69	79	73	68	---	---	151	176	180	192
14	204	47	50	79	50	131	---	---	161	177	180	192
15	204	51	52	79	59	130	---	---	157	177	180	193
16	204	59	52	81	66	59	---	131	158	180	179	192
17	204	---	51	81	58	56	---	---	160	176	179	191
18	204	---	50	80	56	56	---	---	160	176	178	188
19	206	62	49	80	55	55	---	---	160	176	178	188
20	206	66	---	80	55	54	---	103	161	176	178	189
21	206	65	---	85	57	53	---	205	162	176	177	198
22	206	64	---	89	58	55	---	189	162	175	177	192
23	206	---	---	92	60	54	---	199	165	175	176	191
24	206	---	190	93	59	58	---	---	166	175	176	189
25	206	---	40	94	58	59	---	---	166	175	175	190
26	206	61	39	84	58	58	---	---	166	174	175	192
27	198	59	39	82	57	49	---	---	166	174	174	193
28	162	57	51	82	57	50	---	169	166	174	175	193
29	138	55	57	88	---	50	---	115	165	177	175	194
30	176	62	56	89	---	50	---	119	164	181	174	194
31	187	---	55	91	---	49	---	123	---	181	174	---
TOTAL	6135	---	---	2325	2080	---	---	---	4612	5396	5508	5781
MEAN	198	---	---	75.0	74.3	---	---	---	154	174	178	193
MAX	206	---	---	94	103	---	---	---	166	181	181	198
MIN	138	---	---	47	50	---	---	---	126	164	174	188
AC-FT	12170	---	---	4610	4130	---	---	---	9150	10700	10930	11470

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

LOCATION.--Lat 41°06'39", long 122°05'42", in NE¼SW¼ 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 (2.9 km) downstream from Squirrel Creek, 3.9 mi (6.3 km) downstream from McCloud Dam, and 9.6 mi (15.4 km) south of McCloud.

DRAINAGE AREA.--427 mi² (1,106 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 2,160 ft (658 m), from topographic map.

REMARKS.--Flow regulated by Lake McCloud 3.9 mi (6.3 km) upstream (station 11367740) 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.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for diversion to Iron Canyon Reservoir and change in contents in Lake McCloud).--18 years, 1,232 ft³/s (34.89 m³/s), 892,600 acre-ft/yr (1.10 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to construction of McCloud Dam, 9,660 ft³/s (274 m³/s) Dec. 22, 1964, gage height, 9.43 ft (2.874 m), from rating curve extended above 2,500 ft³/s (70.8 m³/s); minimum daily, 86 ft³/s (2.44 m³/s) Oct. 1-26, 1964. Maximum discharge since construction of McCloud Dam in 1965, 26,400 ft³/s (748 m³/s) Jan. 16, 1974, gage height, 13.68 ft (4.170 m) in gage well, 15.38 ft (4.688 m) from floodmarks, from rating curve extended above 8,000 ft³/s (227 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 41 ft³/s (1.16 m³/s) Dec. 18-20, 1971 (caused by valve malfunction at dam).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of 12.5 ft (3.81 m), discharge, 17,800 ft³/s (504 m³/s), from rating curve extended above 2,500 ft³/s (70.8 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,420 ft³/s (125 m³/s) Apr. 13, gage height, 6.57 ft (2.003 m); minimum daily, 159 ft³/s (4.50 m³/s) Jan. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	213	213	232	164	1540	203	686	201	211	201	211
2	214	213	214	212	164	1940	201	673	201	204	201	209
3	214	213	213	194	166	1000	239	668	201	202	200	209
4	214	214	213	181	165	676	230	650	201	205	200	212
5	213	214	212	165	165	406	206	615	201	204	200	212
6	215	214	217	159	165	365	184	577	201	203	199	211
7	211	213	215	164	164	274	173	520	201	203	198	211
8	213	214	214	162	164	283	177	577	201	204	199	211
9	215	214	215	165	164	310	176	546	201	203	197	211
10	216	214	215	164	163	468	193	353	204	203	197	211
11	213	216	213	164	163	497	715	383	205	205	199	212
12	212	223	213	164	164	441	1160	246	207	204	200	209
13	208	408	223	166	179	321	2190	363	203	204	200	209
14	214	345	260	163	457	370	3910	383	210	204	199	209
15	213	762	441	163	1020	364	2100	366	204	204	198	209
16	212	1370	367	164	1300	272	1390	286	204	206	198	211
17	211	1590	296	164	900	249	1020	379	205	202	198	209
18	212	1130	325	162	628	232	887	423	204	202	197	211
19	214	375	940	165	485	215	732	399	204	201	196	209
20	214	294	2390	162	430	202	668	230	203	201	196	209
21	214	284	1510	163	445	190	632	316	204	200	195	219
22	214	289	1030	163	434	185	673	304	202	200	195	211
23	214	500	724	164	373	176	663	313	204	199	194	209
24	214	1250	472	164	323	176	783	393	205	199	194	214
25	214	678	292	165	287	175	882	393	204	198	193	211
26	214	377	257	167	278	176	753	469	204	197	193	211
27	228	309	232	165	284	176	715	334	203	197	192	211
28	271	261	226	164	275	187	773	257	205	197	193	214
29	211	227	227	164	---	184	783	201	213	199	195	211
30	211	210	213	163	---	183	677	201	203	202	193	211
31	213	---	226	164	---	220	---	201	---	202	192	---
TOTAL	6679	13234	13218	5241	10069	12453	24088	12705	6109	6265	6102	6327
MEAN	215	441	426	169	360	402	803	410	204	202	197	211
MAX	271	1590	2390	232	1300	1940	3910	686	213	211	201	219
MIN	208	210	212	159	163	175	173	201	201	197	192	209
AC-FT	13250	26250	26220	10400	19970	24700	47780	25200	12120	12430	12100	12550
MEAN a	818	1656	1690	1027	1731	1712	2246	1808	1292	1060	961	944
AC-FT a	50310	98570	103900	63150	96130	105300	133600	111200	76890	65190	59070	56160

CAL YR 1981 TOTAL 86308 MEAN 236 MAX 2390 MIN 159 AC-FT 171200 MEAN a 1023 AC-FT a 740400
WTR YR 1982 TOTAL 122490 MEAN 336 MAX 3910 MIN 159 AC-FT 243000 MEAN a 1408 AC-FT a 1019000

a Adjusted for diversion to Iron Canyon Reservoir and change in contents in Lake McCloud.

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 (0.3 km) downstream from Big Bollibokka Creek, and 11.3 mi (18.2 km) east of Lamoine.

DRAINAGE AREA.--604 mi² (1,564 km²).

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 (335.280 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Flow partially regulated by Lake McCloud (station 11367740) 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 collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to regulation by Lake McCloud and diversion to Pit River basin).--20 years (water years 1946-65), 1,699 ft³/s (48.12 m³/s), 1,230,000 acre-ft/yr (1.52 km³/yr); 17 years (water years 1966-82), 791 ft³/s (22.40 m³/s), 573,100 acre-ft/yr (707 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,500 ft³/s (1,290 m³/s) Jan. 16, 1974, gage height, 28.26 ft (8.614 m), from rating curve extended above 15,000 ft³/s (425 m³/s) on basis of slope-area measurement of maximum flow; minimum daily, 109 ft³/s (3.09 m³/s) Dec. 16-20, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,100 ft³/s (371 m³/s) Apr. 13, gage height, 19.45 ft (5.928 m); minimum daily, 278 ft³/s (7.87 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	322	845	1930	723	4770	1660	1420	473	421	317	291
2	287	316	785	1550	718	5650	1690	1420	467	424	316	295
3	290	311	740	1280	746	3610	2400	1340	461	415	314	296
4	286	308	709	1150	759	2670	2000	1300	461	401	313	302
5	285	304	682	1010	737	2010	1580	1270	467	397	311	299
6	289	304	784	897	708	1670	1320	1150	452	387	306	297
7	338	300	870	837	683	1410	1150	1130	443	383	305	294
8	298	301	837	793	656	1430	1050	1130	436	383	308	294
9	295	300	864	771	639	1530	1020	1090	429	377	303	293
10	331	309	941	762	617	1690	1170	910	426	373	302	294
11	319	312	900	780	597	1780	5030	851	425	370	300	292
12	298	587	884	785	578	1680	7290	691	425	364	302	289
13	290	1480	1040	771	815	1460	8560	822	435	364	298	288
14	292	1600	1590	760	2720	1450	10300	770	421	362	298	287
15	293	3990	2910	753	5160	1380	5860	846	418	358	297	290
16	290	7080	2270	748	7040	1260	4080	654	411	356	295	295
17	289	8100	1630	745	4650	1170	3090	761	412	353	294	300
18	289	3560	1800	744	3370	1110	2690	797	416	350	291	313
19	289	1700	7350	740	2610	1040	2290	776	419	347	289	315
20	289	1220	9510	739	2180	990	2040	633	430	343	288	308
21	289	1320	5830	701	2070	941	1890	636	421	341	286	315
22	289	1390	3990	659	1900	895	1840	646	417	337	286	299
23	289	2320	2930	638	1630	850	1770	637	409	336	283	298
24	289	4000	2160	627	1410	818	1890	692	406	336	282	318
25	289	2600	1680	639	1260	789	1980	704	404	334	280	311
26	289	1810	1440	835	1270	791	1750	797	399	331	280	304
27	364	1610	1280	933	1540	799	1640	631	415	325	279	300
28	713	1360	1160	890	1410	888	1660	601	425	323	279	300
29	529	1120	1190	807	---	891	1660	489	485	321	290	299
30	366	943	1220	760	---	992	1470	485	421	321	284	298
31	336	---	1480	738	---	2100	---	477	---	319	282	---
TOTAL	9957	51177	62301	26772	49196	50514	83820	26556	12929	11152	9158	8974
MEAN	321	1706	2010	864	1757	1629	2794	857	431	360	295	299
MAX	713	8100	9510	1930	7040	5650	10300	1420	485	424	317	318
MIN	278	300	682	627	578	789	1020	477	399	319	279	287
AC-FT	19750	101500	123600	53100	97580	100200	166300	52670	25640	22120	18160	17800
CAL YR 1981	TOTAL	270623	MEAN	741	MAX	9510	MIN	255	AC-FT	536800		
WTR YR 1982	TOTAL	402506	MEAN	1103	MAX	10300	MIN	278	AC-FT	798400		

11370000 SHASTA LAKE NEAR REDDING, CA

LOCATION.--Lat 40°43'08", long 122°25'12", in SE¼NW¼ sec.15, T.33 N., R.5 W., Shasta County, Hydrologic Unit 18020005, in Shasta Dam on Sacramento River near right bank, 2 mi (3 km) downstream from Squaw Creek, and 9.5 mi (15.3 km) north of Redding.

DRAINAGE AREA.--6,421 mi² (16,630 km²), excluding Goose Lake basin.

PERIOD OF RECORD.--November 1942 to current year. Prior to 1950, published as Shasta Reservoir near Redding.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to July 10, 1944, nonrecording gage at various sites near dam at same datum.

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in 1949; regulation began Dec. 30, 1943. Usable capacity, 4,436,300 acre-ft (5.47 km³) between elevations 737.75 ft (224.866 m), bottom of lowest set of river outlets and 1,067.0 ft (325.22 m), top of flashboard gates on drum-type spillway gates. Dead storage, 115,700 acre-ft (143 hm³). Installation of flashboard gates on top of drum gates completed Nov. 12, 1964. Gates increased elevation to 1,067.0 ft (325.22 m), total capacity, 4,552,100 acre-ft (5.61 km³). All water passes down the Sacramento River, most of which is through powerplant at dam. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 4,550,300 acre-ft (5.61 km³) May 19, 1967, elevation, 1,066.94 ft (325.203 m); minimum since reservoir first filled, 562,600 acre-ft (694 hm³) Sept. 13, 1977, elevation, 836.68 ft (255.020 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,549,100 acre-ft (5.61 km³) May 24, elevation, 1,066.90 ft (325.191 m); minimum, 2,478,400 acre-ft (3.06 km³) Oct. 2, elevation, 983.17 ft (299.670 m).

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

830	515,500	910	1,291,900	990	2,616,600
840	587,100	920	1,424,800	1,000	2,828,500
850	665,500	930	1,566,200	1,010	3,051,800
860	751,000	940	1,717,300	1,020	3,286,900
870	843,600	950	1,877,000	1,030	3,533,500
880	943,900	960	2,046,800	1,050	4,063,100
890	1,051,700	970	2,226,100	1,067	4,552,100
900	1,167,900	980	2,416,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2478600	2560800	3335700	3510000	3559600	3690800	4081700	4473600	4500700	4370200	4053400	3680900
2	2478400	2562000	3334000	3513800	3561900	3737100	4118800	4473900	4495700	4364400	4041000	3670500
3	2478800	2562000	3331400	3504800	3570300	3763200	4160900	4471200	4495400	4353400	4029100	3660400
4	2479800	2561400	3326800	3494500	3577900	3779100	4183200	4469500	4492700	4345600	4020100	3650100
5	2481200	2560000	3322200	3478900	3583000	3791500	4188500	4466200	4489800	4340100	4007700	3643100
6	2481800	2560000	3321200	3461000	3592000	3795800	4192500	4467700	4486000	4333400	3996500	3633500
7	2483800	2556600	3320500	3444500	3599400	3798400	4190500	4473300	4480400	4326400	3982500	3630200
8	2484800	2555200	3318100	3428200	3605800	3802100	4189100	4478300	4472700	4320700	3967500	3626100
9	2487600	2553500	3319500	3424200	3611900	3804800	4193100	4481800	4463900	4314900	3954700	3621400
10	2489200	2554600	3321200	3408900	3620400	3805300	4210900	4486000	4457100	4305400	3944400	3609600
11	2490900	2558400	3321700	3399100	3630700	3813500	4283500	4490100	4451800	4296400	3933800	3595500
12	2492900	2572200	3320700	3395100	3640200	3822300	4301600	4494200	4451500	4287200	3922700	3585600
13	2496500	2598200	3328000	3400300	3664000	3829200	4350500	4496600	4450700	4278000	3912500	3573600
14	2500300	2625500	3344300	3409900	3715400	3839800	4382600	4505200	4443900	4269100	3896800	3563900
15	2504300	2712300	3372100	3417600	3812200	3848300	4373600	4514600	4439500	4260200	3883700	3557300
16	2507100	2848800	3388700	3431600	3862800	3857700	4349600	4524400	4433100	4250500	3870300	3550700
17	2507500	2959900	3400300	3448500	3866500	3864400	4320400	4530700	4428400	4234500	3860400	3543600
18	2509700	3013000	3423200	3466700	3858200	3871100	4304800	4531000	4424000	4218900	3849100	3535800
19	2512700	3049000	3564700	3483700	3837400	3876200	4302200	4532500	4423700	4210400	3837900	3527700
20	2518700	3076600	3683300	3500700	3805800	3878800	4310800	4535100	4421700	4199000	3827800	3516100
21	2520800	3111000	3712500	3506000	3737900	3880400	4335700	4538700	4416100	4190200	3814300	3507300
22	2523200	3143400	3704100	3511000	3685900	3882300	4364100	4544400	4412000	4177200	3800800	3503000
23	2523400	3200600	3656500	3510800	3651900	3888800	4391900	4548800	4405900	4168200	3789400	3500500
24	2522600	3247300	3592200	3510000	3636900	3900300	4420500	4549100	4399200	4153600	3779300	3500000
25	2523800	3273000	3531700	3511300	3632800	3910600	4446500	4541400	4394300	4136400	3768700	3499500
26	2525400	3296600	3493500	3521400	3626100	3922500	4453300	4538100	4392200	4128000	3757100	3499500
27	2536300	3317100	3473900	3529700	3628900	3937100	4457100	4533900	4390200	4117400	3746100	3496500
28	2546200	3328700	3466900	3539100	3633500	3955300	4465600	4531300	4382600	4109000	3731900	3493500
29	2552300	3332800	3472400	3545400	---	3976200	4472700	4526800	4378900	4100400	3718800	3490400
30	2558000	3336700	3475900	3551700	---	4008000	4472700	4516400	4375400	4087000	3705700	3486400
31	2560200	---	3492000	3556300	---	4062000	---	4507500	---	4071200	3692400	---
MAX	2560200	3336700	3712500	3556300	3866500	4062000	4472700	4549100	4500700	4370200	4053400	3680900
MIN	2478400	2553500	3318100	3395100	3559600	3690800	4081700	4466200	4375400	4071200	3692400	3486400
a	987.24	1022.06	1028.55	1030.90	1033.92	1049.96	1064.32	1065.50	1060.99	1050.29	1036.19	1028.13
b	+80000	+776500	+155300	+64300	+77200	+428500	+410700	+34800	-132100	-304200	-378800	-206000
c	4410	2680	1560	3000	3340	3800	6480	14910	13080	16260	15530	9630

CAL YR 1981 MAX 4359200 MIN 2456400 b +301300
WTR YR 1982 MAX 4549100 MIN 2478400 b +1006200

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet.

11370500 SACRAMENTO RIVER AT KESWICK, CA
(National stream-quality accounting network station)

LOCATION.--Lat 40°36'04", long 122°26'36", in SW¼NW¼ sec.28, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020101, on right bank 0.4 mi (0.6 km) upstream from Middle Creek, 0.8 mi (1.3 km) downstream from Keswick Dam, 1.6 mi (2.6 km) downstream from Keswick, and 10 mi (16 km) downstream from Shasta Dam.

DRAINAGE AREA.--6,468 mi² (16,752 km²), 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 (146.246 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1939, at site 1.5 mi (2.4 km) upstream at datum 20.2 ft (6.16 m) higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 mi (2.4 km) upstream at datum 15.2 ft (4.63 m) higher. Aug. 20, 1960, to July 3, 1973, auxiliary water-stage recorder at city of Redding pumping plant 2.1 mi (3.4 km) downstream.

REMARKS.--Records excellent. Flow regulated by Shasta Dam beginning Dec. 30, 1943 (station 11370000) and Keswick Reservoir, capacity, 4,170 acre-ft (5.14 hm³). No diversion for irrigation between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (station 11371700) at lat 40°37'03", long 122°31'31", through a tunnel to Spring Creek powerplant (station 11371600) and then into Keswick Reservoir. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir).--44 years, 8,589 ft³/s (243.2 m³/s), 6,223,000 acre-ft/yr (7.67 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 186,000 ft³/s (5,270 m³/s) Feb. 23, 1940, gage height, 47.2 ft (14.39 m) site and datum then in use, from rating curve extended above 75,000 ft³/s (2,120 m³/s) on basis of peak discharge at Kennet plus 4,000 ft³/s (113 m³/s) estimated inflow; minimum observed, 2,730 ft³/s (77.3 m³/s) Aug. 22, 1939. Maximum discharge since construction of Shasta Dam in 1944, 81,400 ft³/s (2,310 m³/s) Apr. 1, 1974, gage height, 31.92 ft (9.729 m); maximum gage height, 32.22 ft (9.821 m) Jan. 24, 1970; minimum discharge, 154 ft³/s (4.36 m³/s) May 15, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 61,800 ft³/s (1,750 m³/s) Dec. 22, gage height, 29.46 ft (8.979 m); minimum daily, 3,300 ft³/s (93.5 m³/s) Oct. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4080	3780	13900	16600	11800	21200	14800	17200	12200	9510	13700	11800
2	4040	3800	13800	20600	11800	20900	16100	17100	10400	9500	13300	11800
3	4070	3790	13800	25400	10200	20000	20700	17000	10600	9480	12100	11800
4	3990	3890	13800	25300	8460	19800	20100	17000	10400	9500	12200	11800
5	4030	3990	13800	25000	8450	19800	20100	17100	10500	9490	11900	11800
6	4050	4000	13800	24700	8440	19800	19700	14100	10500	9480	11900	11400
7	3880	4010	13700	25000	8420	19800	19800	13300	10600	9480	11900	9510
8	3550	3980	13800	19200	8410	19800	17300	12500	10500	9620	11900	9570
9	3570	3970	13800	19000	7010	19700	14100	12600	10600	9990	11900	9920
10	3570	3990	13800	19000	5370	18800	10800	12700	10600	9900	11900	10000
11	3570	3980	13800	19000	4210	15000	17300	12500	10600	9520	11800	10000
12	3550	4130	13800	15200	4220	14800	36400	12300	10500	9830	11900	10100
13	3570	3910	13900	11100	4280	14700	37300	11400	10500	9960	11900	9670
14	3570	3600	13900	10300	4360	14400	50100	11000	10500	10300	11900	9170
15	3560	4270	13900	8200	8850	14400	50000	10300	10500	10400	11900	9170
16	3600	4150	13700	6330	39500	14400	49800	10200	10500	11600	11800	9360
17	3590	3880	13700	6070	50600	14400	44300	10200	10500	11600	11800	9420
18	3570	3580	13900	6060	50300	14400	35100	12200	10600	11600	11900	10100
19	3540	3550	13100	6130	52100	14400	25900	12600	10500	11600	11800	10100
20	3560	3550	12500	6250	59900	14500	17200	11200	10500	11600	11900	10200
21	3780	3530	36700	11200	59700	14400	9630	11300	10600	11500	11800	10100
22	3960	3520	45700	11900	56800	14300	6690	10400	10500	11500	11800	8030
23	3890	5840	60200	11900	44700	12100	6550	10500	10600	11700	11800	7440
24	3920	13900	59800	11900	32400	8960	6510	12100	10600	11700	11800	7860
25	3870	14000	53600	11900	26900	8150	6680	13700	10700	11500	11900	7730
26	3970	14000	41600	11800	26300	8130	16000	13800	10600	11500	11800	7630
27	4070	14100	29400	12200	21500	7140	17300	13800	10700	11500	11800	7290
28	3720	13900	20900	12000	20200	6390	14700	13800	10700	11500	11700	7390
29	3350	13900	17100	12000	---	5720	14700	13700	9880	12600	11800	7500
30	3300	14000	17600	11800	---	5580	17300	13700	9580	13700	11800	7450
31	3400	---	17900	11800	---	8990	---	13600	---	13600	11800	---
TOTAL	115740	188490	674700	444840	655180	444860	652960	404900	316560	336260	371100	285110
MEAN	3734	6283	21760	14350	23400	14350	21770	13060	10550	10850	11970	9504
MAX	4080	14100	60200	25400	59900	21200	50100	17200	12200	13700	13700	11800
MIN	3300	3520	12500	6060	4210	5580	6510	10200	9580	9480	11700	7290
AC-FT	229600	373900	1338000	882300	1300000	882400	1295000	803100	627900	667000	736100	565500
MEAN a	3878	18380	22410	12090	21270	18770	27280	16360	6635	5022	4573	4143
AC-FT a	238500	1094000	1378000	743200	1181000	1154000	1623000	1006000	394800	308800	281200	246500

CAL YR 1981 TOTAL 3463190 MEAN 9488 MAX 60200 MIN 3300 AC-FT 6869000 MEAN a 8605 AC-FT a6230000
WTR YR 1982 TOTAL 4890700 MEAN 13400 MAX 60200 MIN 3300 AC-FT 9701000 MEAN a 13330 AC-FT a9648000

a Adjusted for change in contents and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir.

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected 2.1 mi (3.4 km) downstream from gaging station.

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

CHEMICAL ANALYSES: Water years 1951 to current year. Published as "near Keswick" in 1951 and 1953; as "at Keswick Dam, near Keswick" in 1968-69.

BIOLOGICAL DATA: Water years 1979-81.

SPECIFIC CONDUCTANCE: Water years 1981 to current year.

WATER TEMPERATURES: Water years 1981 to current year.

SEDIMENT RECORDS: Water years 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

INSTRUMENTATION.--Conductivity and temperature recorder since October 1980.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 149 micromhos Sept. 30 1981; minimum recorded, 79 micromhos Nov. 20, 1981.

WATER TEMPERATURES: Maximum recorded, 14.5°C Sept. 19, 1981; minimum recorded, 7.0°C Feb. 5, 6, 11, 12, 1982.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 135 micromhos Nov. 12; minimum recorded, 79 micromhos Nov. 20.

WATER TEMPERATURES: Maximum recorded, 14.0°C several days during October and November; minimum recorded, 7.0°C Feb. 5, 6, 11, 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-HF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
NOV 18...	0930	3660	86	7.6	13.5	12	9.6	120	290	41	0
JAN 19...	0845	6030	80	7.8	8.0	7.5	11.0	K5	<2	37	0
MAR 04...	1015	19800	108	7.6	8.0	6.6	11.8	K6	K2	41	0
MAY 13...	0900	11400	103	7.8	9.5	4.0	11.4	K1	K5	49	6
JUL 14...	0830	10300	101	7.7	10.0	4.2	10.5	K18	K6	40	0
SEP 15...	1030	9700	102	--	11.0	1.8	10.2	K7	K400	44	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CAC03)	ALKA- LINEITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV 18...	7.8	5.2	4.6	19	.3	.7	44	--	<5.0	2.2	.1
JAN 19...	7.2	4.6	3.3	16	.2	.7	--	37	6.0	1.7	.1
MAR 04...	9.3	4.4	4.9	20	.3	1.1	43	--	6.0	1.8	.1
MAY 13...	12	4.5	5.6	20	.4	1.0	--	--	<5.0	1.4	<.1
JUL 14...	9.9	3.8	5.0	21	.4	1.0	40	--	6.0	1.8	<.1
SEP 15...	11	4.0	4.5	18	.3	1.0	--	52	5.0	1.5	<.1

See footnotes at end of table.

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV 18...	19	71	--	.10	.20	.15	.26	.01	.01	--
JAN 19...	16	62	62 ¹	.08	<.09	.07	.34	.13	.01	<.010
MAR 04...	20	77	77	.10	<.10	.06	.39	.03	<.01	<.010
MAY 13...	21	70	--	.10	<.10	.12	.45	.02	.02	.020
JUL 14...	19	75	76	.10	<.10	<.06	1.00	.09	.03	--
SEP 15...	19	69	77 ¹	.09	<.10	<.06	.30	.05	.05	.030

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)
NOV 18...	0930	2	1	<100	14	<1	<1	<10	<10	<1
JAN 19...	0845	1	<1	<100	19	2	<1	<10	<10	2
MAY 13...	0900	1	1	200	21	<1	<3	10	<10	<1
SEP 15...	1030	1	1	100	29	<1	<1	<10	<10	<1

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
NOV 18...	<3	24	9	930	52	4	1	20	8	.1
JAN 19...	<3	23	4	1200	48	3	<1	20	11	<.1
MAY 13...	<1	9	5	340	92	4	4	20	5	.1
SEP 15...	<1	5	3	200	46	<1	<1	<10	3	.1

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 18...	<.1	2	2	<1	<1	<1	<1	40	27
JAN 19...	<.1	3	<1	<1	<1	<1	<1	110	84
MAY 13...	<.1	4	2	<1	<1	<1	<1	--	60
SEP 15...	<.1	<1	<1	<1	<1	<1	<1	20	21

K Results based on colony count outside the acceptable range (non-ideal colony count).

¹ Actual value is known to be less than the value shown.¹ Results based on Laboratory Alkalinity value.

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	118	111	106	101	104	102	105	105	102	100	96
2	---	121	111	105	103	106	100	106	107	103	100	95
3	---	124	110	105	103	108	97	105	106	103	99	95
4	---	127	110	104	102	108	103	105	105	104	99	95
5	---	128	108	104	101	107	104	105	107	105	99	95
6	---	129	106	108	101	107	104	104	107	105	99	94
7	---	130	106	108	101	107	105	104	106	104	99	93
8	---	130	106	106	101	107	105	104	104	103	99	94
9	---	130	106	105	104	107	105	104	103	103	99	94
10	---	130	106	105	104	106	105	104	103	103	99	96
11	---	131	106	104	102	107	105	104	102	103	98	97
12	---	130	107	105	101	107	104	104	102	103	98	98
13	---	128	106	102	100	107	104	106	103	102	98	98
14	---	124	106	99	98	107	103	101	102	103	98	97
15	---	102	106	100	95	107	104	99	101	102	97	97
16	---	102	107	106	105	106	103	99	101	101	98	98
17	---	102	108	102	110	106	103	100	101	102	98	97
18	---	103	104	99	110	105	103	100	100	101	98	97
19	---	99	93	96	109	105	104	100	98	101	98	97
20	---	98	94	94	109	106	104	100	98	103	98	97
21	---	96	110	96	109	106	103	100	98	103	98	96
22	---	99	112	100	107	105	101	99	97	101	97	94
23	---	105	113	102	107	104	101	100	99	101	97	92
24	---	115	113	103	106	103	102	105	100	102	98	92
25	---	117	112	102	108	103	102	106	100	101	98	92
26	---	116	110	100	106	103	107	105	101	101	98	90
27	---	112	110	101	106	103	109	101	99	100	99	92
28	---	113	108	99	107	101	108	102	101	101	99	94
29	---	112	107	99	---	100	106	102	103	98	99	95
30	116	112	107	100	---	97	106	104	102	98	99	95
31	116	---	106	100	---	98	---	105	---	98	99	---
MONTH	---	116	107	102	104	105	104	103	102	102	98	95

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.0	13.0	14.0	13.0	11.5	11.5	9.5	9.5	8.0	7.5	8.5	8.0
2	14.0	13.5	14.0	13.5	11.5	11.5	9.5	9.5	8.0	7.5	8.0	8.0
3	14.0	13.5	14.0	13.5	11.5	11.5	10.0	9.5	8.0	7.5	8.0	8.0
4	14.0	13.5	14.0	13.5	11.5	11.0	9.5	9.5	7.5	7.5	8.0	8.0
5	14.0	13.5	14.0	13.5	11.0	11.0	10.0	9.5	7.5	7.0	8.0	8.0
6	14.0	13.5	14.0	13.5	11.0	11.0	10.0	9.5	7.5	7.0	8.0	8.0
7	14.0	13.5	14.0	13.5	11.0	11.0	10.0	9.5	7.5	7.5	8.0	8.0
8	14.0	13.5	14.0	13.5	11.0	11.0	10.0	9.5	7.5	7.5	8.0	8.0
9	14.0	13.5	14.0	13.5	11.0	11.0	9.5	9.0	7.5	7.5	8.0	8.0
10	13.5	13.0	14.0	13.5	11.0	10.5	9.5	9.0	8.0	7.5	8.0	8.0
11	13.5	13.0	14.0	13.5	11.0	10.5	9.0	9.0	7.5	7.0	8.0	8.0
12	13.5	13.0	14.0	13.5	11.0	10.5	9.0	8.5	7.5	7.0	8.0	8.0
13	13.5	13.0	13.5	13.5	10.5	10.5	9.0	8.5	7.5	7.5	8.0	8.0
14	13.5	13.0	13.5	13.0	10.5	10.5	8.5	8.5	8.0	7.5	8.0	8.0
15	13.5	13.0	13.5	13.0	10.5	10.5	8.5	8.0	8.5	7.5	8.0	8.0
16	13.5	13.0	13.5	13.0	10.5	10.5	8.5	8.0	8.0	7.5	8.0	8.0
17	13.5	13.0	13.0	13.0	10.5	10.5	8.0	8.0	8.0	8.0	8.0	8.0
18	14.0	13.0	13.0	12.5	10.5	10.5	8.0	7.5	8.0	8.0	8.0	8.0
19	13.5	13.0	13.0	12.5	11.0	10.5	8.0	7.5	8.5	8.0	8.0	8.0
20	14.0	13.0	13.0	13.0	11.0	10.5	7.5	7.5	8.5	8.0	8.5	8.0
21	14.0	13.0	13.0	12.5	11.0	10.5	7.5	7.5	8.5	8.5	8.0	8.0
22	13.5	13.0	13.0	12.5	11.0	11.0	8.0	7.5	8.5	8.0	8.5	8.0
23	13.5	13.0	13.0	12.5	11.0	11.0	8.0	7.5	8.5	8.0	8.5	8.0
24	13.5	13.0	12.5	12.0	11.0	11.0	8.0	7.5	8.5	8.0	8.5	8.0
25	13.5	13.0	12.0	12.0	11.0	11.0	8.0	8.0	8.5	8.0	8.5	8.0
26	13.0	13.0	12.0	12.0	11.0	10.5	8.0	8.0	8.0	8.0	8.5	8.0
27	13.0	13.0	12.0	11.5	10.5	10.0	8.0	7.5	8.0	8.0	8.5	8.0
28	13.5	13.0	12.0	11.5	10.0	10.0	8.0	7.5	8.0	8.0	8.5	8.0
29	13.5	13.0	12.0	11.5	10.0	10.0	8.0	7.5	---	---	8.0	8.0
30	13.5	13.0	11.5	11.5	10.0	10.0	8.0	7.5	---	---	8.0	8.0
31	13.5	13.0	---	---	10.0	9.5	8.0	7.5	---	---	8.0	7.5
MONTH	14.0	13.0	14.0	11.5	11.5	9.5	10.0	7.5	8.5	7.0	8.5	7.5

SACRAMENTO RIVER BASIN

61

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	8.0	9.0	9.0	9.5	9.5	10.5	10.0	10.5	10.0	11.5	10.5
2	8.0	8.0	9.0	9.0	9.5	9.5	10.0	9.5	10.5	10.0	11.5	11.0
3	8.5	8.0	9.0	9.0	10.0	9.0	10.0	9.5	10.5	10.0	11.5	11.0
4	8.5	8.5	9.0	9.0	10.0	9.0	10.0	9.5	10.5	10.0	11.5	11.0
5	8.5	8.0	9.0	9.0	9.5	9.0	10.0	9.5	10.5	10.0	11.5	11.0
6	8.5	8.0	9.0	9.0	9.5	9.0	10.0	9.5	10.5	10.0	11.5	11.0
7	8.5	8.0	9.5	9.0	10.0	9.5	10.0	10.0	10.5	10.0	12.0	11.0
8	8.5	8.5	9.5	9.0	10.0	9.5	10.0	9.5	10.5	10.0	12.0	11.0
9	8.5	8.5	9.5	9.0	10.5	9.5	10.0	9.5	10.5	10.5	11.5	11.0
10	8.5	8.5	9.5	9.0	10.0	9.5	10.0	9.5	10.5	10.5	11.5	11.0
11	8.5	8.5	9.5	9.0	10.0	9.5	10.0	9.5	11.0	10.5	11.0	10.5
12	8.5	8.5	9.5	9.0	10.0	9.5	10.0	9.5	10.5	10.0	11.0	10.5
13	8.5	8.5	9.5	9.0	10.0	9.5	10.0	10.0	10.5	10.0	11.0	10.5
14	9.0	8.5	10.0	9.5	10.5	9.5	10.0	10.0	10.5	10.5	11.0	10.5
15	9.0	8.5	10.0	9.5	10.5	9.5	10.5	10.0	11.0	10.5	11.0	10.5
16	9.0	8.5	10.0	9.5	11.0	10.0	10.5	10.0	11.0	10.5	11.0	10.5
17	9.5	9.0	10.0	9.5	11.0	10.0	10.0	10.0	11.0	10.5	11.0	10.5
18	9.5	9.0	10.0	9.5	10.5	10.0	10.0	10.0	11.0	10.5	11.0	10.5
19	9.0	9.0	10.0	9.5	10.5	10.0	10.5	10.0	10.5	10.5	11.0	10.5
20	9.0	8.5	10.0	9.5	10.5	10.0	10.5	10.0	11.0	10.5	11.0	11.0
21	9.5	9.0	10.0	9.5	11.0	10.0	10.5	10.0	11.0	10.5	11.0	11.0
22	9.5	9.0	10.0	9.5	11.0	10.0	10.5	10.0	11.5	10.5	12.0	11.0
23	10.0	9.0	10.5	9.5	11.0	10.0	10.5	10.0	11.0	10.5	12.0	11.0
24	10.0	9.0	11.5	9.5	10.5	10.0	10.5	10.0	11.0	10.5	12.0	11.5
25	10.0	9.0	9.5	9.5	10.5	10.0	10.5	10.0	11.0	10.5	12.0	11.5
26	9.5	9.0	9.5	9.5	10.5	10.0	10.5	10.0	11.0	10.5	12.0	11.5
27	9.0	8.5	10.0	9.5	10.5	9.5	10.5	10.0	10.5	10.5	12.0	11.5
28	9.0	8.5	10.0	9.5	10.0	9.5	10.5	10.0	10.5	10.5	11.5	11.0
29	9.0	8.5	10.0	9.5	10.0	9.5	11.0	10.5	10.5	10.5	11.5	11.0
30	9.0	8.5	9.5	9.5	10.5	9.5	11.0	10.5	10.5	10.5	11.5	11.0
31	---	---	9.5	9.5	---	---	11.0	10.5	11.0	10.5	---	---
MONTH	10.0	8.0	11.5	9.0	11.0	9.0	11.0	9.5	11.5	10.0	12.0	10.5

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV					
18...	0930	3660	13.5	12	119
JAN					
19...	0845	6030	8.0	4	65
MAR					
04...	1015	19800	8.0	6	321
MAY					
13...	0900	11400	9.5	4	123
JUL					
14...	0830	10300	10.0	4	111
SEP					
15...	1030	9700	11.0	0	.00

SACRAMENTO RIVER BASIN

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 (366 m) downstream from French Gulch, 0.3 mi (0.5 km) south of town of French Gulch, and 15 mi (24 km) northwest of Redding.

DRAINAGE AREA.--115 mi² (298 km²).

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

REVISED RECORDS.--WSP 1285: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,320.60 ft (402.519 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 28, 1959, water-stage recorder at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good. No large diversion above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--32 years, 215 ft³/s (6.089 m³/s), 155,800 acre-ft/yr (192 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft³/s (413 m³/s) Jan. 16, 1974, gage height, 14.99 ft (4.569 m), from rating curve extended above 5,200 ft³/s (147 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 1.5 ft³/s (0.042 m³/s) July 19-22, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft³/s (51.0 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 17	0045	2,740 77.6	8.28 2.524	Feb. 16	0230	2,410 68.3	7.89 2.405
Dec. 19	1815	*5,610 159	10.94 3.335	Mar. 1	1330	2,360 66.8	7.82 2.384

Minimum daily, 13 ft³/s (0.37 m³/s) several days in August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	32	232	549	360	1710	511	329	111	86	22	15
2	14	30	231	513	353	1460	565	314	107	85	23	14
3	14	28	243	459	366	1080	603	300	104	78	23	14
4	14	27	243	434	370	870	582	283	104	69	23	15
5	14	27	234	392	350	719	540	270	103	64	24	14
6	14	26	299	351	325	621	497	257	100	59	23	14
7	29	26	436	323	305	563	453	250	96	56	21	14
8	27	26	352	309	288	540	418	244	91	54	22	13
9	22	26	317	314	274	510	404	236	86	53	20	13
10	30	28	329	345	261	515	465	226	82	50	19	13
11	29	32	296	402	246	516	950	218	83	47	20	14
12	24	101	284	417	233	490	920	209	89	45	20	14
13	22	139	420	397	356	465	1210	203	91	43	19	14
14	20	256	768	380	977	458	1170	194	81	42	19	13
15	19	852	728	369	1460	440	975	186	72	40	19	13
16	18	1440	610	358	2040	462	842	179	68	39	19	15
17	18	1600	487	352	1380	451	760	176	66	37	18	19
18	17	544	710	348	1040	446	685	169	65	36	17	28
19	17	336	3620	333	934	430	623	162	64	35	17	36
20	17	245	3210	335	851	419	577	156	64	34	16	29
21	17	240	1860	312	802	410	542	153	64	32	15	26
22	17	234	1300	285	718	401	511	150	67	31	14	23
23	17	449	968	272	619	392	494	140	62	30	13	21
24	17	438	754	266	548	383	475	133	60	29	13	23
25	17	327	621	277	497	375	454	130	58	28	13	26
26	17	317	539	395	474	367	428	127	60	26	13	23
27	32	517	477	431	453	350	405	123	71	25	14	22
28	108	407	434	431	440	353	388	119	74	25	14	21
29	80	317	433	399	---	352	364	117	102	24	17	21
30	48	261	418	379	---	359	346	114	79	23	18	21
31	36	---	457	369	---	541	---	113	---	23	17	---
TOTAL	800	9328	22310	11496	17320	17448	18157	5980	2424	1348	565	561
MEAN	25.8	311	720	371	619	563	605	193	80.8	43.5	18.2	18.7
MAX	108	1600	3620	549	2040	1710	1210	329	111	86	24	36
MIN	14	26	231	266	233	350	346	113	58	23	13	13
AC-FT	1590	18500	44250	22800	34350	34610	36010	11860	4810	2670	1120	1110
CAL YR 1981 TOTAL	77595.5	MEAN 213	MAX 3620	MIN 6.0	AC-FT 153900							
WTR YR 1982 TOTAL	107737.0	MEAN 295	MAX 3620	MIN 13	AC-FT 213700							

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 (2.6 km) downstream from Mill Creek, and 3.8 mi (6.1 km) south of French Gulch.

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

GAGE.--Recorded powerplant output.

REMARKS.--Water is diverted from Trinity River at NW¼SE¼ 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 furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--19 years, 1,540 ft³/s (43.61 m³/s), 1,116,000 acre-ft/yr (1.38 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,910 ft³/s (111 m³/s) Feb. 11, 1970; no flow many days in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	0	1190	1590	3140	3310	4.0	3270	455	1500	1580	2610
2	258	0	1570	1600	2870	3320	6.0	3170	460	708	1480	2630
3	241	0	1600	1600	3170	3320	4.0	1870	1380	752	1600	2600
4	250	751	1270	1600	3170	3320	0	2150	637	494	1510	2630
5	260	0	1330	1600	3170	3320	17	2210	666	501	1530	2630
6	270	0	1380	1590	3180	3390	2.0	2420	645	496	1520	2600
7	280	0	1490	1590	3180	3400	0	2570	1240	463	1510	2600
8	245	0	1190	2900	3180	3370	0	2540	1490	444	1500	2620
9	250	0	1190	3130	1090	2810	0	2600	1530	444	1490	2630
10	1090	0	1270	3120	1270	1470	19	2600	1420	437	1450	930
11	1100	42	1270	3120	1160	1540	6.0	2610	1770	0	1610	930
12	1100	4.0	1360	3180	1380	1560	94	2180	2000	460	1520	919
13	1100	0	1540	3180	1220	1450	154	962	1860	549	1520	983
14	1180	0	1560	3190	1180	1460	15	2550	1940	497	1560	922
15	972	0	1020	3180	1510	1480	0	3150	1900	574	1520	945
16	1030	17	0	3200	4.0	1480	0	3250	2150	1370	1510	919
17	1020	2.0	0	3190	0	1430	0	3340	3130	1160	1480	947
18	1020	4.0	0	3180	2090	1480	0	3250	3040	1190	1620	1020
19	1020	4.0	617	3160	2520	984	1040	3150	3040	1470	1530	1160
20	1020	0	0	1620	3120	486	1570	3170	3070	1530	1530	1130
21	810	0	0	3180	3060	1360	1620	3150	3060	1540	2040	1550
22	1010	0	0	3180	2940	1730	1620	3130	3060	1540	1910	2760
23	1020	1590	0	3170	3210	1770	1770	3050	2060	1540	1970	2810
24	1030	1150	0	3170	3420	937	2680	1000	2020	1260	1510	2510
25	1200	759	0	3170	3350	900	2650	688	1990	1230	1660	2810
26	999	867	0	3170	3340	1090	1670	1980	1340	1540	1010	2810
27	0	1340	0	3170	3320	1280	1640	3230	1440	1540	987	1580
28	0	924	0	3170	3300	1340	1640	3250	1450	1600	1060	1480
29	0	764	0	3170	---	1250	1910	3190	1520	2960	1130	1500
30	0	560	0	3170	---	4.0	3000	1150	1510	2920	1120	1500
31	0	---	1060	3170	---	4.0	---	1140	---	2920	1310	---
TOTAL	20023	8778.0	21907	85410	67544.0	56045.0	23131.0	77970	53273	35629	46277	55665
MEAN	646	293	707	2755	2412	1808	771	2515	1776	1149	1493	1856
MAX	1200	1590	1600	3200	3420	3400	3000	3340	3130	2960	2040	2810
MIN	0	0	0	1590	0	4.0	0	688	455	0	987	919
AC-FT	39720	17410	43450	169400	134000	111200	45880	154700	105700	70670	91790	110400

CAL YR 1981 TOTAL 373632.00 MEAN 1024 MAX 3240 MIN 0 AC-FT 741100
WTR YR 1982 TOTAL 551652.00 MEAN 1511 MAX 3420 MIN 0 AC-FT 1094000

SACRAMENTO RIVER BASIN

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA

LOCATION.--Lat 40°37'41", long 122°27'59", in NE¼SE¼ sec.18, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020112, at powerplant on Spring Creek, 0.4 mi (0.6 km) northwest of Keswick, and 4.9 mi (7.9 km) northwest of Redding.

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

GAGE.--Discharge computed from powerplant output.

REMARKS.--Water is released from Whiskeytown Lake (station 11371700) at lat 40°37'03", long 122°31'31", through a tunnel to powerplant and then into Keswick Reservoir. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--18 years, 1,923 ft³/s (54.46 m³/s), 1,393,000 acre-ft/yr (1.72 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,700 ft³/s (133 m³/s) Jan. 21, 1971; no flow for many days in 1974-82.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	605	0	1900	374	4210	4250	0	2000	732	1730	1500	2660
2	447	0	1900	2040	4180	4260	108	1980	485	989	1480	3060
3	343	0	1880	2030	4080	4270	2010	2070	1570	1020	1470	3190
4	0	0	1890	1980	3770	4300	2030	2110	703	654	1420	2660
5	284	0	1880	2030	3900	4290	1470	2140	483	572	1470	2650
6	274	0	1880	1590	4000	4280	1250	2120	493	579	1610	2950
7	272	0	1890	2360	4000	4280	0	2140	1240	530	1520	3030
8	1110	0	1890	3590	3920	4310	0	2150	1670	618	1750	2640
9	1330	0	1910	3400	1790	4290	0	2150	1780	432	1460	2720
10	1650	0	1900	3250	1860	4300	31	2140	1750	0	1540	874
11	1660	15	1860	3470	1840	2170	856	2060	1980	0	1500	888
12	1670	2.0	1890	3090	1650	2080	1550	1950	1530	430	1360	851
13	1670	253	1890	4220	1530	2060	1570	1590	1520	352	1570	992
14	1660	1990	1890	4250	1540	2060	1910	3470	2390	394	1600	880
15	1690	940	1890	2350	2940	2050	2020	3540	2490	672	1570	951
16	1680	1900	1920	4130	4260	2050	2010	3660	2290	1440	1550	1240
17	1660	1920	1920	4130	4180	2040	2010	3770	3120	746	1600	1250
18	1670	1870	1910	4130	4220	2040	2010	3740	3330	749	1690	1220
19	1670	1880	1980	4110	4280	2030	2020	3910	3020	1200	1460	1590
20	1790	1870	1950	3880	4280	1430	2020	3830	3020	1350	1390	1240
21	1740	1880	1950	4210	4300	2040	2020	3620	3360	1350	2090	1340
22	1700	438	1950	4200	4230	2050	2020	3520	3370	1400	2050	2980
23	1670	1880	1930	3930	4250	2030	2010	3280	2280	1390	2010	3030
24	1680	1890	1950	3730	4250	2020	2000	781	2260	1240	1490	2690
25	1740	1900	1960	3680	4230	2030	2010	1160	2310	1260	1560	3540
26	1660	1870	1960	3710	4220	2050	2010	2390	2030	1520	1080	3480
27	1400	1880	1960	3740	4240	2050	2010	3390	1770	1530	1100	1990
28	294	1880	1970	3960	4290	2050	2000	3530	1160	1890	1060	1840
29	980	1890	2000	4150	---	2040	1980	3610	1640	3140	987	1880
30	1010	1890	2040	4190	---	0	1990	1560	1760	3120	987	1530
31	1010	---	1400	4170	---	2.0	---	1390	---	3130	1290	---
TOTAL	38019	30038.0	59090	104074	100440	81202.0	44925	80751	57536	35427	46214	61836
MEAN	1226	1001	1906	3357	3587	2619	1498	2605	1918	1143	1491	2061
MAX	1790	1990	2040	4250	4300	4310	2030	3910	3370	3140	2090	3540
MIN	0	0	1400	374	1530	0	0	781	483	0	987	851
AC-FT	75410	59580	117200	206400	199200	161100	89110	160200	114100	70270	91670	122700
CAL YR 1981 TOTAL	520046.00			MEAN 1425	MAX 3700	MIN 0	AC-FT 1032000					
WTR YR 1982 TOTAL	739552.00			MEAN 2026	MAX 4310	MIN 0	AC-FT 1467000					

11371700 WHISKEYTOWN LAKE NEAR IGO, CA

LOCATION.--Lat 40°37'03", long 122°31'31", unsurveyed, Shasta County, Hydrologic Unit 18010112, at outlet works to Spring Creek powerplant on Clear Creek, 1.8 mi (2.9 km) downstream from Whiskey Creek, and 7.8 mi (12.6 km) northeast of Igo.

DRAINAGE AREA.--200 mi² (518 km²).

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 Bureau of Reclamation).

REMARKS.--Reservoir is formed by earth- and rockfill dam. Storage began in May 1963. Capacity, 241,100 acre-ft (297 hm³) between elevations 1,100.00 ft (335.280 m), minimum operating level and 1,210.00 ft (368.808 m), crest of spillway. No dead storage. 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. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 253,100 acre-ft (312 hm³) Mar. 30, 1974, elevation, 1,213.69 ft (369.933 m); minimum since reservoir was first filled, 159,000 acre-ft (196 hm³) Oct. 25, 1970, elevation, 1,181.48 ft (360.115 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 240,600 acre-ft (297 hm³) June 13, elevation, 1,209.84 ft (368.759 m); minimum, 198,100 acre-ft (244 hm³) Mar. 10, elevation, 1,198.90 ft (365.425 m).

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

1,015	714	1,080	15,100
1,020	994	1,100	27,500
1,030	1,800	1,120	46,700
1,040	3,060	1,140	74,000
1,050	4,900	1,180	155,300
1,060	7,420	1,220	274,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233500	204100	205000	203600	204200	207100	208000	237400	237300	239500	239600	238900
2	233100	204100	205400	203400	203200	209800	212300	240300	237500	239200	239600	238900
3	233000	204000	205800	203200	203000	210700	211400	240200	237400	238900	239700	239000
4	233500	205500	205400	203200	203200	210200	209800	239300	237500	238800	240500	239100
5	233400	205400	205100	202500	203200	209200	209100	238700	238200	238800	240000	239100
6	233400	205400	205300	202600	203000	208000	208400	238500	238700	238800	239900	238600
7	233600	205400	205800	201300	202700	206600	209900	238500	239000	238700	239900	237700
8	231900	205300	205400	200100	202600	205300	211300	238400	239000	238500	239400	237700
9	230100	205200	205200	200700	202400	202800	212600	238500	238700	238600	239300	237800
10	229100	205300	205000	202100	201800	198100	214200	238500	238300	239500	239300	237900
11	228100	205600	204700	203300	201300	198300	216700	239100	238200	239500	239000	237800
12	227100	206300	204800	205300	201600	198800	218100	239800	239500	239400	239400	238000
13	226000	207200	205800	205100	202500	199300	221700	239400	240600	239500	239400	238200
14	225200	204400	207600	204700	204900	200300	223200	238600	240000	239500	239300	238000
15	223900	208200	208400	207900	208100	200700	223000	238700	239000	239100	239200	238100
16	222600	213000	206600	207600	206200	201600	222100	238800	238900	238800	239200	237500
17	221500	214900	204400	207300	202400	202300	220800	239100	239500	239600	239000	236900
18	220300	213200	204300	206900	201600	203000	219100	238900	239700	240200	238800	236800
19	219100	210700	215000	206700	201600	202500	219300	238400	239800	240400	239000	236100
20	217900	207800	221000	203800	202500	202100	220500	237900	240300	240300	239300	235800
21	216200	205200	222900	203300	203200	202500	221600	237800	240300	240300	239500	236100
22	214900	205100	223100	202700	203300	203200	222700	237800	240000	240100	239500	236100
23	213800	207000	222300	202500	203100	204100	224100	238000	239900	240100	239500	235900
24	212600	207400	220800	202600	202500	203200	227200	238800	239700	240100	239600	235800
25	211600	206300	218100	202900	201700	202400	230100	238300	239300	240200	239700	234800
26	210300	206100	214800	203800	201500	201800	231100	238000	238500	240300	239600	233700
27	209400	208200	211200	204600	200800	201700	231900	238200	238100	240300	239300	233000
28	209500	208000	207400	205200	199900	201700	232600	238300	239600	239800	239100	232300
29	207900	207100	203900	205200	---	201700	233700	238200	239800	239700	239100	231500
30	206100	205400	199900	205000	---	203100	235300	237800	239600	239600	239000	231400
31	204200	---	200200	204700	---	206100	---	237600	---	239500	238800	---
MAX	233600	214900	223100	207900	208100	210700	235300	240300	240600	240400	240500	239100
MIN	204200	204000	199900	200100	199900	198100	208000	237400	237300	238500	238800	231400
a	1197.98	1198.42	1196.64	1198.15	1196.53	1198.64	1208.18	1208.90	1209.54	1209.50	1209.29	1206.94
b	-29900	+1200	-5200	+4500	-4800	+6200	+29200	+2300	+2000	-100	-700	-7400
c	490	210	90	50	120	240	680	1550	1350	1630	1660	1010
CAL YR 1981	MAX	239800	MIN	188100	b + 9500							
WTR YR 1982	MAX	240600	MIN	198100	b - 2700							

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

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 (1.6 km) northeast of Igo, 8.3 mi (13.4 km) southwest of Redding, and 10.4 mi (16.7 km) upstream from mouth.

DRAINAGE AREA.--228 mi² (590 km²).

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1345: Drainage area. WSP 1395: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 672.99 ft (205.127 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Whiskeytown Lake since May 1963 (station 11371700). Transbasin diversion from Trinity River through Judge Francis Carr powerplant to Whiskeytown Lake began in April 1963 (station 11525430). Diversions from Whiskeytown Lake to Spring Creek powerplant (station 11371600) began in December 1963. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE (adjusted for change in contents and diversions in and out of Whiskeytown Lake).--42 years, 466 ft³/s (13.20 m³/s), 337,600 acre-ft/yr (416 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft³/s (694 m³/s) Dec. 21, 1955, gage height, 13.75 ft (4.191 m); minimum, 8.6 ft³/s (0.24 m³/s) Sept. 4, 6, 7, 1950. Maximum discharge since construction of Whiskeytown Dam in 1963, 9,940 ft³/s (282 m³/s) Dec. 22, 1964, gage height, 9.23 ft (2.813 m); minimum daily, 30 ft³/s (0.85 m³/s) Oct. 10, 11, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,940 ft³/s (112 m³/s) Nov. 15, gage height, 7.37 ft (2.246 m); minimum daily, 48 ft³/s (1.36 m³/s) Aug. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	95	167	1250	174	1340	446	1140	69	71	54	51
2	51	95	158	1060	160	1130	1220	547	69	67	51	50
3	50	95	151	1000	150	1130	820	603	68	64	50	51
4	50	97	145	999	139	1270	441	1140	69	62	49	55
5	49	97	142	980	131	1220	314	1130	69	61	50	53
6	51	97	151	957	125	1230	255	1130	68	60	50	51
7	55	98	150	932	121	1210	219	1130	67	60	49	51
8	52	101	144	826	115	1220	198	1130	66	59	49	52
9	53	101	151	419	112	1130	184	1110	65	58	49	52
10	57	105	150	201	109	876	195	1090	64	58	50	53
11	54	107	146	193	104	581	230	893	64	60	53	52
12	53	334	177	185	100	390	220	438	66	144	49	52
13	53	346	322	171	170	213	518	142	68	151	48	52
14	53	248	369	160	294	159	599	85	67	153	48	52
15	53	1360	443	150	930	151	347	83	63	152	49	52
16	53	687	296	143	1020	189	274	82	62	149	49	53
17	53	507	227	137	645	193	237	82	62	148	49	54
18	53	223	669	134	356	184	212	81	63	156	49	56
19	53	175	2560	137	318	171	195	78	62	292	49	56
20	53	153	1020	159	257	160	183	77	61	295	49	55
21	53	181	565	157	226	151	173	76	62	295	49	54
22	53	170	395	147	200	143	166	75	67	295	49	53
23	53	501	314	144	389	136	160	74	59	281	49	53
24	54	280	306	144	892	131	152	72	59	88	49	54
25	55	203	583	148	887	127	147	71	59	50	49	53
26	55	218	869	214	991	130	141	71	60	50	49	53
27	128	474	890	203	1020	125	135	71	60	50	49	53
28	173	284	884	310	948	132	130	70	66	52	50	53
29	91	211	972	267	---	161	165	69	79	50	52	53
30	72	181	960	221	---	244	1060	69	68	49	52	52
31	72	---	1340	193	---	724	---	69	---	50	51	---
TOTAL	1909	7824	15816	12341	11083	16351	9736	12978	1951	3630	1541	1584
MEAN	61.6	261	510	398	396	527	325	419	65.0	117	49.7	52.8
MAX	173	1360	2560	1250	1020	1340	1220	1140	79	295	54	56
MIN	49	95	142	134	100	125	130	69	59	49	48	50
AC-FT	3790	15520	31370	24480	21980	32430	19310	25740	3870	7200	3060	3140
MEAN a	165	993	1627	1075	1485	1443	1554	571	265	135	64.2	151
AC-FT a	10160	59110	100000	66120	82490	88740	92460	35100	15740	8310	3950	8990

CAL YR 1981 TOTAL 52911 MEAN 145 MAX 2560 MIN 43 AC-FT 104900 MEAN a 576 AC-FT a 416800
WTR YR 1982 TOTAL 96744 MEAN 265 MAX 2560 MIN 48 AC-FT 191900 MEAN a 789 AC-FT a 571200

a Adjusted for change in contents in and evaporation from Whiskeytown Lake, diversion from Trinity River through Judge Francis Carr powerplant, and diversion to Spring Creek powerplant, furnished by Bureau of Reclamation.

11374000 COW CREEK NEAR MILLVILLE, CA

LOCATION.--Lat 40°30'19", long 122°13'56", in NE&NW¼ sec.32, T.31 N., R.3 W., Shasta County, Hydrologic Unit 18020101, on right bank 2.9 mi (4.7 km) upstream from mouth, 4.2 mi (6.8 km) southwest of Millville, and 4.3 mi (6.9 km) downstream from Little Cow Creek.

DRAINAGE AREA.--425 mi² (1,100 km²).

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 388.7 ft (118.48 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Numerous small diversions above station for irrigation.

AVERAGE DISCHARGE.--33 years, 690 ft³/s (19.54 m³/s), 499,900 acre-ft/yr (616 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,700 ft³/s (1,379 m³/s) Nov. 16, 1981, gage height, 21.22 ft (6.468 m), maximum gage height, 21.55 ft (6.568 m) Dec. 27, 1951; minimum daily, 0.02 ft³/s (<0.001 m³/s) July 29, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1937 or 1940 reached a stage of 23.8 ft (7.25 m) from floodmarks. Probable backwater effect from high flows on the Sacramento River.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 13,900 ft³/s (394 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 16	0615	*48,700 1,380	21.22 6.468	Dec. 29	1500	19,500 552	13.67 4.167
Nov. 23	2145	14,300 405	11.31 3.447	Feb. 15	1015	18,700 530	13.16 4.011
Dec. 19	1600	26,300 745	15.80 4.816				

Minimum daily, 40 ft³/s (1.13 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	170	837	4240	1010	3260	4340	932	344	357	71	58
2	40	150	733	2720	891	5090	3760	915	356	321	71	60
3	47	134	641	2020	852	2430	3460	880	344	391	70	60
4	46	123	576	2970	767	1790	2430	850	364	259	70	62
5	50	116	533	3560	683	1440	1970	816	372	219	70	60
6	51	111	630	2120	634	1240	1770	788	334	200	70	58
7	200	106	1200	1550	602	1130	1540	784	318	182	69	56
8	200	104	833	1340	568	1110	1330	769	295	166	73	55
9	121	104	2380	1300	534	1070	1190	724	274	155	72	55
10	180	107	2970	1300	516	1690	2040	682	261	141	67	56
11	344	112	1360	1240	493	2260	5900	649	243	124	67	55
12	190	156	1730	1140	465	1580	2880	625	260	111	69	55
13	137	927	4830	1020	3040	1370	2170	607	273	111	67	56
14	117	1630	5490	953	9720	3920	3620	598	254	99	63	52
15	106	8420	3700	872	12100	2130	2230	587	227	99	63	53
16	98	19500	2260	813	9880	2340	1760	559	206	87	62	59
17	91	4470	1640	764	4630	2280	1520	566	199	81	62	70
18	89	2310	6170	801	3300	1710	1350	582	202	84	60	85
19	86	1470	16800	1120	3040	1930	1220	544	199	82	60	150
20	81	1090	7540	2770	2480	1610	1150	528	194	78	60	116
21	78	2100	6910	2050	2330	1340	1120	509	184	79	61	99
22	82	5100	3190	1330	2500	1180	1080	498	170	79	60	90
23	82	9660	2210	1130	1980	1080	1070	481	165	80	60	85
24	79	5680	1710	1050	1730	1000	1070	470	155	80	58	95
25	81	2640	1400	1080	1560	962	1080	470	158	82	58	164
26	80	2360	1510	4180	1460	960	1060	474	161	84	60	133
27	91	3250	1860	2170	1380	1100	1030	457	160	80	62	121
28	904	1840	1390	4110	1250	1650	1030	420	173	78	61	108
29	555	1260	8820	1880	---	1530	985	395	384	76	64	107
30	279	976	4550	1400	---	2690	940	373	269	74	64	98
31	199	---	4910	1180	---	6150	---	358	---	71	60	---
TOTAL	4827	76176	101313	56173	70395	61022	58095	18890	7498	4210	2004	2431
MEAN	156	2539	3268	1812	2514	1968	1937	609	250	136	64.6	81.0
MAX	904	19500	16800	4240	12100	6150	5900	932	384	391	73	164
MIN	40	104	533	764	465	960	940	358	155	71	58	52
AC-FT	9570	151100	201000	111400	139600	121000	115200	37470	14870	8350	3970	4820
CAL YR 1981 TOTAL	321244.6	MEAN	880	MAX	19500	MIN	1.1	AC-FT	637200			
WTR YR 1982 TOTAL	463034.0	MEAN	1269	MAX	19500	MIN	40	AC-FT	918400			

SACRAMENTO RIVER BASIN

11375810 COTTONWOOD CREEK NEAR OLINDA, CA

LOCATION.--Lat 40°23'06", long 122°28'31", in SE¼NW¼ sec.7, T.29 N., R.5 W., Shasta County, Hydrologic Unit 18020102, on left bank 1.0 mi (1.6 km) downstream from Dutch Gulch, and 5.5 mi (8.8 km) southwest of Olinda.

DRAINAGE AREA.--395 mi² (1,023 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 515 ft (157 m), from topographic map.

REMARKS.--Records good. Numerous pumping diversions above station.

AVERAGE DISCHARGE.--11 years, 454 ft³/s (12.86 m³/s), 328,900 acre-ft/yr (406 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,900 ft³/s (1,050 m³/s) Jan. 16, 1974, gage height, 21.44 ft (6.535 m) from rating curve extended above 14,000 ft³/s (396 m³/s) on basis of slope-area measurement of peak flow; no flow Aug. 30, Sept. 7, 8, 1972, and many days in 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 15	1800	6,510 184	11.53 3.514	Feb. 15	2345	7,810 221	12.34 3.761
Nov. 23	0945	3,550 101	9.63 2.935	Feb. 19	0730	5,540 157	10.93 3.331
Dec. 19	1615	*24,300 688	19.18 5.846	Mar. 1	0945	4,530 128	10.25 3.124
Dec. 31	1945	6,130 174	11.30 3.444	Mar. 31	0630	5,100 144	10.66 3.249
Jan. 28	0245	5,300 150	10.78 3.286				

Minimum daily, 14.0 ft³/s (0.40 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	81	430	2400	892	2660	1740	735	227	206	42	23
2	14	74	410	1920	842	2110	2550	651	222	149	30	22
3	15	68	401	1590	811	1790	2020	611	212	137	34	20
4	16	64	383	2040	773	1560	1590	583	205	121	33	20
5	17	61	364	1850	720	1390	1420	560	202	112	34	19
6	18	55	362	1430	675	1260	1270	531	196	104	35	19
7	26	48	435	1140	635	1170	1140	522	189	98	34	18
8	31	48	395	1020	604	1150	1050	502	182	96	37	18
9	28	48	414	986	566	1080	1010	490	169	94	36	18
10	35	51	565	986	540	1200	1110	471	160	88	33	17
11	43	57	480	1030	503	1180	1950	455	156	82	32	16
12	36	133	838	1040	476	1070	2220	432	162	78	32	17
13	30	177	1490	949	1190	996	2170	452	189	75	32	18
14	27	384	1380	874	2910	1070	2570	508	161	69	30	17
15	26	2470	1290	812	4400	956	2110	487	146	67	31	16
16	25	2770	995	756	5450	1410	1780	474	136	66	31	17
17	24	1890	793	711	3120	1190	1570	465	129	66	30	21
18	24	1090	5400	698	2250	991	1460	456	135	66	27	38
19	23	720	15200	668	3290	905	1370	434	124	65	25	56
20	23	548	7850	1010	2340	843	1310	331	124	62	23	57
21	22	662	5110	1040	2010	797	1250	314	124	60	22	47
22	22	664	3290	746	1720	758	1210	307	123	58	21	39
23	21	2060	2360	651	1480	718	1210	295	117	56	20	35
24	21	1230	1840	619	1310	698	1170	281	115	56	19	34
25	21	783	1530	596	1180	693	1100	278	119	57	18	39
26	21	671	1340	860	1150	688	1040	273	115	55	18	39
27	38	1490	1220	786	1170	673	979	265	129	54	19	35
28	201	793	1080	2810	1050	687	927	254	124	55	20	31
29	161	577	1890	1330	---	716	856	246	202	55	22	25
30	109	479	1740	1080	---	1080	806	235	144	52	23	24
31	91	---	2450	968	---	2910	---	228	---	47	24	---
TOTAL	1225	20246	63725	35396	44057	36399	43958	13126	4738	2506	867	815
MEAN	39.5	675	2056	1142	1573	1174	1465	423	158	80.8	28.0	27.2
MAX	201	2770	15200	2810	5450	2910	2570	735	227	206	42	57
MIN	14	48	362	596	476	673	806	228	115	47	18	16
AC-FT	2430	40160	126400	70210	87390	72200	87190	26040	9400	4970	1720	1620
CAL YR 1981 TOTAL	202989.86	MEAN 556	MAX 15200	MIN .18	AC-FT 402600							
WTR YR 1982 TOTAL	267058.00	MEAN 732	MAX 15200	MIN 14	AC-FT 529700							

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1973 to current year.

CHEMICAL ANALYSES: Water years 1971, October 1981 to September 1982.

WATER TEMPERATURES: Water years 1973-80.

SEDIMENT RECORDS: Water years 1977 to current year.

TURBIDITY: Water years 1977-79, 1981.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1973 to September 1980.

SEDIMENT RECORDS: January 1977 to May 1980 (storm season only).

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	
MAY 12...	1020	179	8.1	14.5	9.6	98	0	21	11	5.7	11	
DATE		SODIUM ADSORPTION RATIO	POTASSIUM DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, 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 CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
MAY 12...	.3	.9	98	6.0	3.0	<.10	20	129	127	<.02	<.10	
DATE		NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)	
MAY 12...		<.10	<.06	.09	.54	<.01	.02	.02	20	<9	.7	

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
NOV 18...	1155	1090	10.0	44	129	--	--	--	--	--
DEC 20...	1330	7070	12.0	1600	30500	27	37	48	59	70
FEB 18...	0930	2300	8.0	286	1780	--	--	--	--	--
MAR 31...	1000	3060	7.0	680	5620	42	54	64	74	78
DATE	TIME	SED. SUSP. SIEVE FALL DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE FALL DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE FALL DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE FALL DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE FALL DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE FALL DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE FALL DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE FALL DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE FALL DIAM. % FINER THAN 1.00 MM
NOV 18...	79	--	85	--	92	--	98	--	100	--
DEC 20...	--	84	--	94	--	99	--	100	--	--
FEB 18...	52	--	59	--	71	--	95	--	100	--
MAR 31...	--	83	--	91	--	98	--	100	--	--

SACRAMENTO RIVER BASIN

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT CONCENTRATIONS
WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV					
04...	1245	63	14.0	3	.51
18...	1155	1090	10.0	44	129
DEC					
03...	1200	401	8.0	5	5.4
20...	1330	7070	12.0	1600	30500
JAN					
12...	1245	1040	5.5	54	152
FEB					
05...	1230	724	3.5	5	9.8
18...	0930	2300	8.0	286	1780
MAR					
09...	1515	1060	12.0	19	54
31...	1000	3060	7.0	680	5620
APR					
06...	0945	1280	6.0	29	100
MAY					
06...	1000	538	14.0	11	16

11375815 COTTONWOOD CREEK ABOVE SOUTH FORK, NEAR COTTONWOOD, CA

LOCATION.--Lat 40°22'19", long 122°20'17", in NW¼NE¼, sec.17, T.29 N., R.4 W., Tehama County, Hydrologic Unit 18020102, on right bank 0.67 mi (1.1 km) upstream of confluence with South Fork Cottonwood Creek and 3.3 mi (5.3 km) southwest of Cottonwood.

DRAINAGE AREA.--478 mi² (1,238 km²).

PERIOD OF RECORD.--June to September 1982 (low-flow only).

GAGE.--Water-stage recorder. Datum of gage is 421.90 ft (128.595 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Numerous pumping diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0	215	36	27
2									0	169	32	24
3									0	155	29	21
4									0	138	29	21
5									0	129	30	21
6									0	122	32	18
7									0	116	36	18
8									0	109	38	17
9									0	104	35	15
10									0	97	33	13
11									0	94	32	12
12									0	87	32	13
13									0	82	31	13
14									0	76	31	12
15									0	74	31	12
16									0	71	31	12
17									0	69	29	17
18									0	68	27	31
19									0	68	25	47
20									0	65	23	56
21									0	62	22	47
22									128	59	20	38
23									131	55	19	33
24									127	55	18	32
25									131	53	17	35
26									131	51	17	35
27									143	50	17	30
28									137	48	18	27
29									225	48	25	21
30									178	45	27	21
31									---	41	28	---
TOTAL	0	0	0	0	0	0	0	0	1331	2675	850	739
MEAN	0	0	0	0	0	0	0	0	44.4	86.3	27.4	24.6
MAX	0	0	0	0	0	0	0	0	225	215	38	56
MIN	0	0	0	0	0	0	0	0	0	41	17	12
AC-FT	0	0	0	0	0	0	0	0	2640	5310	1690	1470
WTR YR 1982	TOTAL	5595	MEAN 15.3	MAX	225	MIN 0	AC-FT	11100				

SACRAMENTO RIVER BASIN

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA

LOCATION.--Lat 40°19'34", long 122°26'40", in SE¼NE¼ sec.32, T.29 N., R.5 W., Tehama County, Hydrologic Unit 18020102, on left bank 250 ft (76 m) downstream from Dry Creek and 8.0 mi (12.9 km) south of Olinda.

DRAINAGE AREA.--371 mi² (961 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 540 ft (165 m), from topographic map.

REMARKS.--Records good. No regulation or diversion upstream.

AVERAGE DISCHARGE.--5 years, 307 ft³/s (8.694 m³/s), 222,400 acre-ft/yr (274 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,400 ft³/s (578 m³/s) Dec. 19, 1981, gage height, 11.88 ft (3.621 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 16, 1974 reached a stage of 13.5 ft (4.11 m), from floodmarks on right bank, discharge, 27,200 ft³/s (770 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 15	2245	5,980 169	6.95 2.118	Feb. 16	0415	6,020 170	6.97 2.124
Nov. 23	1630	2,960 83.8	5.05 1.539	Mar. 1	1115	5,470 155	6.68 2.036
Dec. 19	1730	*20,400 578	11.88 3.621				

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	50	298	1060	416	2330	923	529	171	94	14	3.8
2	0	46	279	909	400	1530	1360	519	164	94	13	3.6
3	0	40	248	762	386	1050	994	503	151	81	12	3.1
4	0	34	236	1210	376	853	780	487	147	70	12	3.0
5	0	30	205	1010	354	754	716	458	142	64	12	2.8
6	0	27	175	770	340	682	644	430	137	60	12	2.5
7	0	24	273	618	327	630	583	428	128	57	11	2.1
8	0	22	259	559	316	611	554	418	121	55	11	1.8
9	0	22	248	535	301	583	525	394	115	53	11	1.7
10	0	22	410	542	295	657	579	370	111	51	10	1.4
11	0	24	358	556	286	733	1970	352	109	49	9.7	.86
12	0	33	336	558	271	658	1790	325	108	48	9.3	.92
13	0	83	431	515	326	601	1280	316	124	45	9.2	.89
14	0	727	588	475	1410	747	1300	312	115	42	8.8	.67
15	0	1790	524	447	2560	638	1110	305	103	40	8.4	.64
16	0	3330	495	423	4150	961	927	295	99	38	8.4	1.5
17	0	1940	421	406	1960	885	831	291	98	36	8.4	3.0
18	0	905	2820	400	1370	674	812	286	103	34	7.7	5.8
19	0	533	10600	391	1640	608	783	273	93	33	6.6	9.7
20	0	398	6120	444	1300	566	757	262	90	32	6.3	11
21	0	474	2830	533	1100	651	732	253	88	30	5.7	11
22	0	632	1690	428	962	559	733	249	86	28	5.0	9.4
23	0	1790	1190	376	847	529	780	245	84	27	4.6	8.7
24	0	1410	912	367	779	507	801	240	83	25	4.1	8.1
25	0	804	749	356	714	499	770	241	84	23	3.6	8.0
26	0	614	646	413	667	501	728	244	80	22	2.9	9.6
27	1.2	1360	597	418	635	487	686	236	81	21	3.2	10
28	149	608	537	1140	594	484	649	217	90	20	3.4	9.0
29	186	414	711	607	---	482	602	201	165	18	3.5	8.3
30	89	338	989	494	---	518	556	188	115	16	3.5	7.9
31	57	---	856	446	---	1580	---	175	---	15	3.6	---
TOTAL	482.2	18524	37031	18168	25082	23548	26255	10042	3385	1321	243.9	150.78
MEAN	15.6	617	1195	586	896	760	875	324	113	42.6	7.87	5.03
MAX	186	3330	10600	1210	4150	2330	1970	529	171	94	14	11
MIN	0	22	175	356	271	482	525	175	80	15	2.9	.64
AC-FT	956	36740	73450	36040	49750	46710	52080	19920	6710	2620	484	299
CAL YR 1981	TOTAL	114203.00	MEAN	313	MAX	10600	MIN	0	AC-FT	226500		
WTR YR 1982	TOTAL	164232.88	MEAN	450	MAX	10600	MIN	0	AC-FT	325800		

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.
 CHEMICAL ANALYSES: October 1981 to September 1982.
 WATER TEMPERATURES: Water years 1977-80.
 SEDIMENT RECORDS: Water years 1977 to current year.
 TURBIDITY: Water years 1977-79, 1981.

PERIOD OF DAILY RECORD.--
 WATER TEMPERATURES: November 1976 to September 1980.
 SEDIMENT RECORDS: January 1977 to May 1980 (storm season only).

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
MAY 18...	0900	324	8.0	14.0	10.0	114	11	30	9.6	9.8
DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINIT FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	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)
MAY 18...	16	.4	1.0	104	18	7.1	.20	13	163	151
DATE		NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS P04)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
MAY 18...		.02	.10	.07	.50	.02	.06	.02	50	10

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
NOV 17...	1255	1830	11.0	1430	7070	--	--	--	--	--	--
DEC 19...	1500	14500	10.5	8020	314000	--	30	38	50	62	74
DEC 20...	1400	4660	12.0	3340	42000	--	30	40	53	66	77
FEB 18...	1230	1360	9.0	642	2360	19	25	36	45	53	--
DATE		SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV 17...		71	--	--	--	--	--	--	--	--	--
DEC 19...		64	88	--	96	--	99	--	100	--	--
DEC 20...		69	92	--	98	--	100	--	--	--	--
FEB 18...		61	--	74	--	88	--	98	--	99	100

SACRAMENTO RIVER BASIN

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT CONCENTRATION
WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV					
03...	1315	39	15.5	2	.21
17...	1255	1830	11.0	1430	7070
DEC					
03...	0950	262	7.0	18	13
19...	1500	14500	10.5	8020	314000
20...	1400	4660	12.0	3340	42000
JAN					
12...	1015	564	10.5	44	67
FEB					
05...	1000	355	2.5	11	11
18...	1230	1360	9.0	642	2360
MAR					
09...	1145	590	11.5	67	107
APR					
06...	1200	632	9.0	60	102
MAY					
04...	1330	495	16.0	55	74

11375900 SOUTH FORK COTTONWOOD CREEK AT EVERGREEN ROAD, NEAR COTTONWOOD, CA

LOCATION.--Lat 40°21'45", long 122°20'18", in SW¼SE¼ sec.17, T.29 N., R.4 W., Tehama County, Hydrologic Unit 18020102, on left bank 30 ft (9.1 m) downstream from Evergreen Road and 3.6 mi (5.8 km) southwest of Cottonwood.

DRAINAGE AREA.--397 mi² (1,028 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 427.08 ft (130.174 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Numerous small diversions above station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 274 ft³/s (7.76 m³/s) June 29, gage height, 4.38 ft (1.335 m), no peak above base of 2,700 ft³/s (76.5 m³/s); no flow many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 15.4 ft (4.694 m) Dec. 19, 1981, from floodmarks, discharge unknown.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0	102	17	.10
2									0	106	13	.32
3									0	92	11	.31
4									0	81	12	.14
5									0	75	11	.02
6									0	71	10	.17
7									0	68	11	.15
8									0	65	11	.10
9									0	64	7.9	.01
10									0	61	7.5	0
11									0	62	7.1	.03
12									0	58	7.0	0
13									0	53	6.9	0
14									0	50	6.7	0
15									0	48	6.2	.07
16									0	45	6.5	0
17									0	43	6.4	0
18									0	41	5.9	.24
19									0	38	4.9	2.3
20									0	34	4.9	8.3
21									0	32	5.5	7.1
22									0	30	4.3	6.7
23									95	28	3.1	4.9
24									94	27	.52	4.8
25									96	26	.15	5.4
26									91	25	.06	5.4
27									91	24	.01	7.6
28									97	23	0	6.3
29									183	23	0	4.9
30									124	22	0	4.6
31									---	20	0	---
TOTAL	0	0	0	0	0	0	0	0	871	1537	187.54	69.96
MEAN	0	0	0	0	0	0	0	0	29.0	49.6	6.05	2.33
MAX	0	0	0	0	0	0	0	0	183	106	17	8.3
MIN	0	0	0	0	0	0	0	0	0	20	0	0
AC-FT	0	0	0	0	0	0	0	0	1730	3050	372	139
WTR YR 1982	TOTAL	2665.50	MEAN	7.30	MAX	183	MIN	0	AC-FT	5290		

SACRAMENTO RIVER BASIN

11375900 SOUTH FORK COTTONWOOD CREEK AT EVERGREEN ROAD, NEAR COTTONWOOD, CA--Continued

PERIOD OF RECORD.--

CHEMICAL ANALYSES: April to September 1982.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
MAY 19...	1250	282	8.1	19.5	9.1	115	5	30	9.7	10	16

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
MAY 19...	.4	1.1	110	18	7.1	.20	13	160	156	<.02	<.10

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 DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY 19...	<.10	<.06	<.06	.44	<.02	.02	.02	490	<9	1.4

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

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'14", long 122°14'15", in NE¼NE¼ sec.7, T.29 N., R.3 W., Shasta County, Hydrologic Unit 18020102, on left bank 2.2 mi (3.5 km) east of Cottonwood, and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--927 mi² (2,401 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1345: 1943, 1944(M), 1946-47, 1949(M), 1951-52. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 364.0 ft (110.95 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 26, 1963, on right bank at datum 3.59 ft (1.094 m) higher. July 26, 1963, to Sept. 13, 1972, at site 250 ft (76.2 m) downstream on right bank. Sept. 21, 1967, to Jan. 14, 1968, supplementary gage at a site 1,450 ft (442 m) downstream on right bank at datum 2.35 ft (0.716 m) higher.

REMARKS.--Records good. Small diversions for irrigation above station. At times during irrigation season, Cottonwood Creek receives water above station from Sacramento River by way of Anderson-Cottonwood Canal.

AVERAGE DISCHARGE.--42 years, 858 ft³/s (24.30 m³/s), 621,600 acre-ft/yr (766 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,000 ft³/s (1,980 m³/s) Jan. 16, 1974, gage height, 20.15 ft (6.142 m); minimum, 15 ft³/s (0.42 m³/s) on several days during September 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,900 ft³/s (252 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 15	Unknown	11,800 344	12.31 3.752	Feb. 16	0415	14,800 419	13.14 4.005
Dec. 19	2115	*64,400 1,820	19.7 6.005	Mar. 1	1300	11,800 334	12.32 3.755

Minimum daily, 61 ft³/s (1.73 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	157	911	4220	1520	5250	3930	1500	467	415	117	82
2	135	142	826	3310	1420	4450	4580	1440	461	384	112	81
3	134	133	779	2640	1390	3250	4020	1330	435	362	99	78
4	143	130	726	4380	1330	2720	2960	1260	425	331	106	119
5	136	120	673	3950	1260	2410	2540	1190	427	310	114	104
6	127	112	633	2980	1210	2210	2330	1100	422	296	103	87
7	165	99	759	2270	1170	2070	2030	1050	406	292	104	79
8	170	95	732	2020	1150	2030	1860	1000	390	259	104	76
9	157	93	684	1920	1110	1970	1700	955	392	243	106	78
10	162	95	1030	1890	1100	2120	1850	905	369	236	99	87
11	157	101	951	1900	1050	2280	4190	896	342	232	107	82
12	157	136	1140	1920	1030	2050	4390	836	363	224	127	79
13	152	362	2150	1810	1470	1910	3680	818	420	218	109	78
14	147	1360	3040	1720	4250	2240	4000	893	386	207	99	74
15	145	4850	2340	1650	7580	2010	3520	867	355	193	94	71
16	145	5660	2010	1580	11400	2740	3060	838	330	173	108	100
17	142	3830	1580	1530	5970	2990	2770	819	335	163	116	112
18	140	2390	8100	1510	4110	2190	2600	832	365	165	102	138
19	120	1460	34000	1500	5130	1960	2470	836	350	157	99	184
20	105	1060	20600	1810	4050	1810	2380	705	335	155	89	185
21	97	1040	8880	2240	3310	1810	2310	675	321	166	87	191
22	88	1450	5350	1840	2790	1680	2270	644	319	150	89	193
23	61	4040	3760	1590	2410	1600	2320	617	310	147	119	128
24	66	3720	2920	1520	2200	1550	2330	603	295	145	109	132
25	78	2150	2400	1480	2030	1520	2280	588	305	145	97	173
26	93	1580	2090	1730	1920	1530	2160	589	320	137	93	180
27	129	3780	1910	1720	1960	1540	1970	574	336	133	86	143
28	269	2180	1700	4470	1800	1510	1860	550	348	124	104	126
29	346	1370	2560	2330	---	1570	1730	523	602	121	112	103
30	256	1070	3410	1790	---	1770	1600	496	472	114	105	80
31	180	---	3060	1600	---	5380	---	476	---	128	93	---
TOTAL	4568	44765	121704	68820	77120	72120	81690	26405	11403	6525	3208	3423
MEAN	147	1492	3926	2220	2754	2326	2723	852	380	210	103	114
MAX	346	5660	34000	4470	11400	5380	4580	1500	602	415	127	193
MIN	61	93	633	1480	1030	1510	1600	476	295	114	86	71
AC-FT	9060	88790	241400	136500	153000	143000	162000	52370	22620	12940	6360	6790
CAL YR 1981	TOTAL	398758	MEAN	1092	MAX	34000	MIN	48	AC-FT	790900		
WTR YR 1982	TOTAL	521751	MEAN	1429	MAX	34000	MIN	61	AC-FT	1035000		

SACRAMENTO RIVER BASIN

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-67, 1977 to current year.

CHEMICAL ANALYSES: October 1981 to September 1982.

WATER TEMPERATURES: Water years 1963-67, 1977 to current year.

SEDIMENT RECORDS: Water years 1957-67, 1977 to current year.

TURBIDITY: Water years 1977-81.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1962 to September 1967, December 1976 to current year.

SEDIMENT RECORDS: October 1962 to September 1967, November 1977 to May 1980 (storm season only for water years 1978-80).

INSTRUMENTATION.--Temperature recorder June 1965 to June 1967, and since December 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 32.5°C June 16, 1980; minimum recorded, 2.5°C Nov. 23, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 30.0°C June 16, 17, July 29; minimum recorded, 3.5°C Jan. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD AND UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CAC03)	HARDNESS, NONCARBONATE (MG/L AS CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	
MAY 11...	1400	281	8.1	17.0	9.4	108	6	25	11	7.9	14	
DATE		SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
MAY 11...	.3	1.0	102	11	4.2	<.10	18	135	140	<.02	<.10	
DATE		NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC TOTAL (MG/L AS C)	
MAY 11...	<.10	.11	.12	.77	<.01	.02	.02	30	15	1.1		

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

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	15.5	16.0	14.0	9.0	7.0	8.5	7.5	6.5	6.0	11.5	9.5
2	18.5	17.0	16.0	14.0	8.5	7.5	7.5	6.5	6.0	6.0	11.0	9.0
3	18.5	16.5	15.5	14.0	9.0	7.5	6.5	5.5	6.0	5.5	10.5	9.0
4	18.0	16.5	16.5	14.5	9.5	8.5	5.5	3.5	5.5	5.5	11.0	8.0
5	18.0	15.0	15.5	14.5	9.5	9.0	6.0	4.5	---	---	11.0	8.0
6	17.5	16.0	17.5	15.0	9.0	9.0	6.0	4.5	---	---	10.5	8.0
7	18.0	15.5	17.0	14.0	9.5	9.0	5.0	4.0	---	---	9.5	8.5
8	17.5	14.5	16.5	14.0	9.0	8.0	5.5	4.0	---	---	10.5	9.0
9	16.5	15.5	16.5	13.5	9.0	8.5	6.5	5.0	---	---	12.0	9.5
10	16.5	15.5	15.5	14.5	9.0	8.0	6.5	5.5	---	---	11.5	11.0
11	17.0	14.5	16.5	14.5	8.0	7.0	7.0	6.0	---	---	13.5	10.5
12	16.0	13.5	16.0	15.0	7.5	7.5	7.0	6.5	---	---	12.5	9.5
13	16.0	13.5	15.0	13.5	8.5	7.5	7.5	6.5	---	---	11.5	10.0
14	16.5	13.5	13.5	12.0	9.5	8.5	7.0	6.5	---	---	12.5	10.5
15	16.5	13.5	13.5	12.0	10.5	10.0	7.5	6.5	---	---	11.5	9.0
16	16.5	13.5	14.0	13.0	10.0	8.0	7.5	7.0	---	---	10.0	7.5
17	17.0	13.5	13.5	11.5	8.0	7.0	7.5	7.0	---	---	10.0	7.0
18	17.5	14.0	10.5	9.0	9.5	8.0	7.0	6.5	---	---	10.0	8.0
19	18.0	14.5	11.0	9.5	11.0	9.5	6.5	6.0	---	---	11.5	9.0
20	17.5	14.5	11.5	10.5	11.0	10.0	6.0	5.0	12.5	10.5	12.5	8.5
21	18.0	15.0	12.0	11.5	10.0	9.0	6.0	4.5	12.5	10.5	13.5	9.5
22	18.0	15.0	12.0	11.0	9.0	7.5	6.0	5.0	10.5	8.5	13.5	9.5
23	18.0	15.0	12.5	12.0	8.5	7.5	6.5	5.5	9.0	6.5	14.0	10.0
24	17.0	15.0	12.5	10.5	9.5	8.5	8.5	6.0	10.0	6.5	14.5	10.5
25	17.0	14.5	10.0	8.5	9.0	8.0	7.5	7.0	9.5	7.5	13.0	11.5
26	15.0	14.5	9.5	8.5	9.5	8.5	8.5	7.5	9.5	9.0	11.5	9.5
27	14.5	14.0	8.5	8.0	10.0	8.5	8.0	7.0	11.0	8.5	12.5	9.0
28	15.0	14.0	8.5	7.5	8.5	8.0	7.5	6.5	10.0	8.5	12.0	9.5
29	14.5	13.0	8.0	7.0	8.5	7.5	7.0	6.5	---	---	10.0	8.0
30	14.5	13.0	7.5	7.0	9.0	8.0	7.0	6.5	---	---	8.0	7.5
31	15.5	13.5	---	---	9.0	8.5	6.5	6.5	---	---	8.5	8.0
MONTH	19.0	13.0	17.5	7.0	11.0	7.0	8.5	3.5	---	---	14.5	7.0

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	7.5	19.0	14.5	24.0	18.5	---	---	28.0	21.5	25.5	19.0
2	8.0	7.5	19.0	14.5	24.5	19.5	---	---	27.5	21.0	25.0	19.5
3	11.5	8.0	19.5	15.0	23.0	18.0	---	---	26.5	20.5	23.5	20.5
4	11.0	8.0	19.0	14.5	22.0	17.0	---	---	26.5	20.5	24.5	18.0
5	10.5	9.0	19.5	14.5	22.5	15.5	---	---	27.0	21.0	25.5	18.5
6	9.5	7.5	20.0	16.0	24.5	17.5	---	---	28.5	21.0	27.5	20.0
7	10.5	7.5	21.0	16.0	24.0	17.5	25.0	21.0	24.5	22.5	25.5	19.5
8	13.0	8.5	18.5	15.5	24.5	18.5	27.5	20.5	28.0	22.0	26.0	20.0
9	14.0	10.0	18.5	13.5	26.0	18.5	28.0	21.5	27.5	21.5	25.5	20.5
10	13.0	10.5	19.5	14.0	27.0	20.0	29.0	22.0	27.5	21.5	23.0	19.0
11	12.5	10.5	20.0	14.5	23.5	21.0	29.5	23.0	27.5	21.0	22.5	17.0
12	11.0	9.5	21.0	15.0	23.5	19.5	29.5	23.0	26.5	19.0	24.0	18.5
13	11.5	9.5	21.5	16.0	26.0	18.5	29.5	23.0	27.5	19.5	23.0	18.0
14	12.0	10.0	21.5	17.0	26.5	20.5	28.5	23.0	27.0	21.0	22.5	17.0
15	11.5	8.0	21.5	16.5	29.0	21.5	28.0	22.0	27.0	20.5	22.5	17.5
16	13.0	8.5	22.5	16.5	30.0	22.5	28.0	22.0	26.5	20.5	23.0	17.5
17	14.0	9.5	20.5	17.5	30.0	23.5	28.0	21.5	27.0	20.0	19.5	17.5
18	14.0	11.0	20.0	15.0	28.5	23.5	28.5	21.0	27.0	20.5	18.5	16.0
19	14.0	10.5	22.5	15.5	28.0	22.5	28.5	22.0	24.5	21.0	19.5	15.0
20	14.5	11.0	26.0	16.5	29.0	23.0	29.0	22.0	27.0	20.0	21.0	15.5
21	15.0	11.5	25.5	17.5	29.0	23.0	29.0	22.0	27.0	21.0	21.5	15.5
22	16.0	11.5	23.0	18.5	28.0	22.5	29.0	22.0	28.0	21.0	20.5	15.0
23	17.5	13.0	24.0	18.0	29.0	22.5	28.5	22.0	27.5	21.5	20.5	15.5
24	16.5	13.5	25.0	18.5	26.5	22.5	28.0	22.0	27.5	21.0	19.0	17.0
25	16.5	13.0	27.0	20.5	26.5	21.5	28.0	21.5	27.0	21.5	21.5	16.0
26	16.5	13.0	26.5	20.0	25.0	21.5	28.5	21.5	26.0	20.5	20.0	15.5
27	17.5	13.5	26.0	19.0	27.0	21.0	29.0	21.5	26.0	20.5	21.0	15.0
28	17.0	14.0	25.0	17.0	24.0	20.0	29.5	22.0	23.5	20.0	20.0	15.0
29	17.0	13.0	27.0	18.0	21.5	18.5	30.0	22.5	25.5	19.5	19.0	14.5
30	17.5	13.5	25.0	19.0	24.5	18.5	29.5	23.0	25.5	19.0	19.5	15.0
31	---	---	23.5	19.0	---	---	28.0	22.0	25.5	19.0	---	---
MONTH	17.5	7.5	27.0	13.5	30.0	15.5	30.0	20.5	28.5	19.0	27.5	14.5

SACRAMENTO RIVER BASIN

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDEU (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEU (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM
NOV 17...	1315	4260	12.5	780	8970	--	43	59	74	88
DEC 19...	1130	18100	10.0	2340	114000	--	24	37	48	60
22...	1430	5050	8.0	1200	16400	12	17	22	27	33
FEB 17...	1445	5450	10.5	840	12400	--	25	37	47	57
APR 01...	1250	3460	7.5	268	2500	--	--	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV 17...	--	95	--	97	--	98	--	100	--	--
DEC 19...	75	--	92	--	99	--	100	--	--	--
22...	--	39	--	48	--	56	--	71	96	100
FEB 17...	--	67	--	78	--	92	--	98	100	--
APR 01...	--	47	--	57	--	78	--	97	100	--

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDEU (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEU (T/DAY)
NOV 04...	1045	133	14.5	2	.72
17...	1315	4260	12.5	780	8970
DEC 03...	1415	801	8.0	15	32
19...	1130	18100	10.0	2340	114000
22...	1430	5050	8.0	1200	16400
JAN 06...	1400	2820	4.5	124	944
FEB 05...	1045	1250	5.0	16	54
17...	1445	5450	10.5	840	12400
MAR 05...	1230	2530	9.5	142	970
APR 01...	1250	3460	7.5	268	2500
MAY 06...	1300	1060	17.0	18	52

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

LOCATION.--Lat 40°23'54", long 122°08'43", in SW¼NE¼ 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 (6.0 km) downstream from Spring Branch, 5.7 mi (9.2 km) upstream from mouth, and 7.0 mi (11.3 km) east of Cottonwood.

DRAINAGE AREA.--357 mi² (925 km²).

PERIOD OF RECORD.--October 1961 to current year. October 1940 to September 1961 at site 0.6 mi (1.0 km) upstream published as "near Cottonwood"; low-flow records not equivalent owing to Coleman Fish Hatchery diversion.

GAGE.--Water-stage recorder. Altitude of gage is 415 ft (126 m), from topographic map.

REMARKS.--Records good. Flow regulated by four small powerplants, several small reservoirs, and Coleman Fish Hatchery. Coleman Fish Hatchery diverts from 50 ft³/s (1.42 m³/s) to 90 ft³/s (2.55 m³/s) which is returned above the station. At times, 10 ft³/s (0.28 m³/s) diverted above station for irrigation. Maximum flows considered equivalent to former station, Battle Creek near Cottonwood.

AVERAGE DISCHARGE.--21 years, 512 ft³/s (14.50 m³/s), 370,900 acre-ft/yr (457 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft³/s (688 m³/s) Jan. 24, 1970, gage height, 14.75 ft (4.496 m), from rating curve extended above 4,200 ft³/s (119 m³/s) on basis of slope-area measurement of peak flow; minimum since 1961, 52 ft³/s (1.47 m³/s) Aug. 8, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 15.8 ft (4.82 m) Dec. 11, 1937, from floodmarks at former site and datum, discharge, 35,000 ft³/s (991 m³/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,100 ft³/s (87.8 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 16	0100	*18,000 510	12.64 3.853	Feb. 16	0400	4,000 113	5.95 1.814
Nov. 23	1500	5,160 146	6.84 2.085	Mar. 31	1030	3,720 105	5.71 1.740
Dec. 19	2400	3,590 102	5.60 1.707	Apr. 11	0315	4,010 114	5.96 1.817

Minimum daily, 222 ft³/s (6.29 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	318	596	1420	566	1300	1090	886	658	602	325	275
2	224	302	566	1220	551	1090	911	888	624	598	321	273
3	242	293	536	1020	546	910	912	886	607	694	322	277
4	245	289	509	1320	535	885	899	902	629	540	319	278
5	247	287	494	1340	507	804	851	882	598	495	319	273
6	234	285	492	933	497	756	830	875	560	473	316	270
7	413	285	740	814	498	738	791	890	536	466	311	268
8	332	283	609	774	492	723	749	894	532	460	313	264
9	289	281	938	746	485	721	716	857	524	442	309	264
10	373	286	902	712	477	832	1080	805	527	424	306	267
11	529	286	652	687	470	996	3670	774	536	422	308	267
12	361	395	722	658	463	824	2240	748	542	421	305	268
13	311	772	1150	625	971	754	1590	755	547	417	300	269
14	293	1340	1340	615	1570	1410	1510	754	531	414	295	275
15	285	1880	1020	598	2350	1070	1310	769	529	408	296	280
16	266	6380	826	582	2850	929	1160	755	535	395	293	301
17	280	2390	701	569	1620	881	1090	780	561	389	287	309
18	280	1110	1550	574	1270	825	1060	804	597	384	286	328
19	278	772	2200	582	1510	863	1020	756	549	380	281	347
20	269	637	2400	861	1260	812	1000	743	554	373	286	340
21	268	1010	1790	832	1190	765	966	754	538	369	278	325
22	264	1020	1210	648	1410	738	964	759	518	365	278	314
23	267	2980	1010	607	1100	721	981	767	501	360	274	313
24	267	2220	896	605	987	706	983	789	480	349	271	341
25	267	1260	826	597	916	695	994	827	473	348	273	379
26	267	1020	801	870	870	690	962	844	466	348	273	346
27	277	1170	959	740	840	674	940	827	470	345	274	327
28	851	852	802	1020	794	678	953	760	493	345	276	324
29	554	707	2070	722	---	685	926	711	704	338	282	316
30	395	642	2190	633	---	751	901	665	560	335	282	311
31	338	---	1470	594	---	2020	---	650	---	330	277	---
TOTAL	9988	31752	32967	24518	27595	27246	34049	24756	16479	13029	9136	8989
MEAN	322	1058	1063	791	986	879	1135	799	549	420	295	300
MAX	851	6380	2400	1420	2850	2020	3670	902	704	694	325	379
MIN	222	281	492	569	463	674	716	650	466	330	271	264
AC-FT	19810	62980	65390	48630	54730	54040	67540	49100	32690	25840	18120	17830
CAL YR 1981 TOTAL	179265		MEAN 491	MAX 6380	MIN 204	AC-FT 355600						
WTR YR 1982 TOTAL	260504		MEAN 714	MAX 6380	MIN 222	AC-FT 516700						

SACRAMENTO RIVER BASIN

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA

LOCATION.--Lat 40°17'19", long 122°11'08", in NW¼NE¼ sec.15, T.28 N., R.3 W., Tehama County, Hydrologic Unit 18020103, on left bank 2.7 mi (4.3 km) upstream from Bend Bridge, and 8.1 mi (13.0 km) northeast of Red Bluff.

DRAINAGE AREA.--8,900 mi² (23,051 km²), excluding Goose Lake basin.

WATER-DISCHARGE RECORDS

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.

REVISED RECORDS.--WSP 861: 1904, 1907, 1909, 1914-15, 1927-28. WSP 1315-A: 1941(M), 1916(M), 1918(M). WSP 1931: Drainage area. WDR CA-69-2: 1965.

GAGE.--Water-stage recorder. Datum of gage is 285.77 ft (87.103 m) National Geodetic Vertical Datum of 1929. See WSP 2131 for history of changes prior to September 1968.

REMARKS.--Records good. Flow regulated by Shasta Lake (station 11370000) since Dec. 30, 1943. Diversions, in addition to those on tributaries, for irrigation of 22,000 acres (8,900 hm²) between stations at Keswick and above Bend Bridge. Transbasin diversions from Trinity River to Whiskeytown Lake via Judge Francis Carr powerplant (station 11525430) started in April 1963.

AVERAGE DISCHARGE (prior to transbasin diversion from Trinity River).--71 years (water years 1892-1962), 11,400 ft³/s (323 m³/s), 8,259,000 acre-ft/yr (10.2 km³/yr); 20 years (water years 1963-82), 13,370 ft³/s (378.6 m³/s), 9,687,000 acre-ft/yr (11.9 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291,000 ft³/s (8,240 m³/s) Feb. 28, 1940, gage height, 38.9 ft (11.86 m) site and datum then in use, from rating curve extended above 170,000 ft³/s (4,810 m³/s) on basis of velocity-area studies; minimum (water years 1892-1982), 2,000 ft³/s (56.6 m³/s) Mar. 29, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 117,000 ft³/s (3,313 m³/s) Dec. 19, gage height, 29.84 ft (9.095 m); minimum daily, 4,100 ft³/s (116 m³/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4540	4430	17000	36200	16500	35900	29400	21700	14400	10800	13900	11600
2	4520	4440	16600	31000	16100	37900	29900	21200	12300	10900	13800	11700
3	4470	4420	16300	34300	15200	31100	38100	20400	11900	11000	12200	11700
4	4430	4390	16200	39000	12900	29100	31700	20900	11900	10500	12100	11700
5	4490	4520	16100	39400	12200	27400	28300	20900	11600	10200	12200	11700
6	4470	4540	16000	35200	12000	26600	27500	19200	11700	10000	11900	11600
7	4820	4540	17100	33300	11900	26200	26300	16700	11700	9930	11900	10300
8	4580	4530	16500	28800	11700	26000	24100	16300	11700	9810	11900	9740
9	4300	4490	17700	26200	11000	25900	20700	15900	11600	10300	11800	10100
10	4450	4510	21700	25600	9550	26100	17200	16000	11600	10300	11800	10200
11	4720	4530	17800	25300	8130	24500	30900	15800	11600	9930	11800	10200
12	4490	4910	18200	23100	7550	21400	44500	15100	11600	9830	11800	10200
13	4350	6030	24300	17500	10500	20300	44700	14000	11700	10200	11800	10200
14	4300	9880	30700	15200	26600	24300	58000	13500	11500	10500	11900	9470
15	4260	15600	24900	14000	35800	21900	59400	12600	11500	10700	11800	9350
16	4240	61800	21300	11400	63900	22000	57300	12400	11400	11500	11800	9500
17	4250	19400	19100	10600	66900	23800	53400	12300	11400	11800	11800	9680
18	4260	11100	30100	10400	61500	21100	44100	13700	11600	11800	11700	10100
19	4220	8120	78900	10500	62400	20600	35000	14900	11500	11900	11700	10500
20	4100	6870	58700	13900	68300	20000	26500	13700	11400	12100	11700	10600
21	4190	7780	56000	17900	68600	19400	18200	13200	11400	11900	11700	10500
22	4410	11900	50400	17700	68300	18800	13500	12700	11300	11900	11700	9490
23	4370	23600	67700	16600	56000	17400	12600	12400	11300	12000	11600	8500
24	4360	30000	66900	16400	42900	14100	12400	12700	11300	12000	11600	8440
25	4340	22200	63200	16200	34600	12200	11900	15800	11300	11800	11700	8670
26	4370	20300	51600	20700	33500	12100	17300	15700	11200	11500	11700	8530
27	4650	25800	40600	19000	30100	12300	21700	15700	11300	11600	11700	8380
28	6390	21400	30700	27700	26900	11300	19900	15600	11400	11500	11700	8040
29	5510	18500	36000	20900	---	10900	18300	15600	12100	11900	11700	8160
30	4760	17400	37400	18300	---	12700	20800	15300	11200	13900	11700	8040
31	4390	---	31800	17000	---	28800	---	15300	---	13900	11700	---
TOTAL	140000	391930	1027500	689300	901530	682100	893600	487200	349400	347900	369800	296890
MEAN	4516	13060	33150	22240	32200	22000	29790	15720	11650	11220	11930	9896
MAX	6390	61800	78900	39400	68600	37900	59400	21700	14400	13900	13900	11700
MIN	4100	4390	16000	10400	7550	10900	11900	12300	11200	9810	11600	8040
AC-FT	277700	777400	2038000	1367000	1788000	1353000	1772000	966400	693000	690100	733500	588900
CAL YR 1981 TOTAL	4643600	MEAN	12720	MAX	78900	MIN	4100	AC-FT	9211000			
WTR YR 1982 TOTAL	6577150	MEAN	18020	MAX	78900	MIN	4100	AC-FT	13050000			

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955 to current year.

CHEMICAL ANALYSES: Water years 1955-81. Reported as "Sacramento River at Bend" May 1955 to September 1973; as Sacramento River at Bend Bridge (station 11377200) October 1973 to September 1976.

WATER TEMPERATURES: Water years 1955 to June 1980, water years 1955-63 reported as station 11377200 and water years 1964-70 reported as station 11378000.

SEDIMENT RECORDS: Water years 1958-70 (water years 1958-67 reported as station 11378500 and water years 1968-70 reported as station 11377200), 1977 to current year.

TURBIDITY: Water years 1977-81.

PERIOD OF DAILY RECORD:

CHEMICAL ANALYSES: May 1955 to September 1963.

SPECIFIC CONDUCTANCE: May 1955 to September 1963.

WATER TEMPERATURES: May 1955 to June 1980.

SEDIMENT RECORDS: October 1957 to September 1970, January 1977 to May 1980, (storm season only for water years 1977, 1979-80).

INSTRUMENTATION.--Temperature recorder from March 1970 to June 1980.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV								
19...	1050	8190	11.0	55	1220	--	--	--
30...	1130	17400	10.5	32	1500	--	--	--
DEC								
22...	1100	49100	10.0	186	24700	24	29	38
		SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV								
19...	--	--	76	84	91	100	--	--
30...	--	--	53	--	--	--	--	--
DEC								
22...	45	55	63	78	93	99	100	

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT CONCENTRATION,
WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV					
03...	1045	4430	13.5	8	96
19...	1050	8190	11.0	55	1220
30...	1130	17400	10.5	32	1500
DEC					
22...	1100	49100	10.0	186	24700
FEB					
04...	1030	12600	7.5	15	510
APR					
05...	1145	27800	10.5	42	3150
MAY					
04...	1045	20900	10.0	16	903

SACRAMENTO RIVER BASIN

11378800 RED BANK CREEK NEAR RED BLUFF, CA

LOCATION.--Lat 40°05'25", long 122°24'45", in NEkSEk sec.22, T.26 N., R.5 W., Tehama County, Hydrologic Unit 18020103, on road bridge near left bank 0.1 mi (0.2 km) downstream from unnamed tributary, 1.8 mi (2.9 km) southeast of town of Red Bank, and 11 mi (18 km) southwest of Red Bluff.

DRAINAGE AREA.--89.6 mi² (232.1 km²).

PERIOD OF RECORD.--October 1959 to September 1982.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 470 ft (143 m), from topographic map.

REMARKS.--Some small storage ponds and possibly some diversions for irrigation upstream.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--23 years, 48.7 ft³/s (1.379 m³/s), 35,280 acre-ft/yr (43.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,730 ft³/s (276 m³/s) Jan. 5, 1965, gage height, 10.06 ft (3.066 m); maximum gage-height, 10.20 ft (3.109 m) Feb. 17, 1980; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,540 ft³/s (129 m³/s) Dec. 19, gage height, 8.61 ft (2.624 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	49	146	67	883	238	28	4.6	8.9	.01	.01
2	0	0	38	143	59	305	608	26	4.7	8.3	0	0
3	0	0	30	152	53	184	314	25	4.5	6.6	0	0
4	0	0	25	574	46	143	224	22	4.3	5.2	0	0
5	0	0	21	434	40	117	188	21	4.2	3.8	0	0
6	0	0	19	268	37	104	153	20	4.2	3.0	0	0
7	0	0	18	188	35	96	129	19	4.4	2.4	0	0
8	0	0	14	154	33	97	115	18	4.5	2.1	0	0
9	0	0	13	137	30	89	99	16	4.5	1.9	0	0
10	0	0	21	125	30	122	106	17	4.4	1.5	0	0
11	0	0	16	108	27	151	195	16	4.1	1.3	0	0
12	0	0	30	91	25	110	118	16	4.1	1.1	0	0
13	0	51	50	76	64	89	111	15	4.5	.99	0	0
14	0	47	71	67	203	153	104	14	4.2	.65	0	0
15	0	490	48	60	713	143	87	13	3.2	.32	0	0
16	0	528	38	52	414	307	77	13	2.8	.22	0	0
17	0	179	30	48	174	262	71	12	2.6	.18	0	0
18	0	66	800	45	120	181	65	13	3.6	.11	0	0
19	0	38	1540	43	125	151	59	11	2.4	.05	0	0
20	0	25	497	141	97	132	54	9.9	2.0	.01	0	0
21	0	27	248	185	82	180	52	9.6	2.0	0	0	0
22	0	30	172	95	68	128	49	8.8	2.0	0	0	0
23	0	192	113	67	58	113	45	7.7	2.1	0	0	0
24	0	104	82	62	53	103	44	6.8	2.2	0	0	0
25	0	47	65	54	49	103	41	6.1	2.1	0	0	0
26	0	35	56	59	49	98	38	5.5	1.8	0	0	0
27	0	728	47	51	57	92	37	5.4	2.0	0	0	0
28	32	187	39	312	49	93	34	4.9	59	0	0	0
29	0	97	134	140	---	102	31	4.6	73	0	0	0
30	0	64	89	102	---	156	29	4.4	13	0	0	0
31	0	---	80	82	---	714	---	4.1	---	0	0	---
TOTAL	32	2935	4493	4261	2857	5701	3515	412.8	237.0	48.63	.01	.01
MEAN	1.03	97.8	145	137	102	184	117	13.3	7.90	1.57	.0003	.0003
MAX	32	728	1540	574	713	883	608	28	73	8.9	.01	.01
MIN	0	0	13	43	25	89	29	4.1	1.8	0	0	0
AC-FT	63	5820	8910	8450	5670	11310	6970	819	470	96	.02	.02
CAL YR 1981	TOTAL	24882.80	MEAN 68.2	MAX 2950	MIN 0	AC-FT 49360						
WTR YR 1982	TOTAL	24492.45	MEAN 67.1	MAX 1540	MIN 0	AC-FT 48580						

11379000 ANTELOPE CREEK NEAR RED BLUFF, CA

LOCATION.--Lat 40°12'08", long 122°07'05", in Rio De Los Berrendos Grant, Tehama County, Hydrologic Unit 18020119, on right bank 1.8 mi (2.9 km) upstream from diversion dam of Los Molinos Mutual Water Co., 6.5 mi (10.5 km) east of Red Bluff, and 9.7 mi (15.6 km) upstream from mouth.

DRAINAGE AREA.--123 mi² (319 km²).

PERIOD OF RECORD.--October 1940 to September 1982 (discontinued).

REVISED RECORDS.--WSP 1315-A: 1949(M). WSP 1931: Drainage area. WDR CA-79-4: 1978(M).

GAGE.--Water-stage recorder. Altitude of gage is 360 ft (110 m), from topographic map. Prior to Sept. 18, 1954, at site 0.6 mi (1.0 km) downstream at different datum. Sept. 18, 1954, to July 9, 1969, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good. No diversion above station.

AVERAGE DISCHARGE.--42 years, 151 ft³/s (4.276 m³/s), 109,400 acre-ft/yr (135 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,200 ft³/s (487 m³/s) Jan. 23, 1970, gage height, 17.95 ft (5.471 m) from rating curve extended above 6,000 ft³/s (170 m³/s) on basis of slope-area measurement at gage height 15.96 ft (4.865 m), present datum; minimum, 8.2 ft³/s (0.23 m³/s) Oct. 27, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1937 reached a stage of about 22 ft (6.7 m) from floodmarks, at former site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 15	2345	*11,300 320	15.08 4.596	Mar. 31	0845	5,040 143	11.68 3.560
Nov. 23	1345	2,570 72.8	9.56 2.914	Apr. 11	0300	4,830 137	11.53 3.514
Feb. 15	2100	2,310 65.4	9.28 2.829				

Minimum daily, 37 ft³/s (1.05 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	55	193	844	199	644	833	264	122	98	48	44
2	37	48	162	655	175	537	596	264	118	90	48	44
3	38	46	135	470	161	389	533	264	116	133	49	43
4	38	45	114	640	145	367	531	261	120	95	49	43
5	38	44	101	672	129	312	400	257	113	83	49	42
6	38	43	90	417	117	264	353	256	105	78	48	42
7	56	43	156	313	110	240	306	246	101	75	48	41
8	64	42	131	269	104	222	269	252	96	72	50	41
9	46	42	219	244	96	214	249	240	92	69	48	41
10	58	42	328	224	90	244	506	221	89	68	47	41
11	162	42	215	205	83	318	2890	205	87	66	47	41
12	69	93	245	186	76	260	1370	195	90	65	47	41
13	53	411	392	166	146	233	939	188	98	64	47	41
14	49	559	365	152	418	476	789	183	90	62	46	41
15	46	1790	373	140	1410	373	657	176	86	60	46	42
16	45	3790	309	129	1580	321	532	176	81	60	46	49
17	44	1470	246	120	863	302	452	181	80	60	46	47
18	44	568	654	112	605	275	404	183	100	59	45	55
19	43	337	1250	119	594	321	370	172	83	58	45	62
20	43	236	1300	177	498	295	348	169	80	57	46	52
21	43	351	925	213	467	249	328	167	78	56	45	47
22	43	389	635	183	576	223	316	165	76	56	44	46
23	43	1230	471	182	424	204	314	165	74	55	44	45
24	43	1210	370	207	361	191	311	165	74	54	44	55
25	43	640	316	217	316	180	308	169	73	54	44	65
26	43	527	277	596	285	173	298	169	71	53	44	51
27	45	626	279	392	261	164	286	165	72	52	44	48
28	321	434	234	522	235	171	282	151	74	51	44	46
29	173	302	731	357	---	179	276	140	139	50	47	46
30	91	235	971	275	---	628	270	132	101	50	46	45
31	64	---	798	231	---	2590	---	126	---	49	44	---
TOTAL	2000	15690	12985	9629	10524	11559	16316	6067	2779	2052	1435	1387
MEAN	64.5	523	419	311	376	373	544	196	92.6	66.2	46.3	46.2
MAX	321	3790	1300	844	1580	2590	2890	264	139	133	50	65
MIN	37	42	90	112	76	164	249	126	71	49	44	41
AC-FT	3970	31120	25760	19100	20870	22930	32360	12030	5510	4070	2850	2750
CAL YR 1981	TOTAL	57640	MEAN 158	MAX 3790	MIN 28	AC-FT 114300						
WTR YR 1982	TOTAL	92423	MEAN 253	MAX 3790	MIN 37	AC-FT 183300						

SACRAMENTO RIVER BASIN

11379500 ELDER CREEK NEAR PASKENTA, CA

LOCATION.--Lat 40°01'29", long 122°30'31", in SE¼NW¼ sec.14, T.25 N., R.6 W., Tehama County, Hydrologic Unit 18020103, on left bank 2.5 mi (4.0 km) downstream from South Fork Elder Creek, 8.2 mi (13.2 km) northwest of Flournoy, and 10 mi (19 km) north of Paskenta.

DRAINAGE AREA.--92.4 mi² (239.3 km²).

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

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 (218.88 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 13, 1965, water-stage recorder at site 300 ft (91 m) downstream at datum 5.13 ft (1.564 m) lower.

REMARKS.--Records good. No regulation or large diversion above station.

AVERAGE DISCHARGE.--34 years, 101 ft³/s (2.860 m³/s), 73,170 acre-ft/yr (90.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s (331 m³/s) Feb. 24, 1958, gage height, 13.90 ft (4.237 m) site and datum then in use, from rating curve extended above 3,500 ft³/s (99.1 m³/s) on basis of slope-area measurements at gage heights 10.97 ft (3.344 m) and 13.90 ft (4.237 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 15	1530	2,770 78.4	6.89 2.100	Mar. 1	0845	3,280 92.9	7.38 2.249
Dec. 19	1630	*5,280 150	8.95 2.728	Mar. 31	0400	1,500 42.5	5.42 1.652
Feb. 15	1915	3,760 106	7.79 2.374				

Minimum daily, 1.90 ft³/s (0.054 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	15	104	337	128	1150	260	174	48	32	7.2	4.1
2	2.0	13	96	281	122	491	432	171	47	30	7.0	3.8
3	2.7	12	86	270	120	331	287	166	44	26	7.0	3.7
4	3.0	11	78	349	113	272	235	156	43	24	7.5	3.7
5	2.9	10	72	345	107	236	211	144	43	23	7.5	3.4
6	2.8	10	79	251	102	212	192	137	41	21	7.0	3.2
7	4.1	9.7	99	205	99	199	178	136	40	20	6.7	3.0
8	5.3	9.5	85	187	95	204	167	130	38	20	7.1	2.8
9	4.7	9.2	95	183	92	188	159	122	36	19	6.6	2.8
10	6.6	9.9	116	188	91	241	211	114	35	17	6.5	2.8
11	8.9	11	97	197	84	252	569	107	35	16	6.4	2.7
12	5.9	35	140	183	80	221	420	101	37	16	6.0	2.5
13	5.1	175	152	163	209	201	390	98	38	15	6.0	2.6
14	4.9	196	192	152	719	237	395	98	34	13	5.6	2.7
15	4.5	956	177	142	1600	252	319	94	31	13	6.2	2.9
16	4.3	993	157	135	1360	367	275	89	29	13	5.4	3.5
17	4.2	475	135	129	652	289	256	87	28	13	4.8	6.2
18	3.9	208	1020	127	426	227	251	84	29	13	4.7	18
19	3.8	135	2790	124	383	203	240	78	28	12	4.1	16
20	3.9	100	1550	172	336	191	235	73	27	12	4.4	8.9
21	3.9	191	842	165	293	221	230	71	27	11	3.7	7.2
22	3.8	168	457	136	255	184	235	68	29	11	4.2	6.2
23	3.8	646	331	129	222	173	254	64	27	10	3.8	5.8
24	3.7	355	260	127	200	164	261	60	27	9.8	3.1	5.9
25	3.6	216	219	129	181	169	252	58	26	9.4	3.7	6.8
26	3.8	185	195	158	186	162	240	57	26	9.1	3.9	6.2
27	68	393	175	143	182	152	227	55	26	8.7	4.1	5.5
28	230	210	157	266	170	153	215	52	123	8.6	4.3	5.3
29	54	149	350	167	---	167	192	50	93	8.3	4.4	4.8
30	25	119	308	146	---	231	178	48	35	7.8	4.5	4.9
31	17	---	320	136	---	610	---	48	---	7.6	4.4	---
TOTAL	502.0	6025.3	10934	5822	8607	8350	7966	2990	1170	469.3	167.8	157.9
MEAN	16.2	201	353	188	307	269	266	96.5	39.0	15.1	5.41	5.26
MAX	230	993	2790	349	1600	1150	569	174	123	32	7.5	18
MIN	1.9	9.2	72	124	80	152	159	48	26	7.6	3.1	2.5
AC-FT	996	11950	21690	11550	17070	16560	15800	5930	2320	931	333	313
CAL YR 1981 TOTAL	40702.92			MEAN 112	MAX 2790	MIN .23	AC-FT 80730					
WTR YR 1982 TOTAL	53161.30			MEAN 146	MAX 2790	MIN 1.9	AC-FT 105400					

LOCATION.--Lat 40°03'17", long 122°01'23", in NE¼NW¼ sec.6, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on right bank 4.5 mi (7.2 km) northeast of Los Molinos, and 5.5 mi (8.8 km) upstream from mouth.

PERIOD OF RECORD.--September 1909 to August 1913 (fragmentary), October 1928 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 385 ft (117 m), from topographic map. Prior to September 1913, nonrecording gage at site 0.3 mi (0.5 km) downstream at different datum.

AVERAGE DISCHARGE.--54 years (water years 1929-82), 303 ft³/s (8,581 m³/s), 219,500 acre-ft/yr (271 hm³/yr).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft³/s (68.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 16	0130	*11,400 323	12.64 3.853	Feb. 16	0230	5,550 157	9.43 2.874
Nov. 23	1230	5,830 165	9.63 2.935	Mar. 31	0830	6,060 172	9.74 2.969
Dec. 19	2330	4,740 134	8.87 2.704	Apr. 11	0215	6,070 172	9.75 2.972

Minimum daily, 90 ft³/s (2.549 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	146	372	966	329	755	823	636	450	364	176	133
2	90	138	345	808	300	770	703	644	442	351	174	131
3	93	128	319	631	291	607	724	645	437	389	170	129
4	93	120	296	768	279	553	629	657	439	343	169	129
5	90	116	278	815	263	474	520	629	395	312	168	127
6	90	114	271	563	253	424	473	619	374	293	162	127
7	127	112	498	452	250	398	426	648	366	283	160	125
8	127	110	373	402	246	384	398	653	373	279	165	124
9	102	108	409	377	241	380	384	595	380	274	159	123
10	153	106	449	363	236	445	830	530	393	268	156	123
11	354	109	363	356	231	612	3830	484	418	262	155	123
12	149	330	378	347	226	543	2130	468	402	266	154	123
13	117	1120	495	331	302	478	1400	490	384	265	150	123
14	108	1370	542	318	936	618	1320	501	393	262	148	123
15	104	2890	535	307	2400	567	1090	501	416	257	147	126
16	102	5900	485	292	3260	499	861	510	452	247	146	130
17	100	2710	406	282	1390	460	750	553	463	238	145	137
18	99	980	746	277	956	420	703	523	454	232	143	146
19	98	592	2170	276	917	507	657	513	441	224	142	164
20	97	435	2820	312	849	453	632	513	463	215	143	153
21	96	843	1480	343	800	404	604	534	435	211	141	140
22	95	856	976	302	897	377	608	543	407	206	139	134
23	95	2990	770	276	688	359	644	581	389	202	138	131
24	93	2180	627	291	586	344	697	614	381	200	136	148
25	93	1080	542	311	517	334	706	666	367	193	135	172
26	93	851	504	719	473	325	672	682	351	192	135	142
27	96	830	586	518	439	314	665	667	342	189	132	136
28	884	618	468	576	405	327	689	570	365	186	132	133
29	431	485	1050	445	---	345	658	514	431	184	138	132
30	202	404	1290	384	---	863	634	474	367	181	138	131
31	159	---	1030	358	---	2690	---	475	---	178	134	---
TOTAL	4720	28771	21873	13766	18960	17029	25860	17632	12170	7746	4630	4018
MEAN	152	959	706	444	677	549	862	569	406	250	149	134
MAX	884	5900	2820	966	3260	2690	3830	682	463	389	176	172
MIN	90	106	271	276	226	314	384	468	342	178	132	123
AC-FT	9360	57070	43390	27300	37610	33780	51290	34970	24140	15360	9180	7970

CAL YR 1981	TOTAL	117312	MEAN	321	MAX	5900	MIN	78	AC-FT	232700
WTR YR 1982	TOTAL	177175	MEAN	485	MAX	5900	MIN	90	AC-FT	351400

11382000 THOMES CREEK AT PASKENTA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959 to current year.

CHEMICAL ANALYSES: Water years 1959-81.

WATER TEMPERATURES: Water years 1962-79, November 1980 to current year.

SEDIMENT RECORDS: Water years 1963-73, November 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1961 to January 1979, November 1980 to current year (storm season only).

SEDIMENT RECORDS: October 1962 to September 1973, November 1980 to current year (storm season only).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 60,200 mg/L Dec. 22, 1964; minimum daily mean, no flow, Oct. 4, 1964.

SEDIMENT DISCHARGE: Maximum daily, 5,070,000 tons (4,600,000 metric tons) Dec. 22, 1964; minimum daily, 0 ton (0 metric ton) at times during some years.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 4,890 mg/L Feb. 16; minimum daily mean, 1 mg/L Nov. 4-10.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 136,000 tons (123,000 metric tons) Dec. 19; minimum daily, 0.10 ton (0.09 metric ton) Nov. 10.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	6.5	5.5	---	9.0	5.0	10.0				
2		---	6.5	4.5	10.0	8.5	5.0	10.0				
3		---	6.5	4.0	6.5	7.5	6.5	10.5				
4		---	7.5	2.5	---	7.0	5.0	10.0				
5		12.5	7.5	4.0	8.0	6.0	7.5	14.0				
6		---	8.0	3.0	---	6.5	5.0	11.0				
7		---	8.0	2.0	---	7.0	6.0	11.5				
8		---	6.5	3.0	6.0	7.5	6.5	11.0				
9		11.5	8.0	7.0	6.0	8.0	6.5	---				
10		---	7.0	8.5	5.5	9.0	8.0	9.5				
11		13.5	7.0	7.0	6.5	7.5	7.0	---				
12		13.0	7.0	6.0	4.0	7.0	9.5	10.0				
13		11.0	8.0	5.0	6.5	9.0	7.5	---				
14		9.5	8.0	5.5	8.0	10.0	7.5	---				
15		10.0	9.5	6.0	8.5	6.0	5.5	---				
16		12.5	6.0	6.0	8.0	6.0	6.0	---				
17		9.5	6.5	5.5	9.5	6.0	7.0	---				
18		7.0	8.5	5.5	8.0	5.5	7.5	---				
19		8.0	10.0	4.5	9.0	6.0	8.0	11.0				
20		9.0	10.0	4.0	9.5	6.0	7.5	---				
21		10.0	7.0	5.5	11.0	7.0	7.5	---				
22		10.5	6.5	3.5	6.5	7.0	12.0	---				
23		10.5	7.0	5.0	5.5	8.0	12.0	---				
24		10.0	7.0	5.5	6.0	7.0	11.5	---				
25		7.5	8.0	6.0	7.0	9.5	11.5	---				
26		8.0	8.0	6.0	7.0	8.0	12.0	15.5				
27		6.5	8.0	4.0	9.5	7.5	12.5	---				
28		6.5	6.5	5.0	7.0	9.0	9.0	---				
29		6.0	7.0	4.0	---	8.0	8.5	---				
30		7.0	7.5	5.0	---	6.5	9.0	---				
31		---	8.0	4.5	---	6.0	---	---				
MONTH		---	7.5	5.0	7.5	7.5	8.0	---				

SACRAMENTO RIVER BASIN

11382000 THOMES CREEK AT PASKENTA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1981 TO MAY 1982

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				102	4	1.1	326	34	30
2				84	3	.68	323	26	23
3				72	2	.39	300	26	21
4				59	1	.16	273	18	13
5				55	1	.15	248	24	16
6				53	1	.14	395	76	169
7				51	1	.14	701	299	566
8				47	1	.13	497	126	169
9				42	1	.11	467	100	154
10				38	1	.10	628	280	475
11				66	2	.36	482	136	177
12				212	23	19	473	104	133
13				541	159	777	640	247	584
14				1250	422	2020	982	399	1060
15				4680	3830	85900	1090	466	1370
16				3380	2880	26300	875	187	442
17				2260	1710	10400	692	120	224
18				979	600	1590	2910	2250	31500
19				645	260	453	8500	4840	136000
20				501	159	215	5840	3250	55900
21				1220	1150	4930	3020	1250	10200
22				956	400	1030	1700	850	3900
23				2700	2230	21200	1230	382	1270
24				2040	955	5260	966	220	574
25				1110	332	995	825	171	381
26				819	193	427	766	136	281
27				705	166	316	814	132	290
28				544	122	179	695	90	169
29				438	66	78	1690	969	6320
30				365	40	39	1750	525	2480
31				---	---	---	1300	296	1040
TOTAL				26014	---	162131.5	41398	---	255931

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1140	236	726	398	16	17	1330	747	3390
2	926	219	548	393	16	17	1060	320	916
3	768	158	328	408	15	17	823	165	367
4	772	111	231	407	14	15	733	115	228
5	685	88	163	382	13	13	698	82	155
6	575	75	116	363	10	9.8	637	66	114
7	505	42	57	346	10	9.3	616	73	121
8	474	37	47	333	9	8.1	615	80	133
9	470	36	46	317	9	7.7	626	60	101
10	505	39	53	314	7	5.9	772	224	544
11	518	55	77	304	5	4.1	852	264	607
12	576	46	72	287	6	4.6	714	140	270
13	518	36	50	920	858	4010	653	82	145
14	518	26	36	4090	2370	27600	650	60	105
15	518	34	48	6380	3820	112000	646	49	85
16	505	44	60	7100	4890	114000	666	87	156
17	493	31	41	3270	1670	14700	552	40	60
18	493	27	36	2020	865	4720	463	30	38
19	476	26	33	1980	955	5110	424	27	31
20	505	35	48	1640	454	2010	403	18	20
21	452	28	34	1390	302	1130	376	16	16
22	404	23	25	1150	228	708	355	14	13
23	393	17	18	916	193	477	337	13	12
24	393	21	22	767	161	333	322	11	9.6
25	414	22	25	692	116	217	350	14	13
26	481	36	47	631	72	123	365	14	14
27	458	38	47	586	62	98	329	12	11
28	493	54	72	544	50	73	335	12	11
29	419	26	29	---	---	---	351	21	20
30	409	17	19	---	---	---	397	36	39
31	404	16	17	---	---	---	630	196	383
TOTAL	16660	---	3171	38328	---	287437.5	18080	---	8127.6

11382000 THOMES CREEK AT PASKENTA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1981 TO MAY 1982

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	432	69	80	947	63	161			
2	472	104	133	904	62	151			
3	503	135	183	892	64	154			
4	443	105	126	866	57	133			
5	425	55	63	825	46	102			
6	407	47	52	849	43	99			
7	383	31	32	831	50	112			
8	364	23	23	722	31	60			
9	368	32	32	703	33	63			
10	572	224	512	564	29	44			
11	2400	1950	13300	477	23	30			
12	1960	730	3860	442	19	23			
13	1620	531	2320	475	17	22			
14	2030	742	4070	533	16	23			
15	1440	304	1180	514	15	21			
16	1190	215	691	501	14	19			
17	1190	206	662	512	12	17			
18	1320	220	784	488	12	16			
19	1330	212	761	433	11	13			
20	1380	251	935	421	11	13			
21	1430	231	892	430	11	13			
22	1630	264	1160	426	12	140			
23	1830	330	1630	421	12	14			
24	1820	276	1360	425	12	14			
25	1630	218	959	426	13	15			
26	1540	156	649	418	13	15			
27	1400	120	454	356	10	9.6			
28	1290	99	345	292	8	6.3			
29	1100	82	244	255	7	4.8			
30	985	66	176	229	6	3.7			
31	---	---	---	217	6	3.5			
TOTAL	34884	---	37668	16794	---	1514.9			

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1981 TO MAY 1982

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1981	26014.00	162131.46	16000	178000
DECEMBER ...	41398.00	255931.00	21900	278000
JANUARY 1982	16660.00	3171.00	4420	7590
FEBRUARY ...	38328.00	287437.50	19300	307000
MARCH	18080.00	8127.60	6580	14700
APRIL	34884.00	37668.00	24600	62300
MAY	16794.00	1514.90	5370	6880
TOTAL	192158.00	755981.46	98170	854470

SACRAMENTO RIVER BASIN

11382000 THOMES CREEK AT PASKENTA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
NOV 16...	1350	3640	12.5	2760	27100	--	21	30	40	50	--
DEC 20...	1120	5260	10.0	2960	42000	--	24	34	44	56	66
FEB 14...	1810	3850	8.0	1410	14700	23	31	40	50	60	--
16...	1120	6200	8.0	4290	71800	--	24	34	46	57	69

DATE	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV 16...	58	--	68	--	81	--	93	--	99	100
DEC 20...	--	79	--	92	--	99	--	100	--	--
FEB 14...	68	--	79	--	90	--	98	--	100	--
16...	--	81	--	93	--	99	--	100	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
DEC 02...	1110	6.5	1	330	--	0	1
02...	1115	6.5	1	330	--	--	0
02...	1120	6.5	1	330	--	0	2
02...	1125	6.5	1	330	0	1	4
JAN 07...	1145	2.0	1	505	--	0	3
07...	1150	2.0	1	505	--	0	2
07...	1155	2.0	1	505	--	0	1

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
DEC 02...	1	13	66	95	100	--
02...	11	42	70	88	93	100
02...	7	14	24	46	74	100
02...	7	10	18	34	51	100
JAN 07...	13	22	34	57	80	100
07...	13	27	41	60	79	100
07...	23	82	98	100	--	--

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	STREAM WIDTH (FT)	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
MAR 10...	1120	9.0	11	728	119	241	0
DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM
MAR 10...	2	15	46	78	93	98	100

11383500 DEER CREEK NEAR VINA, CA

LOCATION.--Lat 40°00'51", long 121°56'50", in NW¼NE¼ sec.23, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on left bank 0.5 mi (0.8 km) upstream from diversion dam, and 7.9 mi (12.7 km) northeast of Vina.

DRAINAGE AREA.--208 mi² (539 km²).

PERIOD OF RECORD.--October 1911 to December 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 (146.06 m), revised, National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Oct. 9, 1928, nonrecording gage at site 0.8 mi (1.3 km) downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, water-stage recorder at present site at datum 2.64 ft (0.805 m) higher.

REMARKS.--Records good. No storage or large diversions above station.

AVERAGE DISCHARGE.--64 years, 317 ft³/s (8.977 m³/s), 229,700 acre-ft/yr (283 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,800 ft³/s (674 m³/s) Dec. 10, 1937, gage height, 19.2 ft (5.85 m) present datum, from floodmarks, from rating curve extended above 9,200 ft³/s (261 m³/s) on basis of velocity-area studies; minimum, 43 ft³/s (1.22 m³/s) Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 16	0115	*9,180 260	10.97 3.344	Feb. 16	0415	6,820 193	9.95 3.033
Nov. 23	1400	6,290 178	9.69 2.954	Mar. 31	0815	6,970 197	10.02 3.054
Dec. 20	0015	5,410 153	9.23 2.813	Apr. 11	0245	8,030 227	10.48 3.194

Minimum daily, 83 ft³/s (2.35 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	137	414	1410	393	1440	1250	850	331	237	143	136
2	83	125	375	1150	370	1390	1220	833	320	212	143	134
3	86	118	344	886	362	1050	1490	814	309	206	144	134
4	86	113	317	1010	345	906	1210	800	304	196	143	136
5	85	110	298	992	319	782	943	769	303	189	143	134
6	85	107	283	755	304	695	818	737	290	184	143	133
7	123	107	422	626	302	645	730	732	281	181	143	132
8	127	104	349	560	292	607	662	725	268	176	148	131
9	97	102	355	518	282	581	640	692	260	174	144	130
10	125	102	442	488	274	618	1190	637	253	173	141	130
11	266	103	363	464	263	1040	6550	600	247	171	141	129
12	148	172	356	438	252	840	4180	564	248	168	142	129
13	114	1030	402	406	300	729	2760	544	254	166	141	130
14	103	1230	477	388	923	797	2480	538	244	163	140	129
15	98	2150	503	372	2610	803	2070	545	232	162	137	129
16	95	4650	480	356	4480	735	1650	516	224	162	133	136
17	94	2890	419	345	2290	693	1400	513	225	161	130	138
18	92	982	541	341	1610	647	1290	509	230	159	130	146
19	92	529	2410	342	1420	668	1180	483	222	157	133	160
20	92	382	4230	405	1250	619	1120	465	235	155	132	156
21	91	819	2530	386	1140	572	1050	455	218	155	138	141
22	90	933	1650	337	1260	533	1030	446	207	153	138	138
23	90	3520	1210	326	981	502	1040	438	202	152	136	135
24	90	2870	938	338	860	478	1070	430	201	151	138	146
25	90	1460	789	365	771	463	1060	427	199	149	136	160
26	90	1080	710	824	712	448	1010	426	191	148	136	146
27	94	1020	770	649	663	435	968	420	190	148	136	140
28	639	728	637	667	605	451	964	396	191	147	136	138
29	416	565	1240	532	---	472	911	378	234	145	138	136
30	207	473	1690	463	---	1020	875	363	217	144	140	137
31	156	---	1440	423	---	3620	---	345	---	143	138	---
TOTAL	4227	28711	27384	17562	25633	25279	44811	17390	7330	5187	4304	4129
MEAN	136	957	883	567	915	815	1494	561	244	167	139	138
MAX	639	4650	4230	1410	4480	3620	6550	850	331	237	148	160
MIN	83	102	283	326	252	435	640	345	190	143	130	129
AC-FT	8380	56950	54320	34830	50840	50140	88880	34490	14540	10290	8540	8190

CAL YR 1981	TOTAL	114275	MEAN 313	MAX 4650	MIN 74	AC-FT 226700
WTR YR 1982	TOTAL	211947	MEAN 581	MAX 6550	MIN 83	AC-FT 420400

SACRAMENTO RIVER BASIN

11384000 BIG CHICO CREEK NEAR CHICO, CA

LOCATION.--Lat 39°46'35", long 121°45'10", in Arroyo Chico Grant, Butte County, Hydrologic Unit 18020119, on right bank 1.8 mi (2.9 km) upstream from golf clubhouse in Bidwell Park, 2.6 mi (4.2 km) upstream from Lindo Channel, and 7 mi (11 km) northeast of Chico.

DRAINAGE AREA.--72.4 mi² (187.5 km²).

PERIOD OF RECORD.--May 1930 to current year. Prior to October 1952, published as Chico Creek near Chico.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 300 ft (91 m), from topographic map. Prior to Oct. 1, 1955, at site 0.6 mi (1.0 km) downstream at different datum.

REMARKS.--Records fair. No storage or large diversion above station.

AVERAGE DISCHARGE.--52 years, 146 ft³/s (4.135 m³/s), 105,800 acre-ft/yr (130 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,580 ft³/s (271 m³/s) Jan. 5, 1965, gage height, 15.36 ft (4.682 m); minimum, 10 ft³/s (0.28 m³/s) Dec. 11, 1932, Aug. 15, 1939, Sept. 18, 1947.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft³/s (45.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 16	0230	4,890 138	10.38 3.614	Feb. 16	0015	3,000 85.0	7.96 2.426
Nov. 23	1345	2,000 56.6	6.48 1.975	Mar. 31	0930	3,870 110	9.12 2.780
Dec. 19	2115	3,500 99.1	8.64 2.633	Apr. 11	0600	*6,750 191	11.14 3.395

Minimum daily, 21 ft³/s (0.59 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	50	224	1010	260	682	1620	217	64	49	29	28
2	21	41	198	726	242	789	1290	205	62	48	30	27
3	22	37	177	523	232	592	1430	193	61	46	30	26
4	23	35	161	588	222	492	1070	181	61	43	30	25
5	22	33	147	567	204	422	747	170	60	42	30	25
6	22	31	137	470	184	367	598	160	59	41	30	25
7	44	30	150	375	171	331	503	153	58	37	30	25
8	46	29	138	335	161	309	429	147	57	39	31	25
9	27	29	145	308	151	281	393	144	56	38	32	25
10	37	28	215	285	142	293	693	137	55	35	31	25
11	87	28	184	270	133	410	4880	133	55	37	30	25
12	42	86	190	255	122	420	2820	126	56	35	30	32
13	31	416	255	242	175	365	1700	119	58	36	30	25
14	27	553	322	225	452	379	1370	114	57	35	30	25
15	25	1350	313	216	1660	388	1040	111	55	34	30	24
16	25	2680	284	216	2110	368	768	105	55	34	29	26
17	25	1710	250	202	1170	360	598	102	54	34	29	30
18	24	640	404	179	781	341	505	101	54	33	29	33
19	24	376	1970	168	618	312	447	96	58	33	29	38
20	23	263	2310	272	510	290	416	92	64	33	29	35
21	23	417	1250	241	449	270	386	88	57	33	28	30
22	24	506	750	200	403	250	360	86	55	33	28	29
23	23	1310	546	181	374	232	344	82	54	32	27	28
24	23	1240	427	183	324	216	331	78	53	32	27	35
25	23	662	348	195	299	201	315	75	52	30	26	43
26	23	548	301	561	275	189	299	74	51	31	27	34
27	27	584	280	552	270	181	280	74	52	31	27	30
28	259	458	240	486	247	189	262	70	53	31	27	26
29	239	350	737	378	---	235	245	68	68	31	27	27
30	107	273	1060	322	---	551	230	66	52	31	28	28
31	65	---	915	286	---	2550	---	64	---	29	28	---
TOTAL	1454	14793	15028	11017	12341	13255	26369	3631	1706	1106	898	859
MEAN	46.9	493	485	355	441	428	879	117	56.9	35.7	29.0	28.6
MAX	259	2680	2310	1010	2110	2550	4880	217	68	49	32	43
MIN	21	28	137	168	122	181	230	64	51	29	26	24
AC-FT	2880	29340	29810	21850	24480	26290	52300	7200	3380	2190	1780	1700

CAL YR 1981 TOTAL 55090 MEAN 151 MAX 2680 MIN 20 AC-FT 109300
WTR YR 1982 TOTAL 102457 MEAN 281 MAX 4880 MIN 21 AC-FT 203200

11384600 LITTLE STONY CREEK ABOVE EAST PARK RESERVOIR, NEAR LODOGA, CA

LOCATION.--Lat 39°17'48", long 122°32'22", in NE 1/4 SW 1/4 sec.28, T.17 N., R.6 W., Colusa County, Hydrologic Unit 18020115, on left bank 1.1 mi (1.8 km) upstream from county bridge on Lodoga-Stonyford Road, 1.4 mi (2.3 km) downstream from Frenzel Creek, and 2.8 mi (4.5 km) southwest of Lodoga.

DRAINAGE AREA.--45.6 mi² (118.1 km²).

PERIOD OF RECORD.--September 1966 to September 1982 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft (396 m), from topographic map.

REMARKS.--Records good except those for Dec. 31 to Jan. 13 and Jan. 27 to Apr. 15, which are poor. No known storage or diversions above station.

AVERAGE DISCHARGE.--16 years, 59.1 ft³/s (1.674 m³/s), 42,820 acre-ft/yr (52.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft³/s (113 m³/s) Jan. 23, 1970, gage height, 11.39 ft (3.472 m), from rating curve extended above 1,500 ft³/s (42.5 m³/s); no flow at times in 1972, 1976, 1977, and 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 23	1500	1,220 34.6	6.43 1.960	Jan. 4	Unknown	*2,400 68.0	8.53 2.600
Dec. 19	2330	2,380 67.4	8.50 2.591	Mar. 31	Unknown	1,850 52.4	7.48 2.280

Minimum daily, 0.12 ft³/s (0.003 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	3.2	38	320	62	270	550	77	24	14	3.0	1.0
2	.41	2.8	33	370	58	210	650	72	24	12	2.8	.82
3	.70	2.8	30	345	54	170	500	68	22	11	2.8	.69
4	1.3	2.7	26	1500	50	150	300	65	22	10	2.8	.69
5	1.3	2.5	24	1010	48	142	230	63	21	9.8	3.0	.68
6	1.3	2.8	24	740	46	134	158	61	21	9.2	2.9	.51
7	1.9	2.8	26	518	43	130	140	59	20	8.5	2.5	.34
8	1.8	2.8	22	365	42	146	132	57	19	8.2	2.5	.25
9	1.8	2.8	26	275	40	134	128	56	17	7.8	2.3	.23
10	2.0	2.8	29	235	40	180	370	55	16	7.5	2.2	.19
11	1.9	4.1	26	208	39	170	880	52	16	7.2	2.2	.13
12	1.9	8.8	33	184	39	146	610	49	18	6.7	2.2	.12
13	1.8	64	46	166	60	132	530	47	18	6.4	2.1	.18
14	1.7	82	63	160	160	120	480	46	16	6.1	2.0	.20
15	1.6	145	54	149	720	126	448	44	15	6.0	2.0	.22
16	1.5	310	44	140	380	160	357	41	14	5.7	2.0	.58
17	1.4	189	36	134	268	220	280	40	13	5.6	1.9	3.2
18	1.4	74	473	130	212	178	236	38	13	5.5	1.7	3.4
19	1.4	50	1360	122	190	127	204	37	12	5.1	1.6	3.3
20	1.4	38	1350	124	175	103	182	36	13	5.0	1.5	2.4
21	1.4	170	726	106	158	85	161	34	14	4.8	1.3	2.1
22	1.4	116	477	92	138	78	149	33	12	4.7	1.3	2.0
23	1.4	642	310	97	115	75	140	31	12	4.5	1.1	1.9
24	1.6	314	212	101	104	74	132	30	13	4.4	.69	1.9
25	1.7	154	160	115	95	72	122	29	12	4.1	.65	2.3
26	1.8	116	132	126	92	69	114	28	11	4.1	.46	2.1
27	4.1	111	120	110	90	68	106	28	11	4.0	.37	2.1
28	30	96	99	114	88	67	98	27	11	3.8	.54	1.9
29	11	66	443	97	---	102	90	26	12	3.5	1.2	1.9
30	5.3	47	364	81	---	170	83	25	12	3.4	1.2	1.8
31	3.9	---	350	69	---	1020	---	25	---	3.1	1.1	---
TOTAL	92.46	2824.9	7156	8303	3606	5028	8560	1379	474	201.7	55.91	39.13
MEAN	2.98	94.2	231	268	129	162	285	44.5	15.8	6.51	1.80	1.30
MAX	30	642	1360	1500	720	1020	880	77	24	14	3.0	3.4
MIN	.35	2.5	22	69	39	67	83	25	11	3.1	.37	.12
AC-FT	183	5600	14190	16470	7150	9970	16980	2740	940	400	111	78

CAL YR 1981 TOTAL 16864.28 MEAN 46.2 MAX 1360 MIN 0 AC-FT 33450
WTR YR 1982 TOTAL 37720.10 MEAN 103 MAX 1500 MIN .12 AC-FT 74820

SACRAMENTO RIVER BASIN

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 (3.1 km) southeast of Stonyford. DRAINAGE AREA, 98.2 mi² (254.3 km²). 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 Bureau of Reclamation).

Reservoir is formed by a concrete arch-type dam. Storage began in 1910. Capacity, 48,211 acre-ft (59.4 hm³) between elevations 1,131.68 ft (344.936 m), invert of sluice pipe and 1,198.18 ft (365.205 m), crest of spillway. Capacity increased to 50,889 acre-ft (62.7 hm³) with the addition of flashboards to an elevation of 1,199.68 ft (365.662 m). Dead storage, 279 acre-ft (344,000 m³). Records of contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,500 acre-ft (66.0 hm³) Mar. 30, 1974, elevation, 1,201.10 ft (366.095 m); minimum, 280 acre-ft (345,000 m³) Aug. 8 to Oct. 31, 1972, Apr. 30 to Nov. 1, 1977, elevation, 1,131.68 ft (344.936 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 53,130 acre-ft (65.5 hm³) Mar. 31, elevation, 1,200.90 ft (366.034 m); minimum, 10,690 acre-ft (13.2 hm³) Oct. 6, elevation, 1,166.52 ft (355.555 m).

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 (2.1 km) southeast of Elk Creek. DRAINAGE AREA, 301 mi² (780 km²). 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 Bureau of Reclamation).

Reservoir is formed by slab and buttress-type dam. Storage began in 1928. Capacity, 50,383 acre-ft (62.1 hm³) between elevations, 728.0 ft (221.89 m), top of low intake and 841.0 ft (256.34 m), crest of spillway. No dead storage. Records of contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,630 acre-ft (67.4 hm³) Mar. 26, 1971, elevation, 844.20 ft (257.312 m); minimum, 3,810 acre-ft (4.70 hm³) Nov. 6, 1971, elevation, 779.20 ft (237.500 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 52,800 acre-ft (65.1 hm³) Mar. 31, elevation, 842.84 ft (256.898 m); minimum, 7,640 acre-ft (9.42 hm³) Oct. 1, elevation, 790.40 ft (240.914 m).

MONTHEND ELEVATION NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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.....	1,166.62	10,750	-600	790.37	7,630	-10,260
Oct. 31.....	1,168.20	11,840	+1,090	793.70	9,090	+1,460
Nov. 30.....	1,182.56	25,280	+13,440	832.92	40,490	+31,400
Dec. 31.....	1,198.56	48,890	+23,610	838.26	46,900	+6,410
CAL YR 1981.....	--	--	+19,750	--	--	+33,950
Jan. 31.....	1,198.48	48,740	-150	836.70	44,970	-1,930
Feb. 28.....	1,198.42	48,640	-100	839.48	48,430	+3,460
Mar. 31.....	1,200.90	53,130	+4,490	842.84	52,800	+4,370
Apr. 30.....	1,198.70	49,130	-4,000	842.16	51,900	-900
May 31.....	1,199.72	50,970	+1,840	841.00	50,380	-1,520
June 30.....	1,197.16	46,440	-4,530	832.00	39,440	-10,940
July 31.....	1,196.80	45,820	-620	820.32	27,430	-12,010
Aug. 31.....	1,185.70	29,170	-16,650	814.58	22,440	-4,990
Sept. 30.....	1,185.14	28,450	-720	802.58	13,890	-8,550
WTR YR 1982.....	--	--	+17,700	--	--	+6,260

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA

LOCATION.--Lat 39°43'56", long 122°24'50", in NW¼SW¼ sec.27, T.22 N., R.5 W., Glenn County, Hydrologic Unit 18020115, on left bank 3 ft (0.91 m) upstream from county road bridge, 1.2 mi (1.9 km) upstream from Black Butte Lake, and 11.7 mi (18.8 km) west of Orland.

DRAINAGE AREA.--623 mi² (1,614 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 478.63 ft (145.886 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Many diversions above station for irrigation. Flow regulated by Stony Gorge Reservoir 14.8 mi (23.8 km) upstream and by East Park Reservoir, combined usable capacity, 100,700 acre-ft (124 hm³).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,200 ft³/s (487 m³/s) Feb. 16, 1982, gage height, 15.46 ft (4.712 m); no flow Oct. 3, 23-26, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,200 ft³/s (487 m³/s) Feb. 16, gage height, 15.46 ft (4.712 m); minimum, no flow Oct. 3, 23-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.23	29	223	3010	1000	1700	5150	958	364	424	27	325
2	.02	30	213	2740	975	2210	3380	982	300	423	57	303
3	0	26	190	2300	950	2020	3680	1030	320	413	265	270
4	.07	23	169	2470	926	1720	3300	1000	512	409	344	257
5	.27	21	155	2620	872	1560	2450	914	482	403	352	254
6	.32	12	140	2700	809	1310	2020	823	477	402	354	254
7	.44	15	301	2190	774	1180	1440	819	466	394	322	252
8	1.0	13	257	1790	642	1110	1080	850	456	384	309	222
9	.81	15	267	1530	358	1070	1340	838	444	377	326	164
10	.42	10	410	1560	397	1190	2630	735	444	376	326	103
11	.65	7.9	341	1610	507	1490	10400	711	426	377	309	79
12	.86	12	274	1750	515	1490	7090	709	416	370	309	76
13	1.4	55	370	1630	656	1220	4620	669	420	384	305	72
14	.76	527	671	1450	2100	1040	4180	567	412	399	299	67
15	1.2	670	727	1340	5860	794	3800	589	457	380	296	60
16	.93	1420	760	1190	13900	589	3550	611	482	382	296	52
17	.58	1030	657	1090	7020	713	3130	548	478	379	296	19
18	.49	632	1880	1040	4730	771	2750	526	465	373	304	9.8
19	.45	397	8220	982	3800	798	2390	505	464	318	307	8.3
20	.38	271	10600	1190	2840	844	1670	497	455	116	321	4.6
21	.21	499	6210	1170	2340	860	1950	624	441	80	317	3.1
22	.11	599	3610	1040	1740	704	2180	616	435	68	321	2.3
23	0	1950	2380	913	876	573	2070	523	435	61	320	2.3
24	0	1480	1800	891	1070	653	2100	492	435	59	331	2.2
25	0	675	1530	879	1160	733	1920	454	430	52	327	2.2
26	0	605	1270	1080	1150	783	1840	432	429	44	319	2.1
27	1.6	680	1350	1210	1100	755	1650	399	429	38	321	1.9
28	112	780	1300	1170	991	755	1580	407	427	38	334	2.0
29	61	620	2330	1180	---	807	1310	379	424	35	332	1.9
30	36	396	3600	1110	---	1270	929	358	424	34	321	1.9
31	28	---	2930	1030	---	7310	---	352	---	29	330	---
TOTAL	250.20	13499.9	55135	47855	60058	40022	87579	19917	13049	8021	9297	2873.6
MEAN	8.07	450	1779	1544	2145	1291	2919	642	435	259	300	95.8
MAX	112	1950	10600	3010	13900	7310	10400	1030	512	424	354	325
MIN	0	7.9	140	879	358	573	929	352	300	29	27	1.9
AC-FT	496	26780	109400	94920	119100	79380	173700	39510	25880	15910	18440	5700
CAL YR 1981	TOTAL	164000.10	MEAN	449	MAX	10600	MIN	0	AC-FT	325300		
WTR YR 1982	TOTAL	357556.70	MEAN	980	MAX	13900	MIN	0	AC-FT	709200		

SACRAMENTO RIVER BASIN

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

WATER TEMPERATURES: November 1980 to current year.

SEDIMENT RECORDS: November 1980 to current year.

PERIOD OF DAILY RECORD.--

SEDIMENT RECORDS: November 1980 to current year (storm season only).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,660 mg/L Feb. 16, 1982; minimum daily, 2 mg/L several days during water year 1981.

SEDIMENT DISCHARGE: Maximum daily, 187,000 tons (170,000 metric tons) Feb. 16, 1982; minimum daily, 0.06 ton (0.05 metric ton) Nov. 21, 24, 1980, Nov. 11, 1981.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,660 mg/L Feb. 16; minimum daily mean, 3 mg/L several days during November.

SEDIMENT DISCHARGE: Maximum daily, 187,000 tons (170,000 metric tons) Feb. 16; minimum daily, 0.06 ton (0.05 metric ton) Nov. 11.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	---	7.0	---	10.0	---				
2		---	---	8.5	---	9.0	10.0	---				
3		---	---	---	---	---	---	---				
4		---	---	5.5	---	---	---	---				
5		---	9.5	---	7.5	11.0	---	12.5				
6		17.5	---	---	---	---	---	---				
7		18.5	---	---	---	---	---	18.5				
8		---	---	6.5	---	---	---	---				
9		---	---	---	---	---	10.0	---				
10		---	---	9.5	---	11.5	---	---				
11		---	9.5	---	---	---	---	---				
12		---	---	---	9.5	13.0	---	---				
13		---	---	---	---	---	---	---				
14		12.5	---	---	10.5	---	---	21.5				
15		---	---	---	---	---	---	---				
16		13.5	---	---	---	---	13.5	---				
17		---	---	6.0	8.5	---	---	---				
18		---	---	---	---	---	---	---				
19		---	10.5	---	11.5	11.5	---	---				
20		---	---	---	---	---	---	---				
21		12.0	10.5	---	---	---	---	---				
22		---	---	6.5	---	---	---	19.5				
23		12.5	---	---	---	---	17.0	---				
24		---	---	---	---	---	---	---				
25		---	---	---	---	---	---	---				
26		---	---	---	10.5	12.0	---	---				
27		---	---	---	---	---	---	---				
28		---	9.0	---	---	---	---	---				
29		11.0	9.5	8.5	---	9.5	---	16.5				
30		---	---	---	---	---	16.5	---				
31		---	---	---	---	---	---	---				
MONTH		---	---	---	---	---	---	---				

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), OCTOBER 1981 TO MAY 1982

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.23			29	3	.23	223	12	7.2
2	.02			30	3	.24	213	11	6.3
3	0			26	3	.21	190	10	5.1
4	.07			23	3	.19	169	9	4.1
5	.27			21	3	.17	155	7	2.9
6	.32			12	3	.10	140	7	2.6
7	.44			15	3	.12	301	7	5.7
8	1.0			13	3	.11	257	7	4.9
9	.81			15	3	.12	267	10	7.2
10	.42			10	3	.08	410	66	73
11	.65			7.9	3	.06	341	38	35
12	.86			12	3	.10	274	35	26
13	1.4			55	18	8.2	370	52	52
14	.76			527	251	395	671	123	223
15	1.2			670	843	4270	727	172	369
16	.93			1420	1500	6870	760	83	170
17	.58			1030	472	1380	657	55	98
18	.49			632	134	229	1880	524	6540
19	.45			397	106	114	8220	3310	97400
20	.38			271	84	61	10600	3320	103000
21	.21			499	136	248	6210	1090	18300
22	.11			599	116	201	3610	518	5050
23	0			1950	2660	16700	2380	328	2110
24	0			1480	605	2030	1800	219	1060
25	0			675	87	159	1530	178	735
26	0			605	77	98	1270	147	504
27	1.6			680	72	93	1350	155	565
28	112			780	69	103	1300	135	474
29	61			620	68	97	2330	985	8820
30	36			396	46	49	3600	609	6090
31	28			---	---	---	2930	255	2020
TOTAL	250.20	0	0	13499.9	---	33106.93	55135	---	253760.0
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3010	242	1970	1000	22	59	1700	384	2090
2	2740	214	1580	975	20	53	2210	600	3580
3	2300	159	987	950	19	49	2020	270	1470
4	2470	156	1040	926	18	45	1720	174	808
5	2620	138	976	872	16	38	1560	161	678
6	2700	134	977	809	16	35	1310	152	538
7	2190	106	627	774	15	31	1180	144	459
8	1790	79	382	642	14	24	1110	136	408
9	1530	65	269	358	9	8.7	1070	128	370
10	1560	65	274	397	9	9.6	1190	157	513
11	1610	63	274	507	9	12	1490	156	628
12	1750	73	345	515	9	13	1490	107	430
13	1630	66	290	656	18	39	1220	83	273
14	1450	60	235	2100	1030	6250	1040	66	185
15	1340	55	199	5860	2460	52700	794	49	105
16	1190	50	161	13900	4660	187000	589	34	54
17	1090	45	132	7020	1630	30900	713	34	65
18	1040	43	121	4730	1390	17800	771	34	71
19	982	39	103	3800	1290	13200	798	34	73
20	1190	49	157	2840	1110	8510	844	33	75
21	1170	48	152	2340	766	4840	860	33	77
22	1040	34	95	1740	404	1900	704	29	55
23	913	28	69	876	80	189	573	22	34
24	891	27	65	1070	108	312	653	22	39
25	879	26	62	1160	124	388	733	22	44
26	1080	34	99	1150	114	354	783	21	44
27	1210	41	134	1100	97	288	755	21	43
28	1170	35	111	991	79	211	755	21	43
29	1180	29	92	---	---	---	807	22	48
30	1110	26	78	---	---	---	1270	116	813
31	1030	24	67	---	---	---	7310	1810	37700
TOTAL	47855	---	12123	60058	---	325258.3	40022	---	51813

SACRAMENTO RIVER BASIN

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), OCTOBER 1981 TO MAY 1982

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5150	434	6030	958	70	181			
2	3380	258	2350	982	62	164			
3	3680	248	2460	1030	58	161			
4	3300	220	1960	1000	57	154			
5	2450	187	1240	914	53	131			
6	2020	149	813	823	50	111			
7	1440	97	377	819	46	102			
8	1080	55	160	850	43	99			
9	1340	70	253	838	39	88			
10	2630	306	3890	735	33	65			
11	10400	4170	122000	711	27	52			
12	7090	813	15600	709	22	42			
13	4620	513	6400	669	17	31			
14	4180	740	8350	567	12	18			
15	3800	621	6370	589	11	17			
16	3550	528	5060	611	11	18			
17	3130	453	3830	548	11	16			
18	2750	423	3140	526	11	16			
19	2390	403	2600	505	11	15			
20	1670	391	1760	497	11	15			
21	1950	399	2100	624	22	37			
22	2180	401	2360	616	30	50			
23	2070	341	1910	523	23	32			
24	2100	253	1430	492	21	28			
25	1920	201	1040	454	19	23			
26	1840	160	795	432	18	21			
27	1650	145	646	399	17	18			
28	1580	123	525	407	17	19			
29	1310	99	350	379	16	16			
30	929	84	211	358	15	14			
31	---	---	---	352	15	14			
TOTAL	87579	---	206010	19917	---	1768			

SUMMARY OF WATER AND SEDIMENT DISCHARGE, OCTOBER 1981 TO MAY 1982

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1981	13499.90	33106.93	370	33500
DECEMBER ...	55135.00	253760.00	10200	264000
JANUARY 1982	47855.00	12123.00	2880	15000
FEBRUARY ...	60058.00	325258.30	11800	337000
MARCH	40022.00	51813.00	3270	55100
APRIL	87579.00	206010.00	13600	220000
MAY	19917.00	1768.00	307	2080
TOTAL	324065.90	883839.23	42427	926680

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM
NOV 16...	1205	1390	13.5	1210	4540	--	51	67	83	93
DEC 21...	1210	6160	10.5	987	16400	--	35	47	58	68
JAN 08...	1145	1730	6.5	76	355	--	--	--	--	--
FEB 17...	1045	6850	8.5	1620	30000	--	32	42	53	63
MAR 02...	1030	2240	9.0	619	3740	30	37	44	50	56
APR 12...	1000	7060	10.0	711	13600	22	34	44	56	67
MAY 05...	1020	970	12.5	54	141	--	--	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV 16...	--	96	--	99	--	100	--	--	--	--
DEC 21...	--	77	--	85	--	94	--	98	--	100
JAN 08...	--	84	--	87	--	92	--	98	--	100
FEB 17...	72	--	81	--	93	--	99	--	100	--
MAR 02...	--	60	--	67	--	80	--	99	--	100
APR 12...	--	75	--	83	--	94	--	99	--	100
MAY 05...	--	84	--	88	--	92	--	100	--	--

SACRAMENTO RIVER BASIN

11387990 SOUTH DIVERSION CANAL NEAR ORLAND, CA

LOCATION.--Lat 39°48'36", long 122°19'45", in SW¼NE¼ sec.32, T.23 N., R.4 W., Tehama County, Hydrologic Unit 18020103, on left bank 0.4 mi (0.6 km) downstream from Black Butte Dam, and 8.2 mi (13.2 km) northwest of Orland.

PERIOD OF RECORD.--July 1955 to current year. Prior to October 1961, published as an adjustment to Snow Creek at Black Butte damsite, near Orland.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 372.64 ft (113.581 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 23, 1956, at site 0.5 mi (0.8 km) upstream at different datum. Oct. 23, 1956, to Sept. 30, 1960, at present site and datum. Oct. 1, 1960, to Sept. 30, 1961, at datum 1.00 ft (0.305 m) lower.

REMARKS.--Records good. Canal diverts from Black Butte Lake at right end of Black Butte Dam; water is used for irrigation. A pump with a capacity of 6 ft³/s (0.17 m³/s) diverted water at times above station and was included in the canal record prior to Mar. 1, 1970. Total diverted during the current year was 935 acre-ft (1.15 hm³).

AVERAGE DISCHARGE.--27 years, 101 ft³/s (2.860 m³/s), 73,170 acre-ft/yr (90.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 320 ft³/s (9.06 m³/s) May 8, 1969; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	1.6	.60	.20	.90	2.3	1.0	299	214	58	206	222
2	150	1.6	.40	.20	1.0	2.2	1.2	301	207	44	229	176
3	129	1.6	.40	.30	1.5	2.1	1.5	302	206	65	253	136
4	57	1.6	.40	2.2	1.4	1.9	1.4	300	213	70	273	95
5	56	4.3	.40	.60	1.4	1.9	1.4	276	248	103	290	86
6	86	.40	.50	.80	1.4	1.8	1.5	233	220	147	262	121
7	38	.30	.60	.90	1.3	1.6	3.7	172	206	184	234	162
8	1.2	.30	.60	1.0	1.3	1.7	1.1	177	256	236	208	218
9	1.9	.20	.60	1.0	1.3	1.6	.30	177	289	272	195	234
10	2.6	.10	.70	1.0	1.3	1.7	.20	216	277	268	174	243
11	2.6	0	.70	1.0	1.3	1.9	.20	256	252	266	161	234
12	2.6	.80	.90	1.0	1.4	1.8	1.4	269	237	272	157	242
13	2.6	3.2	1.0	1.2	1.5	1.8	2.8	277	209	282	164	235
14	2.4	2.7	1.0	1.2	1.4	2.1	2.8	275	169	243	227	191
15	2.4	3.0	1.0	1.2	1.6	1.9	3.3	260	156	202	235	187
16	2.4	2.8	1.0	1.2	.80	1.8	3.5	231	188	201	210	160
17	2.4	2.2	1.0	1.2	.80	1.8	3.4	207	229	207	239	68
18	2.4	2.1	2.4	1.2	.80	1.8	2.9	191	246	209	250	15
19	2.4	2.0	1.5	1.5	.80	1.8	3.2	195	231	210	230	1.8
20	48	2.0	.60	2.5	.70	1.8	47	196	240	215	184	1.1
21	49	2.0	.50	1.9	1.6	1.7	73	185	248	222	166	1.7
22	38	2.0	.50	1.4	2.7	1.5	70	211	237	258	137	18
23	42	2.8	.40	1.2	2.4	1.4	68	228	195	286	134	29
24	8.7	2.0	.50	1.2	2.2	1.4	144	239	184	287	160	15
25	.50	1.9	.90	1.2	2.0	1.4	165	280	202	267	213	.30
26	9.8	1.6	1.1	1.1	1.9	1.4	179	306	201	223	210	13
27	14	3.0	1.2	1.0	1.9	1.4	180	296	172	191	189	43
28	2.0	1.2	1.2	1.3	1.9	1.4	262	283	173	192	223	60
29	1.8	1.0	1.4	1.1	---	1.6	309	288	162	176	259	93
30	1.7	.80	.30	1.0	---	1.6	306	252	94	174	238	102
31	1.6	---	.20	1.0	---	2.4	---	222	---	184	218	---
TOTAL	882.00	51.10	24.50	34.80	40.50	54.5	1839.80	7600	6361	6214	6528	3402.90
MEAN	28.5	1.70	.79	1.12	1.45	1.76	61.3	245	212	200	211	113
MAX	150	4.3	2.4	2.5	2.7	2.4	309	306	289	287	290	243
MIN	.50	0	.20	.20	.70	1.4	.20	172	94	44	134	.30
AC-FT	1750	101	49	69	80	108	3650	15070	12620	12330	12950	6750
CAL YR 1981	TOTAL	34863.20	MEAN	95.5	MAX	292	MIN	0	AC-FT	69150		
WTR YR 1982	TOTAL	33033.10	MEAN	90.5	MAX	309	MIN	0	AC-FT	65520		

11387995 BLACK BUTTE LAKE NEAR ORLAND, CA

LOCATION.--Lat 39°48'50", long 122°20'12", in SE¼SW¼ sec.29, T.23 N., R.4 W., Tehama County, Hydrologic Unit 18020115, in control tower in right abutment of main dam on Stony Creek, 8 mi (13 km) northwest of Orland.

DRAINAGE AREA.--738 mi² (1,911 km²).

PERIOD OF RECORD.--October 1963 to current year. Prior to October 1971, published as Black Butte Reservoir near Orland.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by seven earthfill dams. Storage began Oct. 28, 1963. Usable capacity, 137,036 acre-ft (169 hm³) between elevations 414.6 ft (126.37 m) normal minimum operating level, and 473.5 ft (144.32 m) spillway crest. An additional storage of 6,640 acre-ft (8.19 hm³) is available for release if needed. South Diversion Canal (station 11397990) diverts at right end of dam. Water is released down Stony Creek for irrigation. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records of contents furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 149,700 acre-ft (185 hm³) June 8, 9, 1967, elevation, 471.19 ft (143.619 m); maximum elevation, 471.40 ft (143.683 m) Feb. 19, 1980; minimum since initial season of operation, 1,006 acre-ft (1.24 hm³) Nov. 6, 1977, elevation, 397.20 ft (121.067 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 140,665 acre-ft (173 hm³) Apr. 26, elevation, 472.82 ft (144.116 m); minimum, 30,366 acre-ft (37.4 hm³) Sept. 30, elevation, 436.29 ft (132.981 m).

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

397	950	415	6,874
398	1,095	420	10,340
399	1,256	430	20,845
400	1,432	440	37,172
403	2,070	450	60,258
406	2,897	460	90,634
409	3,948	470	128,571
412	5,260	480	174,303

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50528	47644	57705	57239	45692	66757	97895	134798	76843	58461	47921	45334
2	50123	47621	58096	54092	47117	67756	96190	132873	75582	58540	47048	45201
3	49744	47575	58435	50194	48454	67698	96119	130880	74423	58514	46616	44912
4	49461	47529	58724	48477	49696	69053	95204	129031	73547	58487	46299	44470
5	49155	47506	59012	46322	51055	70014	94258	127279	72676	58409	46006	44053
6	48874	47529	59223	43879	52511	70131	94993	125623	71841	58330	45759	43552
7	48897	47529	59832	41310	53817	70131	96827	123898	71101	58383	45669	42968
8	48827	47552	60284	40043	55045	70131	98826	121862	70365	58383	45669	42304
9	48780	47552	60820	40746	55626	70659	101175	119725	69634	58330	45647	41605
10	48850	47621	61627	42028	56212	72407	103999	117411	68879	58174	45647	40808
11	48733	47690	62279	43922	56956	74605	110895	114928	68273	58017	45669	40146
12	48640	47713	62852	45961	57757	76473	113678	112243	67612	57835	45692	39531
13	48593	48036	63649	47713	59144	77962	112359	109481	66984	57731	45714	38882
14	48477	48687	65290	49225	63456	79279	111587	106682	66417	57679	45624	38359
15	48407	50099	66984	50552	70542	79974	112243	103926	65964	57679	45580	37822
16	48315	53396	68618	51683	81280	80482	114381	101284	65458	57679	45558	37133
17	48245	55271	69956	52682	80705	81216	117928	98897	64787	57731	45491	36568
18	48175	56212	72796	53421	75001	81889	121862	96544	64092	57783	45424	36182
19	48106	56750	81024	55019	68129	82630	125581	94293	63429	57653	45401	35741
20	47898	57136	88297	57058	61871	83375	128237	92281	62798	57084	45424	35285
21	47713	57939	88129	56647	58330	84221	130796	90838	62252	56339	45468	34795
22	47575	59012	83472	55702	55652	85238	133385	89580	61763	55474	45513	34273
23	47414	63732	78839	54491	54067	86295	135874	88029	61277	54567	45624	33774
24	47346	65992	75123	53174	55094	87593	138170	86527	60739	53644	45692	33390
25	47277	65346	72020	51853	57162	88971	139831	85074	60152	52805	45647	32990
26	47163	64092	69198	50839	59223	90498	140665	83602	59514	52047	45602	32539
27	47506	61627	66586	49886	61223	91970	140226	82114	58960	51344	45624	31987
28	47667	58487	63759	49272	63126	93422	139568	81056	58618	50672	45558	31476
29	47713	57162	62907	48222	---	95028	138650	80006	58514	50076	45468	30883
30	47667	57239	62062	47048	---	97716	136738	78965	58435	49437	45446	30366
31	47690	---	59673	45647	---	103298	---	77931	---	48710	45468	---
MAX	50528	65992	88297	57239	81280	103298	140665	134798	76843	58540	47921	45334
MIN	47163	47506	57705	40043	45692	66757	94258	77931	58435	48710	45401	30366
a	444.94	448.85	449.78	444.04	451.06	463.57	471.92	456.11	449.31	445.38	443.96	436.29
b	-3221	+9549	+2434	-14026	+17479	+40172	+33440	-58807	-19496	-9725	-3242	-15102
c	858	366	252	304	443	678	1533	2611	1854	2105	1793	1500

CAL YR 1981 MAX 103409 MIN 16242 b + 43342
WTR YR 1982 MAX 140665 MIN 30366 b - 20545

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

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

LOCATION.--Lat 39°49'07", long 122°19'26", in NW¼SW¼ sec.28, T.23 N., R.4 W., Tehama County, Hydrologic Unit 18020103, on left bank 200 ft (61 m) downstream from road bridge, 0.6 mi (1.0 km) downstream from Black Butte Dam, 8.1 mi (13.0 km) northwest of Orland.

DRAINAGE AREA.--738 mi² (1,911 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1955 to current year. Prior to October 1962, published as Stony Creek at Black Butte damsite, near Orland.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder and grouted rock control. Datum of gage is 366.02 ft (111.563 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Dec. 12, 1960, water-stage recorder at site 0.6 mi (1.0 km) upstream at different datum. Dec. 12, 1960, to Nov. 30, 1963, nonrecording gage at bridge 200 ft (61 m) upstream at datum 4.04 ft (1.231 m) higher.

REMARKS.--Records good. Many diversions above station for irrigation. Flow regulated by Black Butte Lake (station 11387995), East Park Reservoir (station 11385100), usable capacity, 50,900 acre-ft (62.8 hm³), and Stony Gorge Reservoir (station 11386100), usable capacity, 50,400 acre-ft (62.1 hm³). Prior to October 1956, figures of daily discharge included water diverted to South Diversion Canal, which diverts 0.6 mi (1.0 km) above station.

AVERAGE DISCHARGE (adjusted for diversions to South Diversion Canal since 1956, Wackerman Ranch since 1979, and for change in contents in and evaporation from Black Butte Lake since 1964).--27 years, 636 ft³/s (18.01 m³/s), 460,800 acre-ft/yr (568 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft³/s (1,030 m³/s) Feb. 24, 1958, gage height, 11.82 ft (3.603 m) site and datum then in use, from rating curve extended above 7,500 ft³/s (212 m³/s) on basis of slope-area measurement of maximum flow; no flow many days in 1956, 1957, 1962. Maximum discharge since construction of Black Butte Dam in 1964, 19,400 ft³/s (549 m³/s) Dec. 25, 1964, gage height, 10.41 ft (3.174 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,130 ft³/s (259 m³/s) Mar. 3, gage height, 8.73 ft (2.661 m); minimum, no flow Nov. 7-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	31	69	4280	1140	291	7410	1880	800	360	172	153
2	65	30	57	4310	264	1660	4220	1880	824	356	167	195
3	75	29	52	4340	254	2080	3600	1880	836	342	171	260
4	84	29	51	4430	255	1100	3620	1770	818	341	182	356
5	92	20	51	4340	154	951	3090	1710	795	331	184	368
6	83	.40	52	4060	66	1360	1870	1660	785	274	173	362
7	50	0	51	3510	62	1330	608	1750	746	188	151	352
8	34	0	50	2590	55	1270	78	1870	642	145	130	361
9	28	0	51	1420	53	1030	64	1890	586	147	135	363
10	31	0	50	1110	53	482	461	1910	590	161	151	336
11	31	0	50	848	51	502	4670	1940	590	180	161	319
12	31	8.8	51	736	51	505	5290	2000	584	173	151	307
13	31	131	53	741	52	505	5030	2030	582	141	141	303
14	28	157	55	742	52	508	4080	2010	581	121	139	319
15	28	154	55	747	1880	504	3060	1990	530	135	132	348
16	28	116	55	749	6050	504	2090	1940	525	131	125	362
17	29	51	54	750	7150	504	1050	1880	550	115	117	304
18	30	51	1200	879	7110	504	485	1780	550	104	112	263
19	39	50	5080	515	6720	501	310	1720	533	106	115	257
20	53	50	6740	713	5800	501	160	1610	503	139	128	253
21	43	51	6530	1910	4060	499	522	1430	470	168	136	253
22	28	51	6160	1920	3100	273	766	1320	450	177	159	243
23	27	53	5000	1920	1870	64	928	1280	466	175	147	220
24	29	439	3930	1920	590	52	975	1270	496	170	127	204
25	27	1260	3220	1930	80	50	1090	1170	513	158	133	204
26	41	1390	2830	1920	66	48	1520	1110	528	141	134	202
27	41	2340	2820	1940	62	48	2070	1050	522	140	121	215
28	30	2510	2800	1910	59	48	1980	848	443	142	123	205
29	31	1540	3040	1900	---	50	1760	766	395	109	118	169
30	30	545	4220	1900	---	51	1800	758	371	130	97	158
31	31	---	4300	1900	---	3850	---	777	---	172	95	---
TOTAL	1291	11087.20	58777	62880	47159	21625	64657	48879	17604	5672	4327	8214
MEAN	41.6	370	1896	2028	1684	698	2155	1577	587	183	140	274
MAX	92	2510	6740	4430	7150	3850	7410	2030	836	360	184	368
MIN	27	0	50	515	51	48	64	758	371	104	95	153
AC-FT	2560	21990	116600	124700	93540	42890	128200	96950	34920	11250	8580	16290

CAL YR 1981	TOTAL	126861.20	MEAN	348	MAX	6740	MIN	0	AC-FT	251600	MEAN	a 526	AC-FT	a 380900
WTR YR 1982	TOTAL	352172.20	MEAN	965	MAX	7410	MIN	0	AC-FT	698500	MEAN	a 1048	AC-FT	a 758500

a Adjusted for diversions to South Diversion Canal near Orland, Wackerman Ranch, and for change in contents in and evaporation from Black Butte Lake.

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

WATER-QUALITY RECORDS

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

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

WATER TEMPERATURES: Water years 1969 to current year.

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1969 to current year.

INSTRUMENTATION.--Temperature recorder since June 1969.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 31.5°C Aug. 15, 1977; minimum recorded, 3.5°C Jan. 3, 4, Feb. 2, Dec. 9, 1972, Jan. 10, 1974, Dec. 21, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.5°C on several days in August; minimum recorded, 5.0°C Jan. 8-10.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.5	18.5	17.0	13.5	11.5	9.5	9.5	9.0	8.0	7.0	14.0	10.0
2	19.5	19.0	16.5	13.5	11.5	9.5	9.0	9.0	8.0	7.0	10.5	10.5
3	20.5	19.0	16.5	13.5	12.0	9.5	8.5	8.5	8.0	7.0	11.0	10.5
4	20.5	18.5	16.0	14.0	10.5	10.0	8.5	7.5	7.5	6.5	11.5	10.5
5	20.5	18.5	16.0	14.0	10.5	10.5	7.5	7.0	8.0	6.5	11.0	10.5
6	20.5	18.5	16.0	14.5	10.5	10.0	7.0	6.0	8.5	5.5	11.0	11.0
7	21.0	18.0	---	---	11.5	10.0	6.0	5.5	8.5	6.0	11.0	11.0
8	20.5	17.0	---	---	11.5	10.0	5.5	5.0	9.5	6.5	11.0	10.5
9	18.5	17.0	---	---	10.5	10.0	5.5	5.0	8.5	6.5	11.5	10.5
10	18.0	17.0	---	---	10.5	9.5	5.5	5.0	9.0	6.5	10.5	10.5
11	19.0	16.5	---	---	11.5	9.5	5.5	5.5	9.0	6.0	11.0	10.5
12	19.5	16.0	---	---	10.0	10.0	5.5	5.5	9.0	6.0	11.0	10.5
13	19.0	15.5	15.0	14.0	10.5	10.0	5.5	5.5	8.0	7.0	11.5	11.0
14	19.0	15.5	14.5	14.0	11.0	10.5	5.5	5.5	10.0	8.0	11.5	11.0
15	18.5	15.0	15.0	14.0	11.5	9.5	6.0	5.5	9.5	8.0	11.5	11.0
16	19.0	15.0	15.0	14.0	11.0	9.0	6.0	5.5	9.0	8.5	11.5	11.0
17	19.0	15.0	15.0	13.0	11.0	9.0	6.0	6.0	9.5	9.0	11.5	11.0
18	19.5	15.5	14.5	12.5	10.0	10.0	6.0	6.0	9.5	9.5	11.5	11.0
19	18.5	15.5	14.5	13.0	10.0	10.0	6.0	5.5	9.5	9.5	11.5	11.0
20	18.5	16.0	13.5	13.0	10.0	10.0	6.0	5.5	10.0	9.5	11.5	10.5
21	18.5	16.0	13.0	12.5	10.5	10.0	6.0	6.0	10.0	9.5	11.0	10.5
22	18.5	15.5	13.5	12.5	10.5	10.0	6.0	6.0	10.0	9.5	14.0	10.5
23	19.0	15.0	13.5	13.0	10.0	10.0	6.0	6.0	10.0	9.5	14.0	10.0
24	18.0	15.5	14.0	12.5	10.0	10.0	6.0	6.0	11.0	9.5	14.0	10.0
25	17.5	15.0	13.5	12.5	10.0	10.0	6.0	6.0	12.0	9.0	13.5	10.0
26	17.0	15.5	13.0	12.5	10.0	10.0	6.5	6.0	11.0	9.5	11.5	10.0
27	16.0	15.5	13.0	12.5	10.0	10.0	6.5	6.0	12.0	9.5	13.5	9.5
28	17.0	14.5	12.5	12.0	10.0	10.0	6.5	6.0	11.0	9.5	12.5	9.5
29	17.0	14.0	12.0	11.5	10.0	10.0	6.5	6.5	---	---	12.0	9.5
30	17.0	13.5	11.5	10.0	10.0	9.5	7.0	6.5	---	---	11.0	9.0
31	17.5	13.5	---	---	9.5	9.5	7.0	6.5	---	---	11.5	10.5
MONTH	22.5	13.5	17.0	10.0	12.0	9.0	9.5	5.0	12.0	5.5	14.0	9.0

SACRAMENTO RIVER BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	11.0	13.0	13.0	19.5	19.0	22.0	21.5	24.5	22.5	25.5	23.0
2	11.0	10.5	13.5	13.0	19.5	19.5	22.5	21.5	24.5	23.0	25.0	24.0
3	10.5	10.5	13.5	13.0	20.0	19.5	22.5	21.5	24.5	23.0	25.0	24.0
4	10.5	10.0	14.0	13.0	20.0	19.5	23.0	22.0	25.0	23.0	25.0	24.0
5	11.0	10.0	14.5	14.0	20.0	19.5	23.0	22.0	25.0	23.0	25.0	24.0
6	10.5	10.5	14.5	14.0	20.0	19.5	23.0	22.0	25.0	23.0	25.0	24.0
7	11.0	10.0	14.5	14.0	20.5	19.5	23.5	21.5	24.5	23.5	25.0	24.0
8	13.5	9.5	15.0	14.5	20.5	19.5	23.5	21.5	25.5	23.5	25.0	24.0
9	13.5	9.5	15.0	14.5	20.5	19.5	24.0	21.5	25.5	23.5	25.0	24.5
10	11.0	10.0	15.5	15.0	20.5	19.5	23.5	21.5	25.5	23.5	24.5	23.5
11	11.0	10.5	15.5	15.0	20.0	19.5	23.5	22.0	25.5	23.5	24.0	23.0
12	11.5	11.0	16.0	15.5	20.5	20.0	24.0	22.0	25.5	23.5	23.0	22.0
13	11.5	11.5	16.0	15.5	20.5	20.0	24.5	22.0	26.0	23.5	22.5	21.5
14	12.0	11.5	16.0	15.5	20.5	20.0	24.0	22.0	26.0	23.5	22.0	21.0
15	12.0	11.5	16.0	15.5	21.0	20.0	24.0	21.5	26.0	24.0	21.0	20.5
16	12.0	11.5	16.5	16.0	21.0	20.0	24.0	21.5	26.5	24.0	21.0	20.5
17	13.0	11.5	16.5	16.0	21.0	20.0	24.5	21.5	26.5	24.0	20.5	20.5
18	11.5	11.0	17.0	16.0	21.0	20.0	24.5	21.5	26.5	24.0	20.5	20.0
19	15.0	11.0	16.5	16.5	21.0	20.5	25.0	22.0	25.5	24.0	21.0	20.0
20	14.5	11.0	17.0	16.5	21.0	20.5	24.0	22.0	26.0	24.0	21.0	20.0
21	12.5	12.0	17.0	16.5	21.5	20.5	24.0	22.0	26.5	24.0	21.0	20.0
22	12.5	12.0	17.0	16.5	21.5	20.5	24.0	22.0	26.0	24.0	21.0	20.0
23	12.5	12.0	17.5	17.0	21.5	20.5	24.0	22.0	26.0	24.5	21.0	20.0
24	12.5	12.0	17.5	17.0	21.5	20.5	24.0	22.5	26.5	24.0	20.5	20.0
25	12.5	12.0	18.0	17.5	21.5	21.0	24.5	22.5	26.0	24.0	21.0	20.0
26	12.5	12.0	18.5	17.5	22.0	21.0	25.0	22.5	26.0	24.0	21.0	19.5
27	13.0	12.5	18.5	18.0	22.0	21.0	24.5	22.5	26.0	24.0	21.0	19.5
28	13.0	12.5	19.0	18.0	22.0	21.0	25.0	22.5	26.0	24.0	21.0	19.5
29	13.0	12.5	19.5	18.5	22.0	21.0	25.5	22.5	26.5	24.0	20.0	18.5
30	13.5	13.0	19.5	19.0	22.5	21.5	25.0	22.5	26.5	23.5	20.0	18.0
31	---	---	19.5	19.0	---	---	24.5	23.0	26.0	23.5	---	---
MONTH	15.0	9.5	19.5	13.0	22.5	19.0	25.5	21.5	26.5	22.5	25.5	18.0

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 (30 m) upstream from highway bridge, 0.5 mi (0.8 km) south of Butte City, and at mile 115.8 (186.3 km) upstream from Sacramento.

DRAINAGE AREA.--12,075 mi² (31,274 km²).

PERIOD OF RECORD.--April 1921 to September 1938 (low-water periods only), October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.92 ft (0.890 m) below National Geodetic Vertical Datum of 1929. Prior to December 1930, at site 0.5 mi (0.8 km) upstream at same datum.

REMARKS.--Records good. Natural flow affected by storage reservoirs, power developments, diversions for irrigation and return flow from irrigated areas. During floods, 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.

AVERAGE DISCHARGE.--44 years (water years 1939-82), 13,300 ft³/s (376.7 m³/s), 9,636,000 acre-ft/yr (11.9 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1940-82), 170,000 ft³/s (4,810 m³/s) Feb. 7, 1942, gage height, 96.87 ft (29.526 m); minimum recorded, 1,050 ft³/s (29.7 m³/s) July 15, 25, 26, 1931, gage height, 67.49 ft (20.571 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 102,000 ft³/s (2,890 m³/s) Dec. 21, gage height, 91.28 ft (27.822 m); minimum daily, 4,190 ft³/s (119 m³/s) Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4800	5270	21800	48800	22800	32100	52000	23600	13100	9000	9380	8490
2	4490	5110	20300	49900	20900	47300	43900	23900	12200	8840	9490	8460
3	4400	5020	19300	44700	19800	47400	44700	23100	10700	9310	9340	8650
4	4380	4990	18800	49500	18300	39500	47300	22100	10100	9050	8270	8850
5	4310	4850	18300	63000	16100	35600	41200	21600	10200	8640	8240	8870
6	4370	4990	17900	58300	15200	33800	36700	20900	9860	8280	8250	8980
7	4450	4900	18100	48100	14600	32500	33800	20000	9700	8000	8120	9040
8	4850	4930	19400	43200	14300	31800	31300	17400	9680	7730	8010	7970
9	4790	4930	18500	36900	14000	31500	28500	16500	9570	7540	8030	7480
10	4530	4900	21300	33200	13100	30800	25200	15900	9350	7600	7980	7830
11	4970	4930	22900	31800	11600	32700	38500	15600	9240	7500	7950	8020
12	5440	5090	19900	31000	10300	32600	58400	15000	9190	7290	7920	8240
13	4930	5940	21800	28100	9810	28100	60700	14300	9130	7190	7990	8350
14	4610	15700	29800	23300	17500	26400	59700	13400	9280	7250	7970	8320
15	4520	13900	32900	20900	35200	32600	65100	12900	9150	7270	7990	7820
16	4420	38600	29000	18700	57300	28800	67300	12200	8980	7330	8080	7890
17	4330	66200	24900	16200	75400	29800	64400	12000	8750	7830	8050	8280
18	4410	38000	22800	15000	77000	29200	60000	12000	8790	8000	7900	8820
19	4360	19100	49700	14700	74000	26600	51500	13200	8760	8050	7900	9600
20	4320	13600	78800	15500	72800	26100	41700	13800	8700	8090	7940	9930
21	4190	11700	92800	24400	74000	25000	32500	12500	8640	8120	7940	10100
22	4210	15200	75200	25400	73800	24200	24700	12100	8700	8050	7980	10200
23	4470	18200	69200	23300	72800	23100	20500	11500	8570	8090	8000	9270
24	4400	42200	72300	22000	64500	21100	19200	11400	8520	8090	8000	8500
25	4360	40700	73300	21700	50200	18000	18500	11800	8420	8070	8000	8400
26	4370	30200	70400	22000	40800	16100	17800	13600	8430	8000	8050	8550
27	4430	29200	61700	28700	38200	15700	23500	13700	8340	7920	8090	8380
28	5240	38700	50300	28100	34200	15500	26100	13600	8530	7850	8200	8290
29	8760	29600	40400	36300	---	14800	23200	13500	9240	7740	8240	7980
30	7210	24400	53300	27700	---	14700	21800	13300	9980	8040	8360	7980
31	5950	---	54900	24400	---	29600	---	13100	---	9230	8450	---
TOTAL	149270	551050	1240000	974800	1058510	873000	1179700	479500	281800	248990	254110	257540
MEAN	4815	18370	40000	31450	37800	28160	39320	15470	9393	8032	8197	8585
MAX	8760	66200	92800	63000	77000	47400	67300	23900	13100	9310	9490	10200
MIN	4190	4850	17900	14700	9810	14700	17800	11400	8340	7190	7900	7480
AC-FT	296100	1093000	2460000	1934000	2100000	1732000	2340000	951100	559000	493900	504000	510800
CAL YR 1981 TOTAL	4778120			MEAN 13090	MAX 92800	MIN 4190	AC-FT 9477000					
WTR YR 1982 TOTAL	7548270			MEAN 20680	MAX 92600	MIN 4190	AC-FT 14970000					

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 (18 m) downstream from highway bridge at Colusa, and at mile 89.4 (143.8 km) upstream from Sacramento.

DRAINAGE AREA.--12,090 mi² (31,313 km²).

PERIOD OF RECORD.--April 1921 to October 1939 (low-water periods only), June 1940 to current year.

REVISED RECORDS.--WSP 1345: 1952. WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.95 ft (0.899 m) below National Geodetic Vertical Datum of 1929. Prior to December 1930, waterstage recorder in center fender pier 50 ft (15 m) upstream from bridge at same datum.

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.

AVERAGE DISCHARGE.--42 years (water years 1941-82), 11,540 ft³/s (326.8 m³/s), 8,361,000 acre-ft/yr (10.3 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1941-82), 49,000 ft³/s (1,390 m³/s) Feb. 8, 1942, gage height, 69.20 ft (21.092 m); minimum recorded, 820 ft³/s (23.2 m³/s) July 25, 26, 1931, gage height, 34.79 ft (10.604 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,000 ft³/s (1,250 m³/s) Dec. 21, gage height, 65.97 ft (20.108 m); minimum daily, 4,220 ft³/s (120 m³/s) Oct. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4840	5260	22900	36700	24000	31300	35900	22600	13200	9290	9220	8850
2	4480	4990	21000	37200	22500	34500	36300	23600	12800	8890	9310	8790
3	4420	4880	19700	35900	20900	36700	35500	23300	11500	9120	9370	8960
4	4370	4840	18900	36200	19800	34900	36300	22200	10500	9460	8570	9260
5	4360	4730	18400	39100	17700	33300	35500	21600	10600	8860	8190	9310
6	4350	4750	17900	39500	16300	32300	33800	21300	10300	8520	8250	9410
7	4410	4760	17700	37400	15600	31700	32900	20300	10100	8150	8150	9540
8	4570	4770	18900	35600	15200	31200	31600	17800	10000	7860	8110	9020
9	4800	4740	18800	34000	14900	30800	29900	16900	10000	7600	8080	7980
10	4470	4750	18900	32100	14400	30500	27000	16100	9730	7500	8020	8140
11	4650	4720	23100	31200	13100	30500	28000	15800	9510	7500	8020	8430
12	5140	4850	21400	30300	11800	32100	38100	15300	9400	7310	7940	8610
13	4940	5230	20600	28900	11000	29500	39000	14600	9380	7080	8010	8720
14	4570	10100	25000	25000	12700	26700	39200	13800	9420	7130	8020	8770
15	4470	15500	32000	21800	27100	29000	39600	13200	9400	7070	8060	8350
16	4400	20100	30300	20000	36300	30300	40400	12500	9290	7140	8090	8250
17	4300	37700	27300	17500	40600	28600	40100	12300	9080	7410	8070	8500
18	4310	35200	24200	16000	41800	29700	39500	12200	8950	7940	8030	9030
19	4330	24400	30500	15400	41600	27400	38100	12600	8850	7940	7990	9710
20	4290	15700	40700	15500	41000	26100	35800	13600	8710	7940	8000	10400
21	4230	12100	43400	20000	41200	25400	32800	13000	8690	7960	8060	10600
22	4220	12700	42400	24600	41400	24500	27800	12300	8730	7870	8150	10700
23	4310	15900	41200	24300	41200	23700	22400	12000	8600	7900	8130	10500
24	4390	26700	40800	22800	40500	22500	19900	11500	8520	7830	8170	9310
25	4330	34600	41300	22100	38100	19800	19000	11500	8420	7940	8160	8980
26	4330	31300	41100	21800	35100	17200	18200	13100	8370	7850	8220	9180
27	4330	28100	40100	25400	34000	16200	20000	13500	8290	7730	8370	9020
28	4590	32000	38000	27200	32900	16000	24900	13600	8400	7650	8400	8900
29	6910	31400	35200	32400	---	15200	24600	13500	8730	7540	8480	8550
30	7340	26300	36100	30500	---	15100	22500	13400	10100	7630	8580	8470
31	5990	---	38600	26200	---	19600	---	13200	---	8720	8730	---
TOTAL	145440	473070	906400	862600	762700	832300	944600	482200	287570	246330	256950	272240
MEAN	4692	15770	29240	27830	27240	26850	31490	15550	9586	7946	8289	9075
MAX	7340	37700	43400	39500	41800	36700	40400	23600	13200	9460	9370	10700
MIN	4220	4720	17700	15400	11000	15100	18200	11500	8290	7070	7940	7980
AC-FT	288500	938300	1798000	1711000	1513000	1651000	1874000	956400	570400	488600	509700	540000
CAL YR 1981 TOTAL	4304630	MEAN	11790	MAX	43400	MIN	4220	AC-FT	8538000			
WTR YR 1982 TOTAL	6472400	MEAN	17730	MAX	43400	MIN	4220	AC-FT	12840000			

11389950 LITTLE BUTTE CREEK AT MAGALIA, CA

LOCATION.--Lat 39°48'38", long 121°35'00", in NW¼NE¼ sec.36, T.23 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank 1,000 ft (305 m) downstream from Magalia Dam, and 0.4 mi (0.6 km) northwest of Magalia.

DRAINAGE AREA.--11.4 mi² (29.5 km²).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,160 ft (658 m), from topographic map.

REMARKS.--Records good. Flow regulated by Paradise Reservoir, usable capacity, 11,500 acre-ft (14.180 hm³), and Magalia Reservoir, usable capacity, 2,640 acre-ft (3.26 hm³). Diversion occurs above Magalia Reservoir through a pipeline into Pacific Gas and Electric Co.'s Toadtown Canal when Paradise and Magalia Reservoirs are spilling. Diversion is made from Magalia Reservoir for the municipal supply of Paradise.

AVERAGE DISCHARGE (unadjusted).--14 years, 16.4 ft³/s (0.464 m³/s), 11,900 acre-ft/yr (14.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft³/s (33.4 m³/s) Jan. 24, 1970, gage height, 6.47 ft (1.972 m); minimum daily, 0.01 ft³/s (<0.001 m³/s) Sept. 25, 1974, and many days in 1976-77.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 759 ft³/s (21.5 m³/s) Apr. 11, gage height, 5.72 ft (1.743 m); minimum daily, 0.26 ft³/s (0.007 m³/s) Nov. 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.71	.28	5.0	125	41	123	198	27	.66	.54	.51	.56
2	.44	.28	4.1	120	40	144	225	30	.62	.51	.51	.56
3	.41	.28	3.4	118	40	90	320	29	.60	.53	.51	.52
4	.44	.28	2.8	115	40	69	225	26	.60	.59	.51	.51
5	.49	.26	2.4	112	37	58	196	21	.61	.65	.51	.54
6	.52	.26	2.2	107	34	52	173	19	.60	.65	.72	.49
7	.69	.26	2.7	103	33	48	150	17	.60	.65	1.3	.48
8	.46	.27	2.2	96	32	49	133	18	.58	.65	1.2	.50
9	.47	.28	3.5	73	31	46	122	18	.58	.65	.96	.42
10	.78	.28	4.9	71	30	57	164	18	.59	.65	1.0	.44
11	.73	.28	3.2	57	29	88	644	16	.66	.65	.93	.44
12	.51	1.7	3.9	29	28	99	413	13	.81	.65	.86	.45
13	.51	5.4	7.9	25	44	74	277	12	.78	.65	.84	.47
14	.48	1.4	9.2	24	132	75	245	11	.75	.65	.85	.44
15	.52	16	7.3	24	339	80	205	9.7	.71	.65	.84	.42
16	.57	5.5	12	27	323	74	172	7.6	1.0	.65	.79	.43
17	.64	11	22	34	185	70	135	8.4	1.4	.69	.76	.43
18	.69	10	56	36	137	64	92	8.8	1.4	.88	.78	.48
19	.67	5.2	332	42	113	61	105	5.9	.89	.89	.77	.47
20	.51	2.9	367	58	98	59	106	4.0	1.1	.89	.75	.47
21	.53	15	204	55	88	55	91	3.5	1.0	.89	.73	.46
22	.55	19	166	38	71	52	82	3.1	.65	.89	.68	.47
23	.59	69	127	32	50	48	76	2.4	.61	.89	.58	.44
24	.54	38	92	31	54	45	71	1.3	.63	.86	.63	.46
25	.60	16	70	31	53	42	69	.92	.58	.79	.58	.44
26	.67	23	70	79	53	40	61	.80	.51	.69	.51	.46
27	2.0	22	71	88	54	39	35	.79	.49	.55	.51	.41
28	2.4	14	67	72	49	39	25	.75	.50	.55	.51	.44
29	.64	8.4	135	56	---	42	31	.70	.52	.54	.52	.46
30	.32	6.2	168	47	---	90	30	.69	.49	.51	.55	.47
31	.30	---	130	42	---	390	---	.69	---	.51	.55	---
TOTAL	20.38	292.71	2153.7	1967	2258	2362	4871	335.04	21.52	20.99	22.25	14.03
MEAN	.66	9.76	69.5	63.5	80.6	76.2	162	10.8	.72	.68	.72	.47
MAX	2.4	69	367	125	339	390	644	30	1.4	.89	1.3	.56
MIN	.30	.26	2.2	24	28	39	25	.69	.49	.51	.51	.41
AC-FT	40	581	4270	3900	4480	4690	9660	665	43	42	44	28
a	324	269	238	233	219	267	318	855	1082	1062	1223	692

CAL YR 1981 TOTAL 3439.06 MEAN 9.42 MAX 367 MIN .08 AC-FT 6820
WTR YR 1982 TOTAL 14338.62 MEAN 39.3 MAX 644 MIN .26 AC-FT 28440

a Diversion, in acre-feet from Magalia Reservoir, furnished by Paradise Irrigation District.

SACRAMENTO RIVER BASIN

11390000 BUTTE CREEK NEAR CHICO, CA

LOCATION.--Lat 39°43'34", long 121°42'28", in NW¼NW¼ sec.36, T.22 N., R.2 E., Butte County, Hydrologic Unit 18020105, on right bank 0.7 mi (1.1 km) downstream from Little Butte Creek, and 7.5 mi (12.1 km) east of Chico.

DRAINAGE AREA.--147 mi² (381 km²).

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

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

GAGE.--Water-stage recorder. Altitude of gage is 320 ft (98 m), from topographic map. Prior to Aug. 13, 1944, water-stage recorder at site 0.4 mi (0.6 km) upstream at different datum.

REMARKS.--Records good. Flow slightly regulated by storage in Magalia Reservoir, capacity, 3,540 acre-ft (4.36 hm³) and since 1957 by Paradise Reservoir, capacity, 6,430 acre-ft (7.93 hm³). Diversions above station for irrigation and domestic use of about 7,000 acre-ft (8.63 hm³) annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal.

AVERAGE DISCHARGE (unadjusted).--52 years, 409 ft³/s (11.58 m³/s), 296,300 acre-ft/yr (365 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s (600 m³/s) Dec. 22, 1964, gage height, 14.12 ft (3.304 m), from rating curve extended above 8,900 ft³/s (252 m³/s) on basis of slope-area measurement at gage height 13.35 ft (4.069 m); minimum, 10 ft³/s (0.28 m³/s) Nov. 29, 1952.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,700 ft³/s (76.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 16	0015	7,940 225	8.94 2.725	Feb. 16	0315	7,230 205	8.07 2.460
Nov. 23	1515	5,060 143	6.76 2.060	Mar. 31	0945	4,990 141	6.46 1.969
Dec. 29	2400	6,900 195	8.19 2.496	Apr. 11	0730	*8,500 241	9.06 2.761

Minimum daily, 58 ft³/s (1.64 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	181	660	1880	620	1530	1820	1020	466	321	175	176
2	68	175	622	1510	607	1550	1940	1010	451	307	171	186
3	58	163	584	1230	607	1190	2460	991	434	298	172	186
4	82	158	559	1400	598	1020	1870	971	427	293	174	185
5	71	152	531	1370	570	918	1480	947	419	285	177	192
6	76	147	519	1140	543	850	1290	922	406	277	176	196
7	137	144	625	989	529	809	1160	916	394	280	175	196
8	131	142	570	902	517	797	1050	903	384	271	179	197
9	102	147	568	842	503	762	1010	860	374	269	184	202
10	123	137	680	812	492	831	1450	803	368	255	178	206
11	199	137	594	782	477	1190	6980	766	360	255	175	194
12	140	276	587	721	465	1140	4570	726	356	250	174	165
13	113	1010	680	677	596	967	3120	715	360	242	175	147
14	107	1320	784	650	1480	1010	3000	704	352	241	176	93
15	103	2680	788	630	3820	1030	2380	697	344	242	178	102
16	114	4650	742	615	4950	959	1950	676	333	241	178	106
17	111	3210	681	611	2510	920	1700	679	328	244	175	112
18	103	1240	943	601	1800	875	1510	668	328	241	175	113
19	101	823	3850	612	1540	827	1430	644	325	236	174	128
20	107	656	5050	758	1380	785	1380	630	361	220	174	115
21	91	1210	2750	742	1260	745	1310	622	319	206	175	102
22	107	1190	1920	638	1230	714	1270	615	311	201	174	99
23	105	3280	1500	600	1050	687	1260	606	303	190	172	98
24	107	2750	1240	596	962	670	1260	606	302	188	172	115
25	107	1510	1090	603	890	654	1240	607	298	185	171	182
26	95	1360	1010	998	854	638	1180	603	289	179	171	162
27	116	1320	1040	942	835	624	1130	591	291	182	172	139
28	578	1050	906	881	784	647	1110	558	293	183	173	116
29	448	858	1910	753	---	679	1070	524	343	182	177	115
30	260	731	2420	675	---	1150	1050	500	320	181	176	113
31	203	---	1870	635	---	3610	---	477	---	176	176	---
TOTAL	4349	32807	38273	26795	32469	30778	55430	22557	10639	7321	5424	4438
MEAN	140	1094	1235	864	1160	993	1848	728	355	236	175	148
MAX	578	4650	5050	1880	4950	3610	6980	1020	466	321	184	206
MIN	58	137	519	596	465	624	1010	477	289	176	171	93
AC-FT	8630	65070	75910	53150	64400	61050	109900	44740	21100	14520	10760	8800
a	1820	5980	6970	7000	6380	7040	6710	7260	6930	5700	4750	2820
CAL YR 1981 TOTAL	151781			MEAN 416	MAX 5050	MIN 58	AC-FT 301100					
WTR YR 1982 TOTAL	271280			MEAN 743	MAX 6980	MIN 58	AC-FT 538100					

a Diversion, in acre-feet, to Toadtown Canal from West Branch Feather River, furnished by Pacific Gas and Electric Co.

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 (366 m) downstream from Wilkins Slough, 5.8 mi (9.3 km) southeast of Grimes, and at mile 62.9 (101.2 km) upstream from Sacramento.

DRAINAGE AREA.--12,926 mi² (33,478 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1931 to September 1938 (low-water periods only), October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough."

GAGE.--Water-stage recorder. Datum of gage is 3.00 ft (0.914 m) 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.

AVERAGE DISCHARGE.--44 years (water years 1939-82), 10,180 ft³/s (288.3 m³/s), 7,375,000 acre-ft/yr (9.09 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1939-82), 29,400 ft³/s (833 m³/s) Jan. 19, 1974, gage height, 50.08 ft (15.264 m); maximum gage height, 52.75 ft (16.078 m) Mar. 1, 1940; minimum discharge, 100 ft³/s (2.83 m³/s) Aug. 1, 1931, gage height, 14.20 ft (4.328 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,300 ft³/s (830 m³/s) Dec. 21, gage height, 49.77 ft (15.170 m); minimum daily, 4,620 ft³/s (131 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5180	5630	23700	27000	23700	25700	25200	22000	11700	8090	7420	8260
2	4930	5190	22400	27000	22700	26000	26400	22500	11600	7570	7640	8410
3	4730	5060	21000	26800	21200	26700	26200	22100	10800	7560	7670	8550
4	4660	4990	20000	26700	20200	26300	26500	21400	9540	8130	7370	8850
5	4660	4940	19300	27400	18500	25800	26500	20500	9220	7800	6670	9000
6	4650	4870	18800	27800	16700	25500	26100	20000	9070	7360	6610	9100
7	4740	4940	18400	27400	15800	25400	26000	19300	8800	6900	6600	9290
8	4790	4910	18800	26700	15300	25300	25800	17300	8560	6520	6660	9290
9	5040	4900	19300	26300	14900	25100	25500	15800	8560	6180	6630	8420
10	4980	4930	19300	25800	14600	25100	24900	14800	8360	5940	6620	8120
11	4910	4900	21300	25600	13700	25200	24700	14200	8030	5940	6560	8280
12	5210	4960	21800	25400	12500	25500	26900	13700	7790	5820	6550	8390
13	5350	5200	20500	25200	11500	25200	27500	13000	7730	5500	6540	8590
14	5040	7220	22300	24300	11500	24500	27700	12200	7670	5390	6650	8740
15	5000	14900	25100	22700	20400	24600	27700	11400	7780	5300	6710	8550
16	4930	16300	25200	21000	26000	25200	27900	10800	7830	5370	6750	8230
17	4830	26600	24600	18800	27600	24800	27800	10200	7580	5480	6790	8320
18	4750	27500	23600	16800	28400	25000	27500	10100	7290	6090	6800	8860
19	4730	24900	24200	15900	28300	24700	27000	10300	7080	6230	6740	9530
20	4730	20100	27300	15800	28100	24300	26100	11300	6800	6180	6890	10400
21	4730	15800	28900	17900	28100	24000	25400	11300	6740	6190	6880	10800
22	4640	14300	29100	22900	28100	23700	24500	10500	6680	6170	6980	10900
23	4620	16600	28700	23900	28200	23400	22700	10200	6610	6170	7100	11000
24	4630	21300	28400	23100	28100	22800	20600	9730	6490	6130	7230	10000
25	4640	26300	28400	22300	27700	20800	19500	9610	6370	6240	7270	9290
26	4640	26000	28300	21900	26900	18200	18700	10600	6280	6220	7300	9210
27	4660	25200	28100	23200	26400	16600	18800	11700	6330	6070	7500	9210
28	4800	25700	27500	24900	26200	16100	22500	11900	6340	5980	7590	9060
29	5730	25900	26700	25500	---	15400	23000	11900	6700	5940	7690	8790
30	7820	24800	26500	25800	---	15100	21900	11900	7940	5880	7820	8480
31	6660	---	27300	24600	---	16500	---	11800	---	6500	8040	---
TOTAL	155410	424840	744800	736400	611300	718500	747500	434040	238270	196840	218270	271920
MEAN	5013	14160	24030	23750	21830	23180	24920	14000	7942	6350	7041	9064
MAX	7820	27500	29100	27800	28400	26700	27900	22500	11700	8130	8040	11000
MIN	4620	4870	18400	15800	11500	15100	18700	9610	6280	5300	6540	8120
AC-FT	308300	842700	1477000	1461000	1213000	1425000	1483000	860900	472600	390400	432900	539400
CAL YR 1981	TOTAL	3896320	MEAN	10670	MAX	29100	MIN	4620	AC-FT	7728000		
WTR YR 1982	TOTAL	5498090	MEAN	15060	MAX	29100	MIN	4620	AC-FT	10910000		

SACRAMENTO RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1966 to current year.

INSTRUMENTATION.--Temperature recorder since October 1966.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 25.5°C Sept. 6-8, 1977; minimum recorded, 4.0°C Dec. 26, 1968.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 22.0°C June 17, 18; minimum recorded, 6.0°C Jan. 22, 23.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.5	17.5	14.5	14.0	10.5	10.5	10.0	9.5	8.5	8.0	10.5	10.0
2	18.0	17.5	15.0	14.5	10.5	10.5	10.0	9.0	9.0	8.5	10.5	10.0
3	18.5	18.0	15.0	14.5	11.0	10.5	9.0	8.0	9.5	9.0	11.0	10.5
4	18.0	17.5	15.0	15.0	11.0	11.0	8.0	8.0	9.5	8.5	10.5	10.5
5	18.0	17.5	15.0	15.0	11.5	11.0	8.0	7.0	8.5	8.0	10.5	10.5
6	18.0	17.5	15.5	15.0	11.5	11.5	7.0	7.0	8.0	7.5	10.5	10.0
7	18.0	18.0	15.5	15.0	11.5	11.5	7.0	7.0	8.0	7.5	10.5	10.0
8	18.0	17.5	15.5	15.0	11.5	11.0	7.5	7.0	8.5	7.5	10.0	10.0
9	18.0	17.5	16.0	15.5	11.0	11.0	8.0	7.5	8.5	8.0	10.5	10.0
10	18.0	18.0	16.0	15.5	11.0	10.5	8.5	8.0	9.0	8.0	10.5	10.5
11	18.0	17.0	15.5	15.5	10.5	10.5	9.0	8.5	9.5	8.5	11.0	10.5
12	17.0	16.5	15.5	15.5	10.5	10.0	9.0	8.5	9.5	9.0	11.5	11.0
13	16.5	15.5	15.5	15.0	10.5	10.0	8.5	8.5	10.0	9.5	12.0	11.5
14	15.5	15.0	15.0	14.5	11.0	10.5	8.5	8.5	11.0	10.0	12.0	11.5
15	15.5	14.5	14.5	14.0	11.0	11.0	9.0	9.0	11.0	10.5	11.5	11.0
16	15.5	14.5	14.5	14.0	11.0	11.0	9.0	8.5	11.5	11.0	11.0	11.0
17	15.5	15.0	14.5	14.5	11.0	11.0	8.5	8.5	12.0	11.5	11.0	10.0
18	16.0	15.5	14.5	13.5	11.0	10.0	8.5	8.5	11.5	10.5	10.0	9.5
19	16.5	16.0	13.5	12.5	11.0	10.0	8.5	8.0	10.5	10.0	10.0	9.5
20	17.0	16.5	12.5	12.5	11.5	11.0	8.0	7.5	10.5	10.0	10.5	10.0
21	17.0	16.5	12.5	12.5	12.0	11.5	7.5	7.0	11.0	10.5	11.0	10.5
22	17.5	17.0	13.0	12.5	12.0	11.0	7.0	6.0	10.5	10.0	11.5	11.0
23	17.5	17.0	13.5	13.0	11.0	10.5	6.5	6.0	10.0	9.0	11.5	11.5
24	17.5	17.0	13.5	13.0	10.5	10.5	7.5	7.0	9.0	9.0	12.0	11.5
25	17.0	16.5	13.0	12.5	10.5	10.5	8.0	7.5	9.5	9.0	12.5	12.0
26	16.5	16.0	12.5	11.5	10.5	10.5	8.0	8.0	9.5	9.5	13.5	12.5
27	16.0	16.0	11.5	11.0	11.0	10.5	8.5	8.0	10.0	9.5	13.0	12.0
28	16.0	15.0	11.0	10.5	11.0	10.5	8.5	8.0	10.0	9.5	12.0	11.0
29	15.0	15.0	10.5	10.0	10.5	10.0	8.0	7.5	---	---	11.0	10.5
30	15.0	14.0	10.5	10.0	10.0	10.0	7.5	7.5	---	---	10.5	10.0
31	14.0	14.0	---	---	10.0	9.5	8.0	7.5	---	---	10.0	9.0
MONTH	18.5	14.0	16.0	10.0	12.0	9.5	10.0	6.0	12.0	7.5	13.5	9.0

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	8.5	15.0	14.0	18.0	16.5	18.0	17.0	20.0	19.5	19.0	18.5
2	9.0	8.5	15.0	14.5	17.5	16.5	19.0	17.5	20.0	19.5	19.0	18.5
3	9.5	8.5	15.0	14.5	18.0	16.5	19.0	18.5	19.5	19.0	19.0	18.5
4	10.0	9.0	15.0	15.0	18.0	17.0	19.0	18.0	19.0	18.5	18.5	18.0
5	10.5	10.0	15.0	14.5	18.5	17.0	19.0	18.0	19.0	18.5	18.5	18.0
6	10.5	10.0	15.0	15.0	18.0	17.0	20.0	19.0	19.0	19.0	19.0	18.5
7	10.5	10.0	15.5	15.0	18.5	17.0	20.0	19.5	19.0	19.0	19.0	18.5
8	10.5	10.0	16.0	15.5	19.0	17.5	20.0	20.0	19.0	18.5	19.5	19.0
9	11.0	10.5	16.5	15.0	19.5	18.0	20.0	20.0	19.0	18.5	19.5	19.0
10	12.0	11.0	16.0	15.0	20.0	18.5	20.5	20.0	19.0	19.0	19.5	19.5
11	12.0	12.0	16.0	14.5	19.5	19.0	21.0	20.5	19.0	19.0	19.5	19.0
12	12.5	12.0	16.5	15.0	19.0	18.0	21.0	21.0	19.5	19.0	18.5	18.0
13	12.5	11.5	16.5	15.5	18.5	18.0	21.5	21.0	19.5	19.5	18.5	18.0
14	11.5	11.0	17.0	15.5	19.5	18.0	21.5	21.5	19.5	19.0	18.5	18.0
15	11.5	11.5	18.0	16.0	20.5	19.0	21.5	21.0	19.5	19.0	18.5	18.0
16	11.5	11.0	18.5	17.0	21.5	20.0	21.0	20.5	19.0	19.0	18.0	17.5
17	11.5	11.0	18.5	17.5	22.0	21.0	20.5	20.0	19.5	19.0	18.0	17.5
18	12.0	11.5	18.0	17.0	22.0	21.0	20.0	20.0	19.5	19.0	17.5	17.0
19	12.0	11.5	18.0	16.5	21.5	21.0	20.0	19.5	19.5	19.0	17.0	16.5
20	12.5	11.5	18.0	16.5	21.5	21.0	19.5	19.5	19.0	18.5	16.5	16.0
21	13.0	12.0	18.0	16.5	21.5	21.0	19.5	19.5	19.0	18.5	16.5	16.0
22	13.5	13.0	19.0	17.0	21.5	21.0	19.5	19.5	19.5	19.0	17.0	16.0
23	14.5	13.5	19.5	17.5	21.5	21.0	20.0	19.5	19.5	19.5	17.5	16.5
24	16.0	14.0	19.5	18.0	21.5	20.5	20.0	19.5	20.0	19.5	17.5	17.0
25	16.5	15.0	20.5	18.5	20.5	19.5	19.5	19.5	20.0	20.0	18.0	17.5
26	16.5	15.5	20.0	19.0	20.0	19.5	19.5	19.5	20.0	20.0	18.5	18.0
27	17.0	15.5	19.5	18.5	20.5	20.0	19.5	19.5	20.0	19.5	18.5	18.0
28	16.0	15.0	19.0	17.5	20.5	19.5	19.5	19.5	19.5	19.0	18.0	17.5
29	15.0	14.0	18.0	17.0	20.0	19.0	20.0	19.5	19.0	18.5	17.5	16.5
30	14.5	14.0	18.0	16.5	19.0	17.5	20.0	19.5	18.5	18.5	16.5	16.0
31	---	---	18.0	17.0	---	---	20.0	20.0	19.0	18.5	---	---
MONTH	17.0	8.5	20.5	14.0	22.0	16.5	21.5	17.0	20.0	18.5	19.5	16.0

SACRAMENTO RIVER BASIN

11390672 STONE CORRAL CREEK NEAR SITES, CA

LOCATION.--Lat 39°17'18", long 122°18'00", in NW 1/4 NW 1/4 sec.34, T.17 N., R.4 W., Colusa County, Hydrologic Unit 18020104, on left bank at road bridge, 2.4 mi (3.9 km) southeast of Sites.

DRAINAGE AREA.--38.2 mi² (98.9 km²).

PERIOD OF RECORD.--March 1958 to September 1964, October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 180 ft (55 m), from topographic map.

REMARKS.--No known diversion or regulation above station.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

AVERAGE DISCHARGE.--23 years (water years 1959-64, 1966-82), 6.93 ft³/s (0.196 m³/s), 5,020 acre-ft/yr (6.19 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s (154 m³/s) Feb. 6, 1973, gage height, 16.45 ft (5.014 m), from rating curve extended above 1,200 ft³/s (34.0 m³/s) on basis of slope-conveyance study at gage height 13.0 ft (3.96 m) and a slope-area measurement at 16.45 ft (5.014 m); no flow for several months in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 13.0 ft (3.96 m) from floodmarks, discharge, 1,940 ft³/s (54.9 m³/s) from slope-conveyance study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,320 ft³/s (37.4 m³/s) Jan. 4, gage height, 12.64 ft (3.853 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	16	5.3	22	28	5.6	.74	.25		
2	0	0	0	23	4.9	9.3	159	5.3	.74	.19		
3	0	0	0	19	4.9	5.6	36	4.5	.74	.12		
4	0	0	0	629	4.6	4.8	17	3.8	.74	.11		
5	0	0	0	372	4.0	4.2	15	3.2	.74	.09		
6	0	0	0	56	4.0	4.0	13	2.9	.74	.09		
7	0	0	0	30	4.0	4.1	11	2.7	.74	.08		
8	0	0	0	22	4.0	4.4	10	2.4	.63	.07		
9	0	0	.05	18	3.8	4.2	8.7	2.2	.58	.06		
10	0	0	0	14	3.8	8.6	157	2.0	.58	.06		
11	0	0	0	12	3.6	7.4	180	2.2	.53	.05		
12	0	.02	.21	9.5	3.3	5.0	29	2.1	.58	.04		
13	0	.30	.01	7.7	5.9	4.4	20	1.8	.58	.04		
14	0	0	0	7.0	11	4.9	18	1.6	.44	.02		
15	0	.24	0	6.5	109	6.2	15	1.5	.32	.02		
16	0	.03	0	5.9	41	5.8	15	1.4	.28	.02		
17	0	0	0	5.8	12	16	14	1.3	.22	.02		
18	0	0	.74	5.5	8.8	8.4	12	1.2	.19	.01		
19	0	0	174	5.8	7.2	5.6	10	1.2	.16	.01		
20	0	0	83	153	6.4	5.0	9.1	1.2	.16	.01		
21	0	.01	17	51	6.1	4.8	8.1	1.1	.14	.01		
22	0	0	7.9	18	5.5	4.6	7.6	1.0	.12	0		
23	0	.10	5.5	12	4.8	4.5	7.4	.97	.11	0		
24	0	0	4.0	11	4.6	4.4	7.2	.74	.09	0		
25	0	0	3.2	9.9	4.5	4.4	7.0	.80	.09	0		
26	0	.04	2.8	11	4.4	4.4	7.0	.85	.09	0		
27	.01	3.0	2.3	8.3	4.6	4.1	7.0	.80	.08	0		
28	.02	5.6	1.7	9.1	4.5	4.6	6.8	.74	.07	0		
29	0	1.5	59	7.2	---	5.8	6.5	.74	.25	0		
30	0	.13	16	6.1	---	62	5.9	.74	.36	0		
31	0	---	6.6	5.8	---	262	---	.74	---	0		---
TOTAL	.03	10.97	457.27	1567.1	290.5	505.5	847.3	59.32	11.83	1.37	0	0
MEAN	.001	.37	14.8	50.6	10.4	16.3	28.2	1.91	.39	.044	0	0
MAX	.02	5.6	174	629	109	262	180	5.6	.74	.25	0	0
MIN	0	0	0	5.5	3.3	4.0	5.9	.74	.07	0	0	0
AC-FT	.06	22	907	3110	576	1000	1680	118	23	2.7	0	0
CAL YR 1981 TOTAL	1973.76			MEAN 5.41	MAX 478	MIN 0	AC-FT 3910					
WTR YR 1982 TOTAL	3751.19			MEAN 10.3	MAX 629	MIN 0	AC-FT 7440					

11392500 MIDDLE FORK FEATHER RIVER NEAR CLIO, CA

LOCATION.--Lat 39°45'14", long 120°35'42", in NW¼SE¼ sec.23, T.22 N., R.12 E., Plumas County, Hydrologic Unit 18020123, on left bank 0.6 mi (1.0 km) upstream from Frazier Creek, 1.0 mi (1.6 km) northwest of Clio, and 2.2 mi (3.5 km) southeast of Blairsden.

DRAINAGE AREA.--686 mi² (1,777 km²).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1963 to March 1982 (discontinued).

INSTRUMENTATION.--Temperature recorder from October 1963 to March 31, 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 28.5°C July 26, 1976; minimum recorded, 0.0°C on many days in most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 14.5°C on Oct. 1; minimum recorded, 0.0°C Jan. 8, 22.

TEMPERATURE (DEG. C) OF WATER, OCTOBER 1981 TO MARCH 1982

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	8.5	9.0	4.5	3.0	1.0	4.5	4.0	2.0	0.5	5.0	5.0
2	13.0	9.5	9.0	4.5	3.5	2.0	4.0	3.0	2.5	1.0	5.5	5.0
3	14.0	10.0	9.0	4.5	3.0	1.5	4.0	3.0	3.0	1.5	5.5	5.5
4	12.5	8.0	8.0	5.0	4.0	2.0	3.0	2.0	2.5	2.0	5.5	5.5
5	13.0	7.0	9.0	5.5	4.0	2.0	2.5	2.0	2.0	1.5	5.5	5.5
6	12.5	7.5	9.0	7.0	4.5	3.0	2.0	1.0	2.0	1.0	5.5	5.5
7	13.0	7.5	9.5	6.0	6.0	4.5	1.0	0.5	1.5	1.0	6.0	6.0
8	12.5	8.5	9.0	5.0	5.0	3.5	1.0	0.0	3.0	1.5	6.0	6.0
9	12.5	8.5	8.5	5.0	5.0	4.0	0.5	0.5	2.5	1.5	6.0	6.0
10	12.5	9.5	8.0	6.0	6.0	4.0	0.5	0.5	2.5	1.5	6.5	6.0
11	11.0	6.5	8.5	5.5	4.5	3.5	1.0	0.5	2.5	1.5	6.5	6.5
12	10.0	6.5	7.0	6.0	4.0	3.0	1.0	0.5	2.5	1.0	6.5	6.5
13	9.0	5.5	7.5	6.0	4.5	3.5	2.0	0.5	3.5	2.0	7.0	7.0
14	8.5	6.0	7.0	5.0	6.0	3.5	3.5	1.5	3.0	2.5	7.0	7.0
15	9.0	4.5	8.5	6.0	6.0	5.0	3.5	2.5	3.0	2.5	7.5	7.5
16	10.0	4.0	8.0	7.0	5.0	3.5	3.5	2.5	3.0	2.5	7.5	7.5
17	11.0	5.0	7.5	6.0	4.0	2.5	3.0	2.5	3.0	3.0	8.0	8.0
18	11.5	6.0	6.5	5.0	5.0	3.5	3.0	2.0	3.0	3.0	8.0	7.5
19	11.5	6.0	5.5	4.0	6.5	5.5	2.0	1.0	3.0	3.0	8.0	7.5
20	11.5	6.5	6.5	4.5	6.5	6.5	2.0	0.5	3.0	3.0	7.5	7.0
21	11.0	6.0	6.5	5.5	6.5	6.5	1.5	0.5	3.0	3.0	7.5	7.0
22	11.0	5.5	7.0	6.0	7.0	6.5	1.5	0.0	3.5	3.0	7.0	7.0
23	10.5	6.0	7.5	6.5	7.0	7.0	2.5	1.0	3.5	3.5	7.5	7.0
24	10.0	6.0	7.5	5.0	7.0	6.5	2.0	0.5	4.0	3.5	7.5	7.5
25	10.5	6.0	5.5	4.0	6.5	6.0	2.5	1.0	4.5	4.0	8.0	7.5
26	11.0	7.5	4.0	1.5	6.0	6.0	2.5	2.0	4.5	4.5	8.0	8.0
27	10.5	8.0	2.0	1.5	6.5	5.5	2.5	1.0	4.5	4.5	8.5	8.5
28	9.0	6.0	4.5	1.5	5.5	4.5	2.5	1.0	5.0	5.0	9.0	8.5
29	8.5	4.5	3.5	0.5	4.5	4.5	2.0	0.5	---	---	9.0	9.0
30	8.0	4.0	3.0	1.5	5.0	4.5	1.5	1.0	---	---	9.0	8.5
31	8.5	4.0	---	---	5.0	4.5	2.0	0.5	---	---	8.5	8.0
MONTH	14.5	4.0	9.5	0.5	7.0	1.0	4.5	0.0	5.0	0.5	9.0	5.0

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CA

LOCATION.--Lat 39°42'30", long 121°16'10", in NW 1/4 NE 1/4 sec.2, T.21 N., R.6 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 400 ft (122 m) downstream from bridge on Milsap Bar Road, 500 ft (152 m) downstream from Little North Fork, 4.5 mi (7.2 km) southeast of Merrimac, and 20 mi (32 km) northeast of Oroville.

DRAINAGE AREA.--1,062 mi² (2,751 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1931: 1960, drainage area. WDR CA-68-2: 1956(M), 1963(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,560 ft (475 m), from topographic map. Prior to Jan. 21, 1965, on right bank at same site and datum.

REMARKS.--Records good. Diversions above station for irrigation of about 1,000 acres (4.05 km²) between stations near Clio and near Merrimac. Flow partly regulated by Antelope Lake (station 11401120) beginning in 1963, Lake Davis (station 11391490) beginning in 1966, and Frenchman Lake (station 11391370) beginning in 1961.

AVERAGE DISCHARGE.--31 years, 1,421 ft³/s (40.24 m³/s), 1,030,000 acre-ft/yr (1.27 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,200 ft³/s (2,440 m³/s) Dec. 22, 1964, gage height, 26.5 ft (8.08 m) from floodmarks, present site, from rating curve extended above 19,000 ft³/s (538 m³/s) on basis of slope-area measurement of maximum flow; minimum daily, 51 ft³/s (1.44 m³/s) Sept. 14, 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 10, 1937, reached a stage of 19.4 ft (5.91 m) from floodmarks, discharge, 46,100 ft³/s (1,310 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 15	1830	14,700 416	12.46 3.798	Dec. 30	0230	10,200 289	11.13 3.392
Nov. 23	2300	32,800 929	16.44 5.011	Feb. 16	0230	*40,000 1,130	17.84 5.438
Dec. 20	0330	37,200 1,050	17.32 5.279	Apr. 11	1345	29,700 841	15.82 4.822

Minimum daily, 136 ft³/s (3.85 m³/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	449	2150	6350	1530	4170	2210	5790	2870	1280	426	278
2	138	419	1980	5050	1480	5060	2180	5900	2710	1160	418	273
3	139	394	1830	4160	1450	4470	3580	5950	2610	1090	413	271
4	139	375	1710	3990	1420	4250	3700	5960	2420	1040	410	271
5	136	355	1620	3640	1330	3850	3680	5750	2290	993	405	265
6	136	345	1570	3160	1290	3440	3780	5520	2130	959	411	265
7	284	338	1970	2800	1260	3120	3350	5550	2050	919	403	261
8	294	322	1730	2650	1230	2970	3110	5530	2010	882	395	259
9	221	309	1800	2540	1190	2820	2940	5160	1990	841	391	255
10	241	296	2480	2390	1180	3150	3790	4580	1990	805	383	254
11	383	294	1980	2260	1160	5170	23900	4210	1980	776	367	250
12	344	1220	1890	2130	1140	4660	19800	4070	1910	750	362	252
13	260	5690	2190	1910	1470	4310	15800	4100	1810	735	360	255
14	224	6230	2540	1770	6210	4390	12800	4200	1780	708	352	254
15	203	6930	3350	1710	17700	4100	10100	4140	1770	678	346	273
16	194	8850	3030	1660	27900	3800	8320	4280	1800	657	341	344
17	187	10800	2500	1630	18400	3520	7320	4430	1790	635	335	350
18	186	4700	2980	1650	13000	3300	6970	4310	2010	617	327	372
19	191	3150	18200	1640	9170	3070	6550	4030	2000	595	324	441
20	188	2500	27400	1620	7830	2830	6260	3950	1710	575	320	382
21	181	5620	17700	1590	7250	2670	5940	4090	1650	553	320	349
22	177	7640	12300	1470	7060	2520	5850	4230	1530	537	310	333
23	175	20900	8010	1460	5990	2400	6000	4340	1430	528	302	326
24	179	20200	6000	1420	5220	2330	6270	4570	1360	513	295	367
25	175	10400	4900	1430	4580	2270	6170	4700	1300	501	286	418
26	176	7200	4500	1820	4160	2190	5980	4750	1230	489	278	541
27	196	4860	5500	1860	3840	2070	6010	4590	1220	478	278	439
28	1910	3660	4350	1780	3500	2050	6040	3840	1200	471	284	399
29	1210	2890	6090	1670	---	2030	5910	3370	1340	462	290	387
30	686	2450	8630	1610	---	2100	5730	3110	1280	451	284	388
31	507	---	6590	1590	---	2530	---	2990	---	436	281	---
TOTAL	9803	139786	169470	72410	158940	101610	210040	141990	55170	22114	10697	9772
MEAN	316	4660	5467	2336	5676	3278	7001	4580	1839	713	345	326
MAX	1910	20900	27400	6350	27900	5170	23900	5960	2870	1280	426	541
MIN	136	294	1570	1420	1140	2030	2180	2990	1200	436	278	250
AC-FT	19440	277300	336100	143600	315300	201500	416600	281600	109400	43860	21220	19380

CAL YR 1981	TOTAL	530797	MEAN	1454	MAX	27400	MIN	114	AC-FT	1053000
WTR YR 1982	TOTAL	1101802	MEAN	3019	MAX	27900	MIN	136	AC-FT	2185000

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

CHEMICAL ANALYSES: Water years 1963-66, 1970-72, 1977.

WATER TEMPERATURES: Water years 1963 to September 1982 (discontinued).

SEDIMENT RECORDS: Water years 1970-72.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1962 to September 1982 (discontinued).

INSTRUMENTATION.--Temperature recorder since October 1962.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 26.0°C Aug. 11, 13, 1981; minimum recorded, 0.0°C Jan. 31, Feb. 1, 1975.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 23.0°C July 29-31, Aug. 23-25; minimum recorded, 1.5°C Apr. 1.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	14.0	8.5	7.5	5.5	5.0	---	---	4.5	3.5	7.5	7.0
2	15.5	14.0	8.5	8.0	5.5	5.0	---	---	4.5	4.0	7.0	6.0
3	15.5	14.0	8.5	7.5	5.5	5.5	---	---	5.0	4.0	6.5	6.0
4	15.0	13.0	8.0	7.5	6.0	5.5	---	---	5.0	3.5	7.0	6.5
5	15.5	13.0	8.5	8.0	6.0	5.5	---	---	3.0	2.5	6.5	6.0
6	15.0	13.0	9.5	8.5	7.0	6.0	---	---	2.5	2.0	6.5	6.0
7	13.5	12.5	9.5	9.0	7.5	7.0	---	---	3.5	2.5	7.0	6.5
8	13.0	12.0	9.5	8.5	7.5	7.0	---	---	4.0	4.0	7.5	7.0
9	13.0	11.5	9.0	8.5	7.0	6.5	---	---	5.0	4.0	8.0	7.5
10	12.5	12.0	9.0	8.5	7.0	6.5	---	---	5.5	5.0	8.0	8.0
11	12.0	10.5	9.5	8.5	7.0	6.5	---	---	5.0	4.5	8.0	8.0
12	10.5	9.5	9.5	9.0	6.5	6.0	---	---	4.5	4.0	9.0	8.0
13	10.0	9.0	9.5	8.5	7.0	6.0	---	---	5.5	4.5	8.5	8.0
14	10.0	8.5	9.5	8.0	8.0	7.0	4.0	4.0	6.0	5.5	8.5	7.5
15	10.0	8.5	9.5	7.5	8.0	7.5	4.5	4.0	5.5	5.0	7.5	7.0
16	10.5	8.5	10.0	9.5	7.5	6.5	4.5	4.0	5.5	5.0	7.0	6.0
17	10.5	9.0	10.0	8.5	6.0	5.5	5.0	4.0	5.5	4.5	6.0	5.5
18	11.5	9.5	8.5	7.5	7.0	6.0	5.0	4.5	5.5	4.5	6.0	5.5
19	12.0	10.0	7.5	7.0	8.0	7.0	4.5	3.5	6.5	5.5	6.5	5.5
20	12.0	10.5	8.5	7.5	8.0	7.0	3.5	2.5	8.0	6.5	6.5	6.0
21	12.0	10.5	9.0	8.5	7.0	6.5	3.5	2.0	8.5	7.5	7.0	6.0
22	12.0	10.5	8.5	8.5	6.5	5.0	3.0	2.5	8.5	7.5	7.5	6.5
23	12.0	10.0	9.5	8.5	5.5	5.0	4.0	3.0	7.5	6.0	8.0	7.0
24	11.5	10.0	9.0	7.5	6.0	5.0	5.0	4.0	6.5	5.5	8.5	7.5
25	12.0	10.0	7.5	6.5	6.5	5.5	5.0	4.5	6.5	6.0	8.5	8.0
26	12.0	10.0	6.5	5.0	7.0	6.5	5.5	5.0	6.5	6.0	8.5	8.0
27	11.0	10.5	5.5	5.5	7.0	6.0	5.0	4.5	7.5	6.5	8.0	7.5
28	11.0	9.0	5.5	5.0	6.0	6.0	4.5	4.0	7.5	7.0	8.0	6.5
29	9.0	7.5	5.0	5.0	6.5	6.0	4.5	4.0	---	---	6.0	3.5
30	7.5	7.0	5.5	4.5	7.5	6.5	4.5	4.0	---	---	3.5	2.5
31	8.0	7.5	---	---	7.0	6.0	4.0	4.0	---	---	3.0	2.0
MONTH	16.0	7.0	10.0	4.5	8.0	5.0	---	---	8.5	2.0	9.0	2.0

SACRAMENTO RIVER BASIN

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.5	1.5	11.0	9.5	12.5	11.0	16.0	14.0	21.5	19.5	19.5	16.5
2	4.0	3.5	11.0	9.5	12.5	11.0	16.0	14.0	21.0	18.5	19.5	17.0
3	5.0	3.5	11.5	9.5	12.5	11.0	16.5	14.0	20.5	18.0	19.5	18.0
4	5.5	5.0	11.0	9.5	12.0	11.0	17.0	15.0	20.5	18.0	20.0	17.0
5	6.0	5.5	11.0	9.5	12.0	10.0	17.0	15.0	20.5	18.0	20.5	17.5
6	6.0	5.0	11.5	9.5	12.0	10.0	17.5	16.0	21.0	18.0	20.0	18.0
7	6.0	5.5	11.0	10.0	12.5	10.5	17.5	16.5	20.0	19.0	20.5	18.0
8	7.5	6.0	11.0	9.5	13.5	11.5	18.0	16.5	21.0	18.5	20.5	18.0
9	8.0	7.0	10.0	9.0	15.0	12.5	18.5	16.5	21.5	19.0	20.5	18.0
10	8.5	8.0	9.5	8.0	15.0	13.5	18.5	17.0	21.0	18.5	20.0	17.5
11	8.0	4.5	10.0	8.5	14.5	13.5	19.5	17.5	21.0	18.5	18.5	15.5
12	7.5	5.5	11.0	9.5	13.5	12.0	20.0	18.5	21.0	18.5	18.5	15.0
13	7.5	7.0	11.5	10.0	13.5	12.0	20.5	18.5	21.0	18.5	18.5	15.0
14	7.5	6.5	11.0	10.5	15.5	13.5	21.0	19.0	21.0	18.5	18.0	14.5
15	8.0	7.0	11.5	10.0	16.5	14.0	20.5	19.0	20.5	18.5	17.0	14.5
16	8.5	7.0	12.0	10.5	17.5	14.5	20.5	18.5	21.0	18.0	16.0	14.5
17	9.5	8.0	12.0	10.5	17.5	15.0	19.5	17.5	21.5	18.5	15.0	14.5
18	9.5	8.5	11.0	9.5	17.0	15.5	20.0	17.5	21.5	18.5	14.5	14.0
19	10.0	8.5	11.0	9.5	16.5	15.0	20.0	17.5	21.5	19.0	15.0	14.0
20	9.5	8.5	11.5	10.0	17.0	14.5	20.5	18.0	21.5	19.0	15.5	13.0
21	9.5	8.0	12.0	10.5	18.0	16.0	20.5	18.0	22.0	19.5	15.5	13.5
22	10.0	8.0	12.5	10.5	18.0	16.0	20.5	18.0	22.5	20.0	16.0	14.0
23	10.5	9.0	12.5	11.0	18.5	16.5	21.0	18.5	23.0	20.0	16.0	14.0
24	10.5	9.0	12.5	11.0	18.0	17.0	21.0	18.5	23.0	20.0	16.5	15.0
25	10.0	9.0	12.5	11.0	17.5	16.0	21.5	19.0	23.0	20.0	16.5	15.0
26	10.5	9.0	13.0	11.5	17.5	15.5	21.5	19.0	22.5	20.0	16.0	15.0
27	11.0	9.0	13.5	11.0	18.0	16.5	22.0	19.5	20.5	18.5	15.5	14.5
28	10.5	9.0	11.5	9.5	17.0	16.5	22.5	20.0	19.0	17.5	15.0	13.5
29	10.0	8.5	11.0	10.5	16.0	14.5	23.0	20.5	20.5	18.0	14.0	12.5
30	10.5	8.5	11.5	10.0	14.5	13.5	23.0	20.5	20.5	17.0	13.5	12.0
31	---	---	13.0	11.5	---	---	23.0	20.5	20.0	17.0	---	---
MONTH	11.0	1.5	13.5	8.0	18.5	10.0	23.0	14.0	23.0	17.0	20.5	12.0

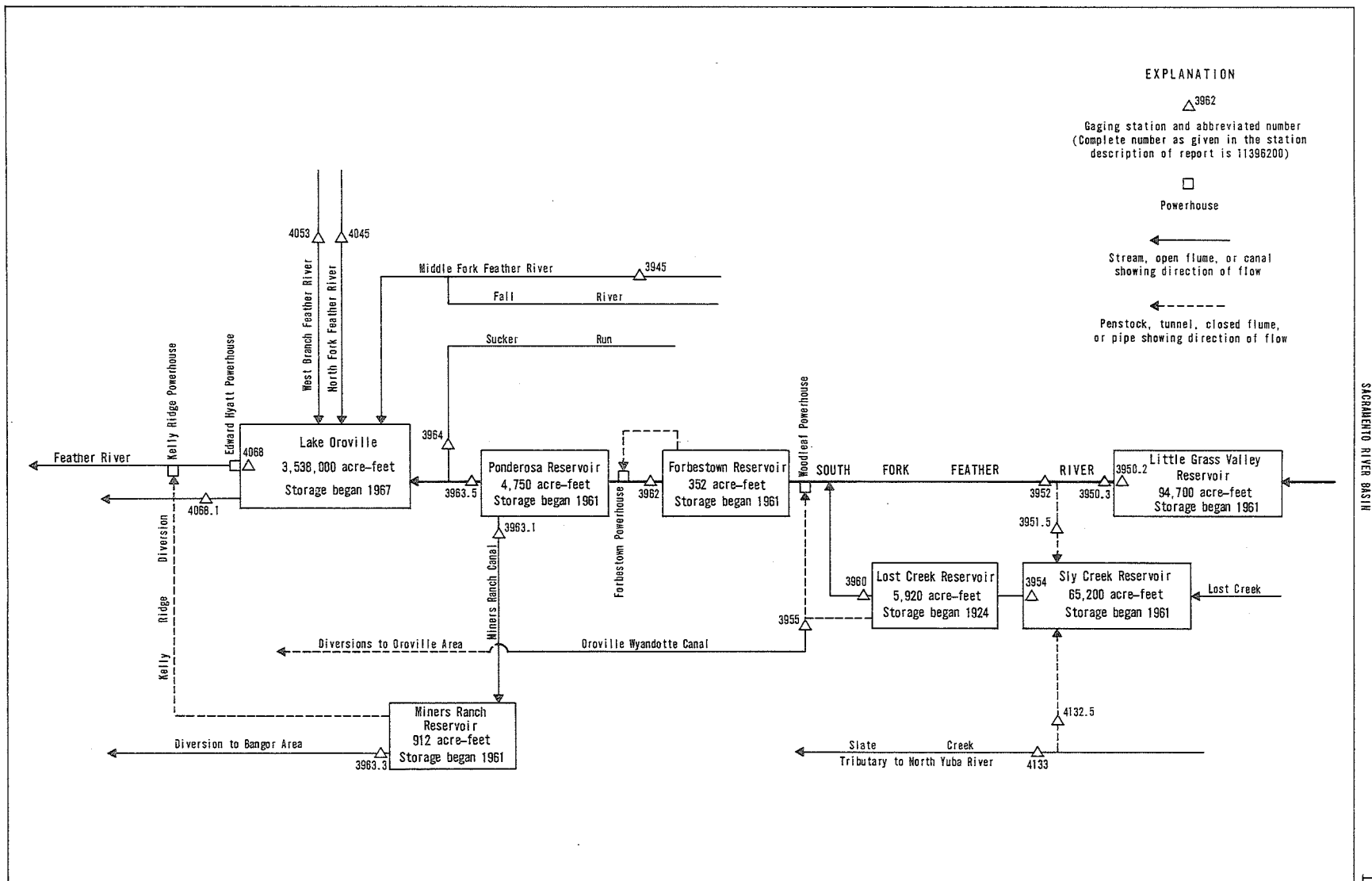


FIGURE 5. — Schematic diagram showing diversions and storage in South Fork Feather River basin.

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 (91 m) upstream from dam on South Fork Feather River, 3.3 mi (5.3 km) northwest of La Porte.

DRAINAGE AREA.--25.8 mi² (66.8 km²).

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, 93,000 acre-ft (115 hm³) between elevations, 4,876 ft (1,486.2 m) invert of release valve, and 5,047 ft (1,538.3 m) top of spillway gates, all of which is available for release. Water is released down South Fork Feather River for power development and irrigation downstream. Records, including extremes, represent contents at 2400 hours. See schematic diagram of South Fork Feather River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 96,100 acre-ft (118 hm³) Apr. 29, 1965, elevation, 5,047.9 ft (1,538.60 m); minimum since reservoir first filled, 30,300 acre-ft (37.4 hm³) on many days in 1977, elevation, 4,994.8 ft (1,522.42 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 94,200 acre-ft (116 hm³) June 19, 20, elevation, 5,046.7 ft (1,538.23 m); minimum, 52,000 acre-ft (64.1 hm³) Sept. 30, elevation, 5,016.6 ft (1,529.06 m).

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

4,990	26,260
5,000	34,600
5,010	44,400
5,020	55,900
5,030	68,900
5,040	83,500
5,048	96,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76600	66800	74300	76800	64700	75000	78200	83800	90100	88500	75500	63000
2	76600	66000	73900	76500	63900	75300	78700	84100	90300	87900	75200	62600
3	76500	65100	73100	76300	63200	75600	79100	84400	90400	87300	74700	62100
4	76500	64300	72200	76500	62400	75600	79400	84900	90900	86600	74300	61900
5	76500	63400	71500	76200	61600	75600	79500	85200	91200	86000	73900	61500
6	76500	62600	70800	75900	60800	75600	79500	85700	91700	85400	73400	61000
7	76600	61900	70200	75700	60000	75600	79700	86200	91900	84900	73000	60700
8	76600	61000	69600	75700	59300	75700	78000	86500	92200	84600	72700	60200
9	76600	60000	69000	75700	58900	75600	80100	87000	92500	84300	72200	59800
10	76600	59700	68600	75600	58600	76000	80700	87100	92800	84000	71800	59400
11	76900	59800	68200	75600	57800	76300	84400	87300	93000	83500	71400	58900
12	76900	60700	68000	75300	57100	76500	86600	87400	93300	83200	70900	58500
13	76800	62600	67800	74900	56900	76500	86600	87400	93700	82900	70600	58100
14	76800	63400	68000	74100	57800	76500	86500	87600	93800	82500	70100	57700
15	76800	65600	68600	73400	62600	76300	85700	87700	94000	82200	69600	57300
16	76800	67700	69200	72500	65800	76300	84700	88100	94000	81900	69300	56900
17	76800	69900	69600	71800	67200	76200	84000	88400	94000	81400	68900	56500
18	76800	70900	70800	70900	68200	76000	82900	88700	94000	81000	68400	56300
19	76800	71400	76500	70300	69200	76000	82200	89000	94200	80700	68000	55800
20	76300	71100	79100	69600	70100	75900	81900	89300	94200	80300	67700	55400
21	75500	72200	78500	68800	70800	75900	81900	89600	93800	80000	67300	55100
22	74400	73000	77600	68400	71500	75700	82000	90100	93300	79500	66900	54700
23	73600	78700	77200	68500	72100	75700	82200	90600	92800	79100	66500	54400
24	72500	78500	76800	68500	72500	75700	82300	91100	92200	78800	66200	54000
25	71700	77400	76500	68500	73000	75700	82300	91700	91700	78400	65800	53900
26	70600	76600	76600	68800	73400	75900	82500	92000	91100	77900	65400	53500
27	70200	76000	76500	68400	73900	76000	82800	91900	90400	77500	65000	53100
28	70100	75700	76500	67700	74100	76500	82900	91700	90000	77200	64600	52800
29	69200	75200	76900	66900	---	76800	83200	91200	89300	76800	64200	52400
30	68400	74700	76900	66300	---	77500	83300	90700	89000	76300	63800	52000
31	67600	---	76900	65500	---	77900	---	90300	---	75900	63400	---
MAX	76900	78700	79100	76800	74100	77900	86600	92000	94200	88500	75500	63000
MIN	67600	59700	67800	65500	56900	75000	78000	83800	89000	75900	63400	52000
a	5029.0	5034.0	5035.5	5027.4	5033.6	5036.2	5039.9	5044.3	5043.5	5034.8	5025.8	5016.6
b	-9000	+7100	+2200	-11400	+8600	+3800	+5400	+7000	-1300	-13100	-12500	-11400

CAL YR 1981 b +29300

WTR YR 1982 b -24600

a Elevation, in feet NGVD, 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 (0.2 km) downstream from Little Grass Valley Dam, and 3.5 mi (5.6 km) northwest of La Porte.

DRAINAGE AREA.--25.9 mi² (67.1 km²).

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 (1,465.78 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1960, at site 0.4 mi (0.6 km) 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 (0.2 km) upstream at datum 4,850.00 ft (1,478.280 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good above 20 ft³/s (0.566 m³/s) and fair below. Flow regulated by Little Grass Valley Reservoir (station 11395020) beginning in October 1961. No diversion above station. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Little Grass Valley Reservoir).--28 years, 98.5 ft³/s (2.790 m³/s), 71,360 acre-ft/yr (88.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft³/s (120 m³/s) Feb. 1, 1963; minimum, 0.2 ft³/s (0.006 m³/s) Oct. 28-31, Nov. 2, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,720 ft³/s (48.7 m³/s) Nov. 24, gage height, 11.92 ft (3.633 m); minimum daily, 4.8 ft³/s (0.14 m³/s) Feb. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	447	343	459	418	7.0	8.2	227	360	331	208	202
2	10	447	410	399	416	47	8.2	231	213	331	208	202
3	10	445	465	324	416	90	8.3	235	87	331	208	202
4	10	445	464	326	414	112	8.1	239	16	330	208	202
5	10	444	463	297	414	119	8.1	243	16	330	208	202
6	10	443	463	248	414	119	8.1	246	16	329	208	202
7	10	442	464	206	413	117	8.1	250	16	261	208	201
8	10	441	461	171	412	123	8.1	254	16	213	208	200
9	10	439	424	145	228	120	8.1	257	16	214	208	199
10	10	200	379	126	171	149	9.0	259	16	214	207	199
11	11	8.1	331	113	402	251	44	260	16	213	207	199
12	11	12	298	155	401	300	13	262	16	213	207	199
13	10	25	297	345	403	304	499	264	16	213	207	199
14	10	14	148	449	259	333	885	264	16	213	206	199
15	10	23	9.2	447	46	321	856	264	65	213	206	199
16	10	21	7.6	446	19	291	816	266	106	212	206	197
17	10	22	6.9	445	8.6	259	777	269	105	211	206	197
18	10	11	10	443	7.2	240	736	269	105	211	206	197
19	10	168	82	444	7.0	218	702	271	105	210	206	197
20	225	348	1110	443	7.0	195	421	273	105	210	206	197
21	455	358	1240	443	6.9	170	211	275	210	210	206	197
22	455	354	1000	252	6.9	149	211	277	332	210	206	197
23	454	679	708	19	6.3	133	213	281	333	210	206	197
24	453	1580	520	19	5.7	122	214	281	332	210	205	197
25	452	1230	396	19	5.1	57	215	282	332	210	204	195
26	451	1000	347	19	5.0	8.3	216	404	332	210	204	194
27	451	727	406	232	4.9	8.4	218	578	332	210	204	194
28	457	546	352	421	4.8	8.4	220	573	332	209	204	194
29	450	428	400	420	---	8.4	222	565	332	209	204	193
30	449	362	512	419	---	8.4	224	558	332	209	203	191
31	448	---	489	418	---	8.3	---	548	---	208	203	---
TOTAL	5392	12109.1	13005.7	9112	5321.4	4396.2	7995.3	9725	4626	7308	6391	5940
MEAN	174	404	420	294	190	142	267	314	154	236	206	198
MAX	457	1580	1240	459	418	333	885	578	360	331	208	202
MIN	10	8.1	6.9	19	4.8	7.0	8.1	227	16	208	203	191
AC-FT	10700	24020	25800	18070	10550	8720	15860	19290	9180	14500	12680	11780
CAL YR 1981 TOTAL	34761.4			MEAN 95.2	MAX 1580	MIN 4.8	AC-FT 68950	MEAN a 136	AC-FT a 98260			
WTR YR 1982 TOTAL	91321.7			MEAN 250	MAX 1580	MIN 4.8	AC-FT 181100	MEAN a 216	AC-FT a 156600			

a Adjusted for change in contents in Little Grass Valley Reservoir.

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 right bank 0.1 mi (0.2 km) downstream from diversion dam, 3.1 mi (5.0 km) upstream from Rock Creek, and 5.8 mi (9.3 km) north of Strawberry Valley.

DRAINAGE AREA.--37.7 mi² (97.6 km²).

PERIOD OF RECORD.--October 1960 to current year.

REVISED RECORDS.--WDR CA-80-4: 1976(M).

GAGE.--Water-stage recorder and since July 23, 1982, 130° V notch weir. Datum of gage is 3,535.02 ft (1,077.474 m) National Geodetic Vertical Datum of 1929 (levels by Oroville-Wyandotte Irrigation District).

REMARKS.--Records good. Flow regulated by Little Grass Valley Reservoir (station 11395020). South Fork diversion tunnel, maximum capacity, about 600 ft³/s (17.0 m³/s) 500 ft (152 m) upstream, diverts to Sly Creek Reservoir (station 11395400); diversion began in November 1961. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE (adjusted for diversion to South Fork tunnel).--22 years, 155 ft³/s (4.390 m³/s), 112,300 acre-ft/yr (138 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,330 ft³/s (179 m³/s) Jan. 31, 1963, gage height, 13.21 ft (4.026 m), from rating curve extended above 700 ft³/s (19.8 m³/s) on basis of computation of peak flow over diversion dam; minimum daily, 0.3 ft³/s (0.008 m³/s) Dec. 25, 1962, to Jan. 2, 1963, Mar. 13, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,730 ft³/s (77.3 m³/s) Nov. 24, gage height, 9.07 ft (2.765 m); minimum daily, 1.1 ft³/s (0.031 m³/s) Dec. 10-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	11	3.9	214	7.1	5.6	6.6	456	97	11	4.0	10
2	14	8.5	3.9	128	7.1	5.6	6.6	462	11	11	4.3	10
3	14	6.0	3.9	34	7.1	5.6	6.4	472	11	11	4.3	11
4	14	6.0	3.6	39	7.1	5.6	6.2	226	11	11	4.3	11
5	14	6.2	3.1	23	15	5.6	6.0	8.8	10	11	4.3	11
6	14	15	3.1	7.1	6.6	5.8	5.8	8.8	10	11	4.2	11
7	14	6.2	26	6.8	6.6	5.8	5.8	8.8	10	11	4.1	11
8	15	6.2	8.0	6.8	6.6	5.8	6.0	8.8	10	12	4.1	11
9	15	6.2	2.9	6.8	6.4	5.8	6.0	8.8	10	12	4.1	11
10	15	6.0	1.1	6.8	6.2	6.0	6.2	9.6	10	12	4.1	11
11	40	5.6	1.1	6.6	6.8	6.2	668	10	10	12	4.1	11
12	25	6.0	1.1	6.6	6.8	6.4	276	11	10	12	4.1	11
13	20	6.6	1.1	6.6	23	6.3	696	11	10	7.7	4.3	11
14	18	6.4	1.1	6.8	152	6.3	1280	11	10	4.0	4.3	11
15	16	6.6	1.1	7.0	565	6.2	1170	11	10	4.0	4.3	12
16	12	7.1	4.2	6.8	531	6.2	1100	11	10	4.0	4.3	12
17	12	29	6.6	6.8	14	6.2	1040	11	10	4.0	13	11
18	12	6.2	6.8	6.8	5.8	6.2	998	11	10	4.0	26	11
19	12	6.0	631	6.8	5.6	6.2	953	11	10	4.0	25	11
20	14	6.0	1810	6.8	5.6	6.1	497	11	10	4.0	25	11
21	16	65	1450	6.8	5.6	6.1	6.0	11	10	4.0	25	11
22	28	20	896	6.6	5.6	6.1	6.0	11	11	4.0	25	11
23	11	1380	434	6.4	5.6	6.2	6.0	11	11	4.0	25	11
24	11	2330	199	6.4	5.4	6.2	6.0	11	11	4.0	25	11
25	11	1340	42	6.4	5.4	6.0	6.0	11	11	4.0	25	11
26	12	685	20	6.6	5.4	5.8	6.0	74	11	4.0	17	11
27	11	399	163	6.8	5.4	5.8	6.0	224	11	4.0	10	11
28	36	226	36	7.1	5.4	5.8	7.8	209	11	4.0	10	11
29	11	129	207	29	---	5.8	256	197	11	4.0	10	11
30	18	46	426	7.1	---	6.6	450	190	11	4.0	10	11
31	11	---	297	7.1	---	8.8	---	182	---	3.9	10	---
TOTAL	500	6782.8	6693.6	636.2	1435.2	188.7	9495.4	2909.6	399	216.6	348.2	330
MEAN	16.1	226	216	20.5	51.3	6.09	317	93.9	13.3	6.99	11.2	11.0
MAX	40	2330	1810	214	565	8.8	1280	472	97	12	26	12
MIN	11	5.6	1.1	6.4	5.4	5.6	5.8	8.8	10	3.9	4.0	10
AC-FT	992	13450	13280	1260	2850	374	18830	5770	791	430	691	655
MEAN a	181	603	678	378	387	255	504	509	193	239	200	195
AC-FT a	11130	35880	41670	23260	21490	15700	30000	31310	11470	14670	12300	11610
b	10140	22430	28390	22000	18640	15330	11170	25540	10680	14240	11610	10960

CAL YR 1981 TOTAL 16428.6 MEAN 45.0 MAX 2330 MIN 1.1 AC-FT 32590 MEAN a 157 AC-FT a 113600
WTR YR 1982 TOTAL 29935.3 MEAN 82.0 MAX 2330 MIN 1.1 AC-FT 59380 MEAN a 360 AC-FT a 260500

a Adjusted for diversion to South Fork tunnel.

b Diversion, in acre-feet, from South Fork Feather River to South Fork diversion tunnel.

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 (30 m) upstream from dam on Lost Creek, 1.4 mi (2.3 km) northwest of Strawberry Valley.

DRAINAGE AREA.--24.0 mi² (62.2 km²).

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, waterstage 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, 65,000 acre-ft (80.1 hm³) between elevations 3,285 ft (1,001.3 m), invert of outlet and 3,531 ft (1,076.2 m), 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). Records, including extremes, show contents at 2400 hours. See schematic diagram of South Fork Feather River basin. Reservoir completely drained Sept. 12 to Oct. 17, 1981, for powerhouse construction.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 65,600 acre-ft (80.9 hm³) June 22, 1978, elevation, 3,530.9 ft (1,076.22 m); minimum observed under normal operating conditions since reservoir first filled, 860 acre-ft (1.06 hm³) Feb. 11, 1976, elevation, 3,320.0 ft (1,011.94 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 64,300 acre-ft (79.3 hm³) on several days during May and June, elevation 3,528.8 ft (1,075.58 m); minimum, no contents Oct. 1-17, drained for powerhouse construction.

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

3,299	0	3,380	7,360
3,300	40	3,400	11,500
3,305	245	3,420	16,600
3,310	450	3,450	26,300
3,315	655	3,480	38,500
3,320	860	3,510	53,400
3,340	2,150	3,532	66,200
3,360	4,300		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	13000	57400	58000	57600	55800	54700	63400	64200	58100	60600	52600
2	0	13900	57500	57800	57600	55800	54600	62900	64300	58000	60500	52400
3	0	14800	57500	57700	57600	56100	54600	62500	64300	58000	60500	52000
4	0	15700	57500	57700	57600	56100	55200	62400	64000	58300	60500	51500
5	0	16400	57500	57600	57600	55900	55900	62500	63700	58600	60500	51100
6	0	17300	57500	57500	57600	55800	56600	62900	63200	58700	60500	50600
7	0	18100	57600	57400	57600	55600	57200	63400	62800	58600	60400	50200
8	0	18800	57600	57200	57600	55300	57900	63700	62500	58500	60400	49700
9	0	19500	57600	57200	57400	55000	58200	63700	62100	58600	60400	49300
10	0	19900	57600	57100	57200	55600	58600	63700	61800	58800	60400	48800
11	0	19800	57500	57100	57400	56600	62200	63700	61500	58700	60400	48400
12	0	20500	57400	57100	57500	57000	63600	64000	61100	59200	60300	48000
13	0	22800	57600	57400	58000	57000	63200	64000	60700	59500	60300	47600
14	0	24500	57500	57600	58400	57100	62500	64000	60300	59700	60000	47200
15	0	26300	57400	57600	59400	57000	61600	64000	59800	60000	59600	46900
16	0	28600	57200	57600	58700	56900	60800	64000	59500	60200	58800	46500
17	0	29100	57100	57600	58200	56700	60300	64100	59300	60300	58300	46200
18	274	29500	57400	57600	57800	56600	59900	64100	59200	60400	58300	45900
19	630	32500	59100	57600	57600	56400	60200	64000	59100	60400	58200	46000
20	1010	36700	59000	57600	57500	56200	61100	64100	58700	60500	58100	46400
21	1520	39300	58300	57500	57500	56000	61800	64200	58400	60500	57700	46800
22	2140	42300	58000	57300	57400	55900	61700	64300	58400	60600	57200	47200
23	2820	46300	57900	57000	57400	55800	61800	64300	58400	60600	56600	47600
24	3600	49800	57800	56800	57200	55400	62300	64300	58300	60600	55800	48000
25	4500	52500	57800	56800	57000	55300	62800	64200	58300	60600	55100	48500
26	5320	55200	57900	56800	56600	55200	63100	64200	58200	60700	54700	48900
27	6410	57000	57900	57000	56200	55100	63500	64200	58200	60700	54400	49300
28	8100	57400	57800	57400	55700	55100	63900	64300	58100	60700	54200	49700
29	9980	57400	58300	57500	---	55100	64000	64300	58200	60700	53900	50100
30	11100	57400	58200	57600	---	55000	63700	64300	58100	60600	53600	50100
31	12100	---	58100	57600	---	54900	---	64200	---	60600	53200	---
MAX	12100	57400	59100	58000	59400	57100	64000	64300	64300	60700	60600	52800
MIN	0	13000	57100	56800	55700	54900	54600	62400	58100	58000	53200	45900
a	3402.6	3517.1	3518.3	3517.4	3514.1	3512.6	3527.8	3528.6	3518.3	3522.6	3509.5	3503.6
b	+12100	+45300	+700	-500	-1900	-800	+8800	+500	-6100	+2500	-7400	-3100

CAL YR 1981 b +52070

WTR YR 1982 b +50100

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

b Change in contents, in acre-feet.

NOTE.--No elevation record Oct. 1 to Nov. 5.

SACRAMENTO RIVER BASIN

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, 2.5 mi (4.0 km) 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 (965.00 m) 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 (6 km) upstream in abandoned portion of canal, 0.3 mi (0.5 km) downstream from Lost Creek Dam.

REMARKS.--Records good. 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.

AVERAGE DISCHARGE.--23 years (water years 1928-41, 1954-62, prior to closure of lumber mill), 21.0 ft³/s (0.595 m³/s), 15,200 acre-ft/yr (18.7 hm³/yr); 20 years (water years 1963-82), 8.67 ft³/s (0.246 m³/s), 6,280 acre-ft/yr (7.74 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft³/s (1.22 m³/s) Aug. 9 to Sept. 9, 1937, Aug. 13-15, 1977; no flow at times in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	.21					0	0	2.8	6.8	20	24
2	18	.23					.36	0	2.7	6.7	20	24
3	18	.28					1.6	0	2.8	6.7	20	24
4	18	1.6					0	0	2.8	6.7	21	24
5	18	2.4					0	0	2.8	6.7	23	24
6	16	2.3					0	0	2.8	6.7	23	24
7	14	3.0					0	0	2.8	5.4	24	24
8	9.4	4.4					0	0	3.9	6.0	24	24
9	12	4.4					0	0	4.6	8.3	24	24
10	14	4.4					0	0	4.6	11	24	23
11	12	4.5					0	0	4.5	11	24	22
12	10	2.4					0	0	3.9	11	24	22
13	10	.63					0	0	3.0	11	24	22
14	6.9	.66					0	0	2.7	12	24	21
15	4.5	.68					0	0	4.4	14	24	21
16	4.4	.66					0	0	7.3	14	24	20
17	4.4	.66					0	0	8.1	14	24	20
18	4.4	.68					0	0	8.0	14	24	20
19	4.4	.24					0	0	8.1	14	24	20
20	4.5	0					0	0	8.1	14	24	19
21	4.4	0					0	0	8.7	14	24	17
22	4.4	0					0	0	9.1	14	24	17
23	4.4	0					0	0	9.0	15	24	17
24	4.4	0					0	0	8.5	16	24	17
25	4.4	0					0	0	8.1	16	24	17
26	4.4	0					0	0	8.1	16	24	17
27	4.5	0					0	1.9	7.0	16	24	15
28	4.4	0					0	2.7	7.6	16	24	14
29	3.0	0					0	2.8	8.9	18	24	14
30	.20	0					0	2.8	7.5	19	24	14
31	.20	---					---	2.8	---	19	24	---
TOTAL	259.60	34.33	0	0	0	0	1.96	13.0	173.2	379.0	727	605
MEAN	8.37	1.14	0	0	0	0	.065	.42	5.77	12.2	23.5	20.2
MAX	18	4.5	0	0	0	0	1.6	2.8	9.1	19	24	24
MIN	.20	0	0	0	0	0	0	0	2.7	5.4	20	14
AC-FT	515	68	0	0	0	0	3.9	26	344	752	1440	1200
CAL YR 1981	TOTAL	3479.09	MEAN 9.53	MAX 27	MIN 0	AC-FT 6900						
WTR YR 1982	TOTAL	2193.09	MEAN 6.01	MAX 24	MIN 0	AC-FT 4350						

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 (0.5 km) downstream from Lost Creek Reservoir, and 2.8 mi (4.5 km) north of Clipper Mills.

DRAINAGE AREA.--30.0 mi² (77.7 km²).

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 Geological Survey.

REVISED RECORDS.--WSP 1395: 1954. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,170 ft (966 m), from topographic map.

REMARKS.--Records fair. Flow regulated by Sly Creek Reservoir 1.5 mi (2.4 km) upstream (station 11395400) and Lost Creek Reservoir 0.3 mi (0.5 km) upstream, usable capacity, 5,920 acre-ft (7.30 hm³) with flashboards. Water is diverted into Sly Creek Reservoir through South Fork diversion tunnel from South Fork Feather River and through Slate Creek tunnel from North Yuba River basin. Woodleaf tunnel diverts from Lost Creek Reservoir to Woodleaf powerhouse. Oroville-Wyandotte Canal (station 11395500) diverts from Woodleaf penstock for irrigation and domestic use. Records represent seepage, release, or spill from Lost Creek Dam to Lost Creek. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--27 years (water years 1928-41, 1949-61, prior to regulation by Sly Creek Reservoir), 73.0 ft³/s (2.07 m³/s), 52,850 acre-ft/yr (65.2 hm³/yr); 21 years (water years 1962-82), 23.3 ft³/s (0.660 m³/s), 16,880 acre-ft/yr (20.8 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s (142 m³/s) Dec. 22, 1955, gage height, 6.90 ft (2.103 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,900 ft³/s (82.1 m³/s) Dec. 20, gage height, 6.31 ft (1.923 m); minimum daily, 0.80 ft³/s (0.023 m³/s) Oct. 2-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.85	1.4	1.7	590	2.5	2.6	2.3	54	2.2	2.2	1.4	1.1
2	.80	1.4	1.7	447	2.5	3.0	1.8	58	5.1	3.4	1.8	1.1
3	.80	1.4	1.7	308	2.5	2.5	1.8	38	4.9	4.3	1.6	1.2
4	.80	1.4	1.7	289	2.6	2.4	1.8	26	2.8	4.2	1.2	1.2
5	.80	1.4	1.7	203	2.7	2.3	1.7	16	2.3	3.1	1.1	1.8
6	.80	1.4	1.8	70	2.7	2.2	1.7	10	2.4	2.6	1.1	1.8
7	.85	1.4	1.8	242	2.8	2.1	1.7	7.0	2.5	2.7	1.3	2.0
8	.85	1.4	1.8	25	2.8	2.0	1.7	3.8	2.4	3.7	1.4	2.3
9	.85	1.4	2.0	1.9	3.1	2.0	1.7	5.5	2.2	15	1.3	2.3
10	.93	1.4	2.1	1.8	3.3	2.1	1.7	9.5	1.9	3.4	2.3	2.0
11	1.1	1.4	2.1	1.7	2.7	2.4	1310	56	1.7	3.4	1.6	1.8
12	.93	2.1	2.1	1.7	2.7	88	1410	59	1.6	3.4	1.2	1.8
13	.93	4.0	9.2	1.6	47	207	1260	107	1.6	2.6	1.1	1.8
14	.93	2.0	255	1.6	368	214	1100	120	1.6	1.8	1.1	1.6
15	.89	2.9	107	1.6	935	208	880	83	1.6	1.5	1.1	1.6
16	.89	3.4	38	1.6	2720	171	700	37	1.6	1.3	1.1	1.5
17	.89	3.1	2.0	1.6	1300	118	480	18	1.6	1.3	1.5	1.6
18	.89	1.5	2.2	1.6	532	84	282	2.8	1.7	1.3	1.1	1.8
19	.89	1.4	1010	15	245	43	127	2.8	1.7	1.4	1.1	2.0
20	.89	1.4	2650	146	85	15	303	2.7	1.7	1.8	1.1	1.9
21	.89	2.4	1750	91	38	2.8	9.0	2.3	3.2	1.4	1.1	1.2
22	.93	2.2	882	34	14	5.2	7.2	1.7	3.0	1.3	1.1	1.2
23	.89	6.9	515	2.5	2.3	1.8	7.0	1.8	2.8	1.4	1.1	1.1
24	.89	4.5	383	2.5	2.1	1.7	6.8	1.8	2.7	1.2	1.1	1.2
25	.89	2.9	282	2.5	2.0	1.7	6.5	1.8	2.5	1.1	1.6	1.5
26	.89	2.4	233	3.1	2.0	1.6	6.3	1.8	2.3	1.3	2.7	1.2
27	1.9	2.1	422	2.8	1.9	1.6	5.8	1.8	2.2	1.1	2.0	1.2
28	3.0	2.0	329	2.7	1.9	1.7	5.2	1.8	2.1	1.1	1.4	1.1
29	1.8	1.8	522	2.6	---	1.7	44	1.8	2.2	1.6	1.2	1.2
30	1.4	1.8	888	2.6	---	1.8	50	1.9	2.1	2.4	1.1	1.3
31	1.4	---	688	2.6	---	2.7	---	2.1	---	2.1	1.1	---
TOTAL	32.44	66.2	10989.6	2500.6	6329.1	1197.9	8017.7	736.7	70.2	80.4	42.0	46.4
MEAN	1.05	2.21	355	80.7	226	38.6	267	23.8	2.34	2.59	1.35	1.55
MAX	3.0	6.9	2650	590	2720	214	1410	120	5.1	15	2.7	2.3
MIN	.80	1.4	1.7	1.6	1.9	1.6	1.7	1.7	1.6	1.1	1.1	1.1
AC-FT	64	131	21800	4960	12550	2380	15900	1460	139	159	83	92

CAL YR 1981 TOTAL 11418.05 MEAN 31.3 MAX 2650 MIN .72 AC-FT 22650
WTR YR 1982 TOTAL 30109.24 MEAN 82.5 MAX 2720 MIN .80 AC-FT 59720

NOTE.--No gage-height record Feb. 7-17, Apr. 1 to May 5.

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 (152 m) downstream from Forbestown Dam, 0.4 mi (0.6 km) upstream from Oroleve Creek, and 4.0 mi (6.4 km) northeast of Forbestown.

DRAINAGE AREA.--87.5 mi² (226.6 km²).

PERIOD OF RECORD.--July 1962 to current year. Records for Forbestown powerplant from February 1963 to September 1966 in files of Geological Survey.

GAGE.--Water-stage recorder. Altitude of gage is 1,690 ft (515 m), from topographic map.

REMARKS.--Records good. 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 above station. Tunnel 600 ft (183 m) above 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.

AVERAGE DISCHARGE.--20 years, 62.2 ft³/s (1.762 m³/s), 45,060 acre-ft/yr (55.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft³/s (213 m³/s) Jan. 31, 1963, gage height, 13.85 ft (4.221 m) in gage well, 15.3 ft (4.66 m) from floodmarks; minimum daily, 0.6 ft³/s (0.017 m³/s) Apr. 4, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,700 ft³/s (161 m³/s) Dec. 20, on basis of flow over spillway computation; minimum daily, 4.2 ft³/s (0.12 m³/s) during several days in December.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	25	915	69	153	141	529	131	9.9	11	11
2	15	15	13	590	74	200	130	528	58	9.9	11	11
3	15	15	5.6	382	72	170	455	528	49	9.9	11	11
4	16	15	4.2	330	58	124	293	386	43	9.9	11	11
5	16	26	4.2	245	67	130	73	109	54	10	11	11
6	16	10	4.2	161	66	125	6.0	120	51	9.9	11	11
7	16	5.0	4.2	275	60	111	5.9	114	31	9.9	11	11
8	25	4.7	4.2	55	58	102	5.9	109	20	9.9	11	11
9	21	6.2	9.2	54	64	93	40	109	20	9.9	11	11
10	16	6.0	12	54	62	102	211	108	20	9.9	11	11
11	16	5.4	4.2	55	60	140	2330	136	15	9.9	11	11
12	16	5.6	4.2	56	58	196	1730	91	10	10	11	11
13	16	22	24	58	73	306	1960	162	10	10	11	11
14	16	16	206	56	692	363	2670	200	10	10	11	11
15	16	5.4	122	53	2530	380	2280	154	10	10	11	11
16	16	17	47	49	3810	329	1890	108	10	10	11	11
17	16	5.6	41	52	1550	262	1590	103	10	10	11	11
18	16	5.3	61	52	875	213	1420	82	10	10	11	11
19	16	5.2	1860	46	499	162	1220	96	10	10	11	11
20	16	5.2	5120	145	300	126	796	74	10	11	11	11
21	16	79	3370	180	210	104	214	74	10	11	11	11
22	16	119	1910	62	167	101	204	74	12	11	11	11
23	16	1850	1190	49	143	99	195	70	8.7	11	11	11
24	15	2680	770	56	122	93	186	67	8.7	11	11	11
25	15	1240	474	64	117	93	171	68	8.7	11	11	11
26	15	502	369	64	112	93	165	67	8.7	11	11	11
27	15	204	783	61	109	88	159	191	8.7	11	11	11
28	16	149	554	61	103	91	157	182	9.5	11	11	11
29	15	111	1030	77	---	94	321	168	10	11	11	11
30	15	62	1640	66	---	102	525	164	10	11	11	11
31	15	---	1320	67	---	251	---	157	---	11	11	---
TOTAL	500	7206.6	20985.2	4490	12180	4996	21543.8	5128	677.0	321.0	341	330
MEAN	16.1	240	677	145	435	161	718	165	22.6	10.4	11.0	11.0
MAX	25	2680	5120	915	3810	380	2670	529	131	11	11	11
MIN	15	4.7	4.2	46	58	88	5.9	67	8.7	9.9	11	11
AC-FT	992	14290	41620	8910	24160	9910	42730	10170	1340	637	676	655
a	5120	16950	37210	37380	33170	37480	32350	36950	35950	17460	27470	17360
CAL YR 1981 TOTAL	31169.0			MEAN 85.4	MAX 5120	MIN 4.2	AC-FT 61820					
WTR YR 1982 TOTAL	78698.6			MEAN 216	MAX 5120	MIN 4.2	AC-FT 156100					

a Diversions, in acre-feet, to Forbestown powerplant, furnished by Oroville-Wyandotte Irrigation District.

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 (244 m) downstream from Ponderosa Dam, and 3 mi (5 km) northwest of Forbestown.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 975 ft (297 m), from topographic map.

REMARKS.--Records good. 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.

AVERAGE DISCHARGE.--20 years, 202 ft³/s (5.721 m³/s), 146,300 acre-ft/yr (180 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 292 ft³/s (8.269 m³/s) June 18-22, 1980; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	264	253	238	243	249	231	255	272	260	276	262
2	49	233	253	238	245	233	231	255	274	257	276	262
3	48	100	253	238	249	249	232	256	272	259	278	261
4	43	128	252	238	252	248	232	252	270	258	282	267
5	31	139	247	238	253	248	233	248	268	259	281	268
6	28	65	243	238	249	248	233	250	265	261	276	272
7	29	0	244	238	246	248	233	257	263	264	247	272
8	23	64	247	240	244	248	236	264	263	259	245	272
9	23	104	248	250	244	248	245	264	262	260	264	272
10	27	199	248	250	244	248	249	264	263	262	275	273
11	124	115	248	250	244	248	215	264	264	261	167	273
12	281	252	248	249	244	246	195	264	264	263	269	272
13	281	272	248	249	244	244	252	262	264	273	269	273
14	279	236	248	249	244	244	253	262	264	275	268	272
15	225	276	248	250	244	244	262	262	264	277	271	272
16	276	279	248	250	245	244	278	262	266	278	277	232
17	276	250	248	250	243	244	272	265	268	275	277	252
18	250	217	246	250	243	243	272	269	270	276	278	260
19	250	269	240	250	245	243	265	270	270	277	279	88
20	190	254	235	250	251	243	253	269	270	275	279	0
21	37	241	235	250	253	240	246	269	269	277	279	0
22	37	242	236	250	253	220	247	266	268	244	280	0
23	146	243	237	250	176	239	247	266	269	285	280	0
24	239	245	238	249	246	264	249	266	270	289	281	0
25	239	244	238	249	246	269	250	245	270	280	281	5.1
26	200	243	238	249	247	247	252	276	270	268	281	7.3
27	166	243	238	249	249	247	252	281	261	273	281	7.0
28	164	243	238	247	249	247	249	283	268	274	279	29
29	32	246	238	246	---	245	251	283	264	273	278	26
30	289	254	238	246	---	243	255	275	261	270	270	0
31	282	---	238	244	---	237	---	268	---	272	263	---
TOTAL	4614	6160	7557	7632	6835	7608	7370	8192	8006	8334	8387	4949.4
MEAN	149	205	244	246	244	245	246	264	267	269	271	165
MAX	289	279	253	250	253	269	278	283	274	289	282	273
MIN	23	0	235	238	176	220	195	245	261	244	167	0
AC-FT	9150	12220	14990	15140	13560	15090	14620	16250	15880	16530	16640	9820
a	6620	11210	14760	14800	13350	14820	14240	14790	14320	14750	14400	8770

CAL YR 1981 TOTAL 73721.08 MEAN 202 MAX 289 MIN 0 AC-FT 146200

WTR YR 1982 TOTAL 85644.40 MEAN 235 MAX 289 MIN 0 AC-FT 169900

a Diversion, in acre-feet, to Kelly Ridge powerplant, furnished by Oroville-Wyandotte Irrigation District.

SACRAMENTO RIVER BASIN

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 (122 m) downstream from outlet at Miners Ranch Dam, and 5 mi (8 km) east of Oroville.

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

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 815 ft (248 m), from topographic map.

REMARKS.--Records good. Flow regulated by Miners Ranch Reservoir, capacity, 912 acre-ft (1.12 hm³). Canal completed in November 1962. Water is used for irrigation. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--19 years, 15.2 ft³/s (0.430 m³/s), 11,010 acre-ft/yr (13.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 65 ft³/s (1.84 m³/s) Aug. 17-20, 1963; no flow for several days in 1965, 1969.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	7.0	6.7	6.7	6.7	6.4	5.1	5.4	16	13	18	19
2	11	6.9	6.7	6.7	6.7	6.4	5.1	5.4	15	12	18	18
3	12	6.9	6.7	6.7	6.7	6.4	5.1	5.4	15	11	18	18
4	12	6.7	6.7	6.7	6.7	6.4	4.9	7.0	14	11	18	18
5	12	7.0	6.7	6.7	6.7	6.4	4.9	8.4	14	11	18	18
6	11	6.8	6.7	6.7	6.7	6.5	4.9	9.2	14	11	18	18
7	9.6	6.9	6.7	6.7	6.7	6.6	4.9	10	14	12	18	18
8	9.6	6.7	6.7	6.7	6.7	6.7	4.8	10	13	13	18	18
9	9.5	6.7	6.7	6.7	6.7	6.7	4.7	10	13	13	18	19
10	9.6	6.9	6.7	6.7	6.7	6.7	4.7	10	12	13	19	19
11	9.3	7.0	6.7	6.7	6.7	6.7	4.9	11	12	13	20	19
12	8.8	6.8	6.7	6.7	6.7	5.9	4.5	12	12	13	19	19
13	7.9	7.0	6.7	6.7	6.7	5.2	4.4	12	12	14	20	19
14	6.9	7.0	6.7	6.7	6.7	5.2	4.4	12	12	15	20	18
15	7.1	7.0	6.7	6.7	6.7	5.4	4.4	13	14	18	19	19
16	7.2	7.1	6.7	6.3	6.7	5.3	4.6	14	15	20	19	19
17	7.1	7.2	6.7	6.2	6.7	5.3	4.8	14	15	20	19	17
18	7.0	7.2	6.7	6.5	6.7	5.2	4.9	14	15	20	18	17
19	7.0	7.1	6.8	7.1	6.7	5.1	5.1	14	15	20	18	17
20	6.7	7.2	6.7	7.2	6.7	4.9	5.4	15	15	20	18	17
21	6.5	7.2	6.7	7.2	6.7	4.9	5.3	16	15	20	18	16
22	6.4	7.0	6.7	7.2	6.8	4.9	5.1	16	15	20	19	16
23	8.0	7.0	6.7	7.2	6.6	4.9	5.1	15	15	18	19	16
24	9.5	7.0	6.7	7.2	6.4	4.9	5.1	15	15	18	18	14
25	8.9	6.8	6.7	7.3	6.4	4.9	5.1	15	15	18	18	13
26	8.0	6.7	6.7	7.5	6.4	4.9	5.1	15	15	18	18	12
27	8.1	6.7	6.7	7.5	6.4	4.9	5.1	15	15	18	18	12
28	8.1	6.7	6.7	7.1	6.4	4.9	5.1	15	15	18	18	12
29	7.4	6.7	6.7	6.7	---	4.9	5.2	15	15	18	18	13
30	7.2	6.7	6.7	6.7	---	5.0	5.3	16	14	18	19	12
31	7.0	---	6.7	6.7	---	5.2	---	16	---	18	19	---
TOTAL	269.4	207.6	207.8	212.1	186.1	173.7	148.0	380.8	426	495	573	500
MEAN	8.69	6.92	6.70	6.84	6.65	5.60	4.93	12.3	14.2	16.0	18.5	16.7
MAX	13	7.2	6.8	7.5	6.8	6.7	5.4	16	16	20	20	19
MIN	6.4	6.7	6.7	6.2	6.4	4.9	4.4	5.4	12	11	18	12
AC-FT	534	412	412	421	369	345	294	755	845	982	1140	992
CAL YR 1981	TOTAL	4577.2	MEAN 12.5	MAX 29	MIN 3.9	AC-FT 9080						
WTR YR 1982	TOTAL	3779.5	MEAN 10.4	MAX 20	MIN 4.4	AC-FT 7500						

11396350 SOUTH FORK FEATHER RIVER AT PONDEROSA DAM, CA

LOCATION.--Lat 39°32'52", long 121°18'11", in NW 1/4 SE 1/4 sec.33, T.20 N., R.6 E., Butte County, Hydrologic Unit 18020123, at entrance to Miners Ranch Canal on the left end of Ponderosa Dam, 2,800 ft (853 m) upstream from Sucker Run, and 2.6 mi (4.2 km) northwest of Forbestown.

DRAINAGE AREA.--108 mi² (280 km²).

PERIOD OF RECORD.--July 1962 to current year.

GAGE.--Water-stage recorder, high level sluice gate, and concrete spillway of Ponderosa Dam. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Oroville-Wyandotte Irrigation District). Prior to Oct. 1, 1967, at site 1,800 ft (550 m) downstream at different datum.

REMARKS.--Records poor. Daily record June 4 to Aug. 29, 1981 was not determined as releases under partially open spillway gates could not be calculated. Records are combined flow through sluice gate and flow over spillway. Flow regulated by several reservoirs and diversions. Water is imported from North Yuba River basin through Slate Creek tunnel (station 11413250). Miners Ranch Canal (station 11396310) diverts at Ponderosa Dam for power development and irrigation; diversion began in October 1962. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE (adjusted for diversion to Miners Ranch Canal).--20 years, 455 ft³/s (12.89 m³/s), 329,600 acre-ft/yr (406 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s (312 m³/s) Dec. 22, 1964, gage height, 11.52 ft (3.511 m) in gage well, 12.7 ft (3.87 m) outside from floodmarks, site and datum then in use; no flow for several months most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,900 ft³/s (224 m³/s) Feb. 19; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1980 TO SEPTEMBER 1981
(NOT PREVIOUSLY PUBLISHED)

	June	July	August
Total	700	4700	4000
Mean	23.3	152	129
Ac-ft	1390	9320	7930

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1		0	438	2090	544	664	978	1080	580	383	0	139		
2		0	416	1570	532	836	914	1080	460	186	0	160		
3		0	405	1180	526	598	1980	1070	438	253	0	135		
4		0	394	1140	380	632	1430	978	432	219	0	152		
5		0	394	1160	460	626	696	580	438	226	0	86		
6		0	388	902	478	593	255	593	438	224	0	188		
7		0	394	612	478	580	187	580	427	75	0	143		
8		0	394	710	478	568	114	538	416	0	0	140		
9		0	388	619	484	556	209	532	405	0	0	158		
10		0	438	600	478	568	876	532	350	0	0	185		
11		0	400	580	484	664	4600	550	383	0	0	176		
12		0	394	556	484	720	3530	363	394	0	296	166		
13		31	400	532	502	846	3170	556	394	0	158	177		
14		382	600	478	1130	925	3990	632	394	0	159	157		
15		37	586	484	3570	970	3520	645	400	0	142	155		
16		316	484	490	5460	918	2960	526	394	0	146	184		
17		526	427	490	2540	829	2430	526	383	0	134	198		
18		168	472	490	1640	787	2200	472	372	0	134	109		
19		34	2760	490	1180	710	1930	478	383	0	158	52		
20		5.1	6960	632	925	638	1580	472	366	0	153	318		
21		13	4740	671	773	606	850	478	298	0	136	85		
22		566	3000	580	697	615	815	478	405	0	153	60		
23		2230	1860	520	761	589	787	472	405	0	151	180		
24		4020	1370	490	600	550	766	472	394	0	140	224		
25		2070	1030	490	586	520	731	508	394	0	154	60		
26		1140	829	586	568	550	710	454	394	0	159	42		
27		794	1220	626	568	562	690	586	405	0	133	195		
28		638	1060	619	556	574	678	625	400	0	115	209		
29		593	1590	568	---	580	781	606	405	0	120	187		
30		484	2550	484	---	652	1080	612	410	0	147	240		
31		---	2070	484	---	1500	---	619	---	0	163	---		
TOTAL	0	14047.1	38851	21923	27862	21526	45437	18693	12157	1566	3051	4660		
MEAN	0	468	1253	707	995	694	1515	603	405	50.5	98.4	155		
MAX	0	4020	6960	2090	5460	1500	4600	1080	580	383	296	318		
MIN	0	0	388	478	380	520	114	363	298	0	0	42		
AC-FT	0	27860	77060	43480	55260	42700	90120	37080	24110	3110	6050	9240		
MEAN a	149	674	1500	953	1240	940	1760	867	672	319	369	320		
AC-FT a	9150	40080	92050	58620	68820	57790	104700	53330	39990	19640	22690	19060		
CAL YR 1981	TOTAL	66323.95	MEAN	182	MAX	Unknown	MIN	0	AC-FT	131600	MEAN a	384	AC-FT a	277800
WTR YR 1982	TOTAL	209773.10	MEAN	575	MAX	6960	MIN	0	AC-FT	416100	MEAN a	809	AC-FT a	586000

a Adjusted for diversion to Miners Ranch Canal.

11396400 SUCKER RUN NEAR FORBESTOWN, CA

LOCATION.--Lat 39°33'12", long 121°18'04", in NW 1/4 NE 1/4 sec.33, T.20 N., R.6 E., Butte County, Hydrologic Unit 18020123, on left bank at upstream side of road bridge, 0.7 mi (1.1 km) upstream from confluence with South Fork Feather River, and 2.8 mi (4.5 km) northwest of Forbestown.

DRAINAGE AREA.--18.7 mi² (48.4 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 960 ft (292 m), from topographic map.

REMARKS.--Records good. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--17 years, 25.7 ft³/s (0.728 m³/s), 18,620 acre-ft/yr (23.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,600 ft³/s (73.6 m³/s) Apr. 11, 1982, gage height, 9.90 ft (3.018 m), from floodmarks, from rating curve extended above 750 ft³/s (21.2 m³/s) on basis of slope-area measurement of maximum flow; minimum daily, 0.40 ft³/s (0.011 m³/s) Oct. 7, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 7.4 ft (2.26 m) from floodmarks, discharge, 2,190 ft³/s (62 m³/s) from rating curve extended above 600 ft³/s (17.0 m³/s) on basis of computation of maximum flow over rock control.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 17	0200	335 9.49	3.72 1.134	Feb. 15	2000	586 16.6	4.47 1.362
Nov. 23	1330	720 20.4	4.81 1.466	Mar. 31	0530	696 19.7	4.75 1.448
Dec. 20	0230	725 20.5	4.82 1.469	Apr. 3	0600	810 22.9	5.02 1.530
Dec. 29	1430	416 11.8	3.98 1.213	Apr. 11	Unknown	*2,600 73.6	9.90 3.018

Minimum daily, 3.4 ft³/s (0.096 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	7.4	29	183	49	96	150	73	31	23	12	8.8
2	3.4	6.8	27	120	49	111	172	70	31	23	12	8.6
3	3.5	6.0	24	96	49	79	591	68	31	22	12	8.7
4	5.1	6.1	22	123	47	69	275	65	30	21	12	8.8
5	5.0	5.9	21	176	44	62	180	62	30	21	12	8.5
6	5.3	5.9	20	119	42	58	146	59	29	20	12	8.5
7	9.7	7.0	27	95	41	56	121	58	29	20	12	8.2
8	5.8	9.7	21	82	40	55	112	57	28	19	13	7.9
9	5.2	11	26	74	39	52	107	57	27	19	12	7.6
10	6.3	12	38	69	38	62	223	55	27	19	11	7.8
11	20	14	25	66	37	94	1180	54	26	18	11	7.7
12	9.6	36	27	61	35	75	504	52	27	18	11	7.5
13	6.7	119	38	57	59	63	318	51	26	18	10	7.6
14	5.8	52	40	55	117	80	330	50	26	18	11	7.6
15	5.5	74	36	53	345	99	244	48	24	17	11	10
16	5.2	107	32	52	269	86	202	47	24	17	10	12
17	5.0	140	28	50	135	81	175	46	23	17	10	11
18	4.7	37	58	49	105	79	156	43	23	17	10	13
19	4.6	25	435	49	89	75	142	39	29	16	9.8	12
20	4.6	20	429	52	80	71	132	39	24	16	9.9	11
21	4.6	88	156	49	73	67	123	38	23	15	9.7	10
22	4.9	67	99	44	68	64	115	37	23	15	9.5	10
23	5.3	339	74	44	63	61	107	35	22	15	9.2	9.8
24	4.6	228	60	44	59	58	102	34	22	15	9.0	11
25	4.5	70	52	46	56	56	96	33	22	14	9.0	15
26	7.3	60	54	87	56	55	92	33	21	14	9.0	13
27	12	56	72	69	54	53	88	33	21	14	9.0	11
28	44	48	50	64	51	60	84	32	21	13	9.4	11
29	28	38	203	51	---	60	79	32	27	13	9.6	10
30	11	32	181	49	---	89	75	31	24	13	9.4	10
31	8.6	---	176	49	---	360	---	31	---	12	9.0	---
TOTAL	259.4	1727.8	2580	2277	2189	2486	6421	1462	771	532	325.5	293.6
MEAN	8.37	57.6	83.2	73.5	78.2	80.2	214	47.2	25.7	17.2	10.5	9.79
MAX	44	339	435	183	345	360	1180	73	31	23	13	15
MIN	3.4	5.9	20	44	35	52	75	31	21	12	9.0	7.5
AC-FT	515	3430	5120	4520	4340	4930	12740	2900	1530	1060	646	582

CAL YR 1981 TOTAL 8129.5 MEAN 22.3 MAX 435 MIN 1.7 AC-FT 16120
WTR YR 1982 TOTAL 21324.3 MEAN 58.4 MAX 1180 MIN 3.4 AC-FT 42300

NOTE.--No gage-height record April 10-12.

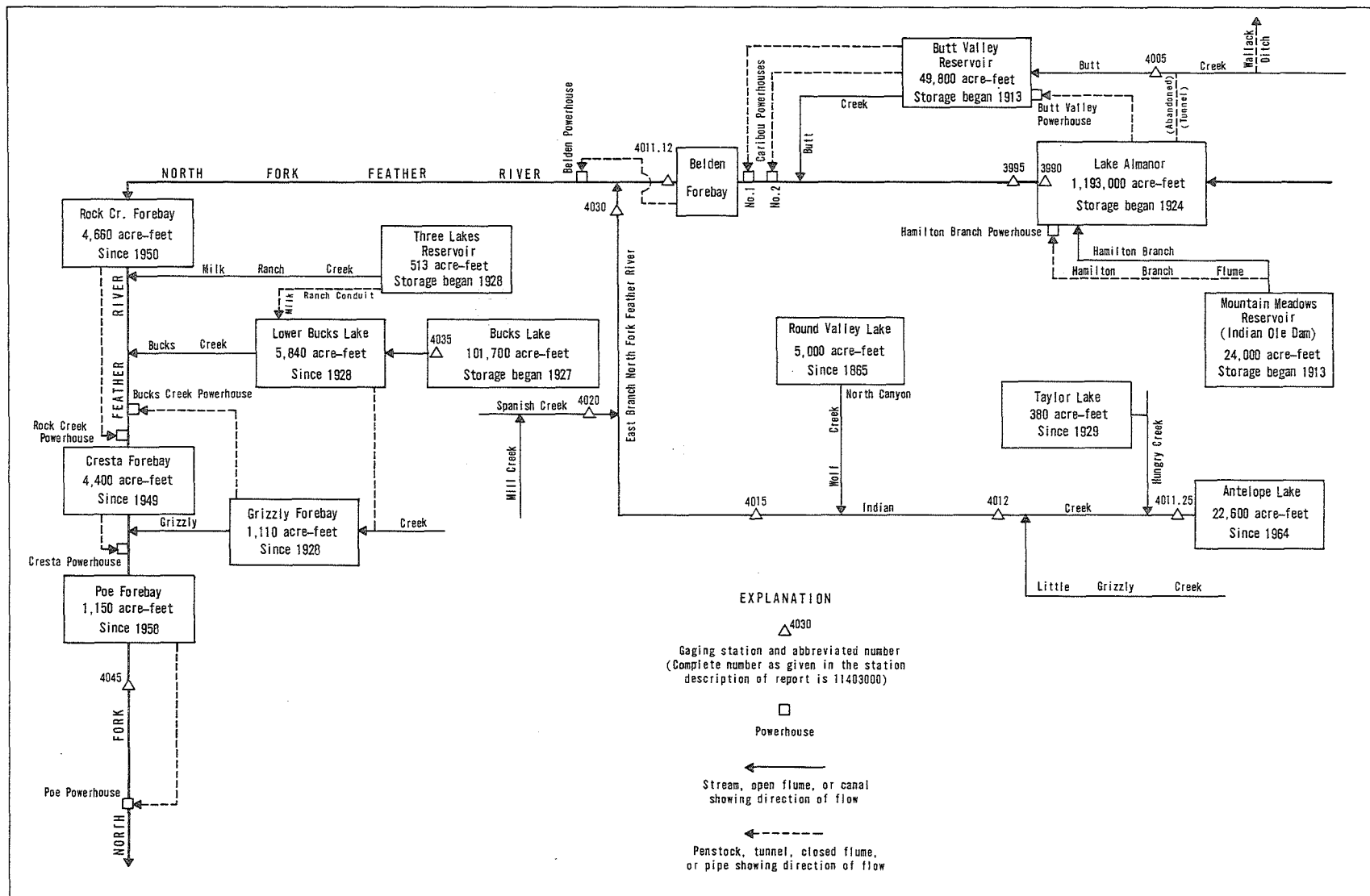


FIGURE 6. — Schematic diagram showing diversions and storage in North Fork Feather River basin.

SACRAMENTO RIVER BASIN

11399000 LAKE ALMANOR AT PRATTVILLE, CA

LOCATION.--Lat 40°12'50", long 121°09'40", in SW¼NE¼ sec.11, T.27 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, at outlet tower to No. 2 tunnel on North Fork Feather River at Prattville, 4.7 mi (7.6 km) northwest of Lake Almanor Dam, and 5.6 mi (9.0 km) northwest of Canyon Dam.

DRAINAGE AREA.--491 mi² (1,272 km²).

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 monitored once daily. Datum of gage is 10.23 ft (3.118 m) below National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Prior to June 1, 1965, nonrecording gage at site 4.7 mi (7.6 km) southeast at same datum.

REMARKS.--Lake is formed by earthfill dam; storage began in July 1913; dam raised to gage height 4,455 ft (1,357.9 m) in 1917 and 4,515 ft (1,376.2 m) in 1927. Capacity, 1,184,000 acre-ft (1.46 km³) between gage heights 4,495.5 ft (1,370.23 m), upper storage limit and 4,422 ft (1,347.8 m), bottom of lowest outlet, of which 8,950 acre-ft (11.0 hm³) is not available for release. Water is diverted by tunnel and penstock to Butt Valley Reservoir and powerhouse for use in Caribou powerplants; some water also released down North Fork Feather River (station 11399500). Figures given herein represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records furnished by Pacific Gas and Electric Co., in connection with a Federal Energy Regulatory Commission Project.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 1,143,000 acre-ft (1.41 km³) June 8, 1982, gage height, 4,494.00 ft (1,369.771 m); minimum, 5,230 acre-ft (6.45 hm³) Feb. 5, 1918, gage height, 4,416.1 ft (1,346.03 m).

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents observed, 1,143,000 acre-ft (1.41 km³) June 8, gage height, 4,494.00 ft (1,369.771 m); minimum observed, 682,500 acre-ft (842 hm³) Oct. 26, gage height, 4,475.44 ft (1,364.114 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4,422	8,950	4,432	34,200	4,450	220,800	4,475	672,700
4,424	10,100	4,434	49,500	4,455	294,500	4,480	787,300
4,426	11,300	4,437	74,200	4,460	376,700	4,485	908,500
4,428	13,500	4,440	101,900	4,465	467,000	4,490	1,036,000
4,430	21,200	4,445	156,400	4,470	565,500	4,495.5	1,184,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	705440	693920	826350	928450	925190	993060	1074010	1086520	1136470	1129980	1073220	988420
2	703180	694820	827550	930710	922690	996680	1076670	1087590	1139170	1128900	1070560	986100
3	702270	696400	829710	934730	921430	999520	1080660	1089720	1139170	1127280	1067910	983280
4	700690	696850	829710	937250	919180	1002890	1077470	1090520	1139710	1127010	1065260	980450
5	698430	696180	829230	939770	917430	1005220	1077470	1091590	1139710	1127010	1062880	979170
6	696180	697080	829710	941790	915440	1007820	1076670	1093460	1139980	1125660	1060760	976090
7	695050	697980	831390	943300	913940	1010150	1075340	1094790	1140520	1124040	1058380	974040
8	695050	698430	831630	945320	911940	1012490	1073480	1096660	1142960	1122160	1056530	970720
9	693700	697980	833320	946590	910200	1014050	1071890	1097200	1141880	1120810	1053360	967660
10	695270	697300	835490	947850	907960	1016400	1072950	1098000	1140520	1119200	1050990	964600
11	697760	698210	836930	947090	905470	1020040	1074810	1098530	1139710	1117580	1048090	961290
12	696180	703120	838380	946590	903480	1022390	1075080	1098800	1139710	1116240	1045980	957990
13	696180	708160	838620	945580	902740	1024480	1076940	1099070	1140250	1114630	1043090	954690
14	694600	713610	840790	943810	905720	1028140	1078270	1099340	1139710	1113020	1040460	951650
15	694150	719990	843450	942290	915690	1029970	1079070	1099610	1138900	1110870	1037570	948610
16	692800	739020	845630	940280	926950	1032330	1079330	1100140	1138900	1108990	1034950	946080
17	693020	749640	847810	940530	935240	1034430	1079870	1102280	1138090	1106840	1032070	943810
18	692800	755680	851930	939270	941540	1036520	1080130	1105500	1138090	1105230	1029190	942800
19	691220	759630	862390	938010	947600	1038620	1080400	1107650	1138090	1103090	1026050	941790
20	689650	763130	875100	938010	953420	1040200	1079870	1110330	1139440	1100940	1023170	940280
21	687630	770370	882470	938240	959000	1042040	1079070	1114090	1139440	1098800	1020570	937760
22	686060	776940	888140	936500	964340	1043880	1079330	1116780	1138630	1096390	1017960	934730
23	686510	790370	892580	934230	968170	1045460	1079070	1120000	1137550	1093720	1015350	931720
24	687410	800090	896540	932970	973020	1047830	1079870	1122160	1135910	1091850	1012230	930710
25	686060	806030	899760	930460	976350	1049670	1080130	1126470	1134580	1089190	1009110	928700
26	682480	811990	903480	931470	980450	1051250	1080930	1129440	1132950	1087050	1005740	927950
27	684940	815810	906960	931470	983280	1053360	1082530	1132680	1131870	1084660	1002890	926450
28	689650	819150	910700	930960	986360	1057060	1083330	1134580	1130250	1082790	999780	924690
29	690320	821550	916430	929460	---	1059970	1084920	1134850	1130520	1080400	996680	923190
30	691900	822990	919680	927700	---	1066580	1085720	1135120	1130520	1078270	994100	923440
31	692800	---	924690	925940	---	1070300	---	1134850	---	1075880	991260	---
MAX	705440	822990	924690	947850	986360	1070300	1085720	1135120	1142960	1129980	1073220	988420
MIN	682480	693920	826350	925940	902740	993060	1071890	1086520	1130250	1075880	991260	923190
a	4475.90	4481.50	4485.65	4485.70	4488.08	4491.29	4491.87	4493.70	4493.54	4491.50	4488.27	4485.60
b	-14900	+130200	+101700	+1250	+60400	+83900	+15400	+49100	-4330	-54600	-84600	-67800

CAL YR 1981 b +51500

WTR YR 1982 b +215700

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

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA

LOCATION.--Lat 40°10'10", long 121°05'29", in NE¼SW¼ sec.28, T.27 N., R.8 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.5 mi (0.8 km) downstream from Almanor Dam, 4.5 mi (7.2 km) southeast of Prattville, and 9 mi (14 km) upstream from Butt Creek.

DRAINAGE AREA.--493 mi² (1,277 km²).

PERIOD OF RECORD.--June 1905 to current year (daily discharges for July 1921 to September 1936 include water diverted through Almanor-Butt Creek tunnel). Records for water year 1911 incomplete, yearly estimate published in WSP 1315-A. Published as "below Prattville" prior to 1911. Supplemental records for Almanor-Butt Creek tunnel diversion computed November 1924 to Dec. 30, 1958, as difference of flow between Butt Creek above Almanor-Butt Creek tunnel (unpublished prior to 1936 and since 1964), and Butt Creek below Almanor-Butt Creek tunnel (unpublished prior to 1936 and 1960-64).

REVISED RECORDS.--WSP 1245: 1951 (yearly summaries). WSP 1285: 1952 (yearly summaries).

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 4,390.09 ft (1,338.099 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1936, nonrecording gages or water-stage recorders at several sites within 0.5 mi (0.8 km) of present site at various datums.

REMARKS.--Flow regulated by Lake Almanor (station 11399000) 0.5 mi (0.8 km) upstream and Mountain Meadows Reservoir since 1924, capacity, 24,000 acre-ft (29.6 hm³). Water diverted for power from Lake Almanor through old Almanor-Butt Creek tunnel to Butt Creek until Dec. 30, 1958. Diversion through new tunnel and Butt Valley powerhouse began Dec. 31, 1958. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for diversion and leakage).--77 years, 905 ft³/s (25.63 m³/s), 655,700 acre-ft/yr (808 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft³/s (283 m³/s) Mar. 19, 1907, before construction of dam, gage height, 16.2 ft (4.94 m) at former site, from rating curve extended above 3,700 ft³/s (105 m³/s); no flow Apr. 15, 16, 1914, at times January to April 1919, Apr. 21, 1923.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 482 ft³/s (13.7 m³/s) Oct. 13; minimum daily, 5.1 ft³/s (0.14 m³/s) Oct. 20-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	36	35	35	34	35	36	35	35	36	35	35
2	35	36	35	35	34	36	36	35	35	36	35	35
3	35	36	35	35	35	36	36	35	35	35	35	35
4	35	35	35	35	35	35	36	35	35	35	35	35
5	35	35	35	35	35	34	36	35	35	35	35	35
6	35	35	35	35	35	35	36	35	35	35	35	35
7	35	36	35	35	35	35	36	35	35	35	35	36
8	35	40	35	35	35	35	36	35	36	35	35	36
9	35	39	35	35	35	35	36	35	36	35	35	35
10	35	35	35	36	35	36	36	35	36	35	35	35
11	35	35	35	36	35	36	36	35	36	35	35	35
12	35	36	36	36	35	36	38	35	36	35	34	35
13	482	37	36	35	35	36	37	35	36	35	35	35
14	169	37	36	35	35	36	36	35	35	35	35	35
15	35	38	36	35	35	36	36	35	35	35	35	35
16	35	39	35	35	38	35	35	35	35	36	35	35
17	34	40	35	35	35	35	35	35	35	36	35	35
18	34	39	35	35	34	35	35	35	35	36	35	35
19	21	35	36	35	35	35	35	35	35	36	34	35
20	5.1	35	38	35	35	35	35	35	35	36	34	35
21	5.1	35	37	35	36	35	35	35	35	35	34	35
22	5.1	36	37	35	36	35	35	35	35	35	34	35
23	20	37	37	35	36	35	35	35	35	35	22	35
24	39	38	35	35	36	35	35	35	35	35	20	35
25	39	37	35	35	35	35	35	35	35	35	36	35
26	37	35	35	35	35	35	35	35	35	35	36	35
27	35	35	36	35	35	35	35	35	36	35	36	35
28	36	35	36	35	35	35	35	35	24	35	36	35
29	36	35	36	35	---	35	34	36	6.2	35	35	35
30	36	35	36	34	---	35	35	36	25	35	35	35
31	36	---	35	34	---	36	---	35	---	35	35	---
TOTAL	1559.3	1092	1103	1086	984	1093	1067	1087	1007.2	1092	1056	1052
MEAN	50.3	36.4	35.6	35.0	35.1	35.3	35.6	35.1	33.6	35.2	34.1	35.1
MAX	482	40	38	36	38	36	38	36	36	36	36	36
MIN	5.1	35	35	34	34	34	34	35	6.2	35	20	35
AC-FT	3090	2170	2190	2150	1950	2170	2120	2160	2000	2170	2090	2090
MEAN a	81.7	149	308	1096	885	71.6	1964	1493	1366	1856	2154	1895
AC-FT a	50220	8860	18970	67370	49160	4400	116900	91820	81310	114100	132500	112800
CAL YR 1981 TOTAL	13384.3			MEAN 36.7	MAX 482	MIN 5.1	AC-FT 26550	MEAN a 777		AC-FT a 562500		
WTR YR 1982 TOTAL	13278.5			MEAN 36.4	MAX 482	MIN 5.1	AC-FT 26340	MEAN a 1172		AC-FT a 848300		

a Adjusted for diversion through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel at outlet.

SACRAMENTO RIVER BASIN

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

LOCATION.--Lat 40°11'12", long 121°11'11", in NW¼NW¼ sec.22, T.27 N., R.7 E., Plumas County, Hydrologic Unit 18020121, on right bank 400 ft (122 m) downstream from outlet of old tunnel from Lake Almanor to Butt Creek, and 2.2 mi (3.5 km) southwest of Prattville.

DRAINAGE AREA.--69.3 mi² (179.5 km²).

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.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,400 ft (1,341 m), from topographic map. Prior to Oct. 5, 1937, at site 200 ft (61 m) downstream at datum 4 ft (1.2 m) lower.

REMARKS.--No regulation above station. Howell-Bunger valve in conduit from Lake Almanor to Butt Valley powerhouse is opened for short periods several times a year causing sharp peaks. Wallack ditch, above station, diverts several cubic feet per second during each irrigation season into Yellow Creek basin. Leakage from Almanor-Butt Creek tunnel No. 1 was 6,440 acre-ft (7.94 hm³) during the current year. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (natural flow of Butt Creek, adjusted for leakage from Almanor-Butt Creek tunnel No. 1).--46 years (including records for station 11400000 Butt Creek above Almanor-Butt Creek tunnel, near Prattville for water years 1960-64), 83.1 ft³/s (2.353 m³/s), 60,210 acre-ft/yr (74.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,830 ft³/s (108 m³/s) Dec. 23, 1964, gage height, 5.87 ft (1.789 m), from rating curve extended above 1,400 ft³/s (39.6 m³/s); minimum daily, 26 ft³/s (0.74 m³/s) May 26-28, June 1-5, 13-15, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,550 ft³/s (43.9 m³/s) Feb. 16, gage height, 3.70 ft (1.128 m); minimum daily, 40 ft³/s (1.13 m³/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	53	114	181	80	231	113	296	141	88	56	52
2	41	51	109	163	80	222	120	296	134	78	56	52
3	41	49	101	152	81	187	121	298	128	75	56	52
4	41	48	96	144	79	168	124	299	124	73	55	52
5	40	48	92	135	82	155	118	288	121	72	55	52
6	40	48	109	118	89	147	116	282	116	71	55	52
7	74	47	145	117	92	143	111	288	113	70	55	52
8	48	46	113	122	80	144	109	288	109	69	57	52
9	44	45	118	128	77	143	112	274	105	68	56	51
10	61	45	137	119	77	152	121	251	103	67	55	50
11	76	46	109	110	76	223	411	234	100	66	55	50
12	51	115	105	102	76	208	480	222	100	66	55	50
13	46	264	115	97	91	182	352	219	100	65	55	50
14	45	249	132	94	249	191	359	218	95	64	55	50
15	44	313	163	92	500	181	311	216	91	63	55	51
16	43	489	133	89	934	165	276	214	85	63	55	52
17	42	431	118	88	484	157	276	220	85	63	55	54
18	42	192	162	89	354	149	289	217	89	62	53	59
19	42	139	548	88	355	143	284	208	86	61	54	66
20	42	128	907	86	338	134	283	201	95	59	55	63
21	41	307	504	89	336	130	278	201	82	58	53	59
22	41	252	341	92	364	126	288	201	80	57	53	58
23	41	800	270	86	285	124	306	201	81	57	52	57
24	41	519	225	82	247	123	326	204	79	58	52	60
25	41	289	200	82	220	125	326	206	77	58	52	61
26	41	226	201	94	204	122	314	205	75	58	52	59
27	48	186	223	89	190	123	312	198	75	58	52	57
28	144	156	175	87	175	125	319	182	74	57	53	57
29	76	134	220	83	---	127	304	168	83	57	54	56
30	59	120	276	86	---	118	297	156	81	57	53	56
31	55	---	207	81	---	91	---	148	---	56	53	---
TOTAL	1572	5835	6468	3265	6295	4759	7556	7099	2907	1994	1682	1642
MEAN	50.7	195	209	105	225	154	252	229	96.9	64.3	54.3	54.7
MAX	144	800	907	181	934	231	480	299	141	88	57	66
MIN	40	45	92	81	76	91	109	148	74	56	52	50
AC-FT	3120	11570	12830	6480	12490	9440	14990	14080	5770	3960	3340	3260
CAL YR 1981	TOTAL	31234	MEAN	85.6	MAX	907	MIN	33	AC-FT	61950		
WTR YR 1982	TOTAL	51074	MEAN	140	MAX	934	MIN	40	AC-FT	101300		

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA

LOCATION.--Lat 40°04'18", long 121°09'46", in SE¼SW¼ sec.26, T.26 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.2 mi (0.3 km) downstream from Belden Dam, 0.4 mi (0.6 km) upstream from Deadwood Canyon, and 6.2 mi (10.0 km) northeast of Belden.

DRAINAGE AREA.--612 mi² (1,585 km²).

PERIOD OF RECORD.--October 1969 to current year. July 1959 to September 1969 in files of Pacific Gas and Electric Co.

REVISED RECORDS.--WDR CA-78-4: 1977 (monthly and yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 2,811.00 ft (856.793 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Belden Reservoir 0.2 mi (0.3 km) upstream, Lake Almanor (station 11399000), Butt Valley Reservoir, and Mountain Meadows Reservoir, combined capacity, 1,267,000 acre-ft (1.56 km³). Diversion through tunnel to Belden powerhouse began on Aug. 27, 1969. See schematic diagram of North Fork Feather River basin.

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

AVERAGE DISCHARGE (including diversion to Belden powerhouse).--13 years, 1,127 ft³/s (31.92 m³/s), 816,500 acre-ft/yr (1.01 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,040 ft³/s (86.1 m³/s) Nov. 18, 1974, gage height, 8.89 ft (2.710 m); minimum daily, 2.3 ft³/s (0.065 m³/s) Oct. 25, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,590 ft³/s (73.3 m³/s) Apr. 12, gage height, 8.39 ft (2.557 m); minimum daily, 2.3 ft³/s (0.065 m³/s) Oct. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	3.7	59	62	60	60	63	411	140	139	141	143
2	62	23	61	62	59	61	63	422	140	135	140	142
3	62	63	61	60	64	60	64	388	139	138	140	142
4	62	58	60	63	62	63	63	157	139	136	141	142
5	61	59	60	62	60	60	63	143	140	138	140	142
6	62	59	61	51	60	60	64	140	139	140	139	143
7	61	60	56	54	60	60	63	140	139	141	141	79
8	62	60	50	60	60	61	63	140	140	139	140	63
9	61	60	51	57	61	61	64	139	140	137	141	64
10	61	60	52	60	60	60	65	139	140	140	141	62
11	61	60	53	60	60	60	68	139	140	142	141	60
12	61	59	55	63	61	61	1050	140	139	142	141	60
13	61	60	55	63	55	60	489	139	140	141	141	60
14	61	58	53	62	61	60	616	140	139	142	141	60
15	60	58	53	58	61	60	531	139	139	141	140	60
16	61	58	49	59	62	61	480	140	138	141	142	60
17	62	59	51	58	60	60	456	140	139	141	142	60
18	61	59	50	59	55	60	470	139	140	142	142	60
19	62	56	51	61	67	61	467	140	140	141	142	61
20	63	59	52	60	59	61	454	139	140	141	142	60
21	62	62	51	59	60	60	451	139	139	141	142	60
22	61	61	51	59	61	60	451	140	140	140	142	61
23	403	61	51	61	55	64	485	139	140	141	140	60
24	443	60	51	61	60	61	509	140	140	143	141	61
25	2.3	60	52	63	61	60	498	139	140	142	141	61
26	2.8	59	51	63	60	60	497	140	139	143	140	60
27	3.6	60	51	60	60	60	467	139	139	142	140	60
28	4.6	59	50	62	60	60	482	140	140	142	142	60
29	4.1	61	61	62	---	60	452	140	140	141	140	60
30	3.7	60	51	62	---	60	428	139	140	140	138	61
31	3.7	---	52	61	---	63	---	139	---	140	141	---
TOTAL	2221.8	1694.7	1665	1867	1684	1878	10436	5148	4187	4352	4365	2327
MEAN	71.7	56.5	53.7	60.2	60.1	60.6	348	166	140	140	141	77.6
MAX	443	63	61	63	67	64	1050	422	140	143	142	143
MIN	2.3	3.7	49	51	55	60	63	139	138	135	138	60
AC-FT	4410	3360	3300	3700	3340	3730	20700	10210	8300	8630	8660	4620
MEAN a	936	564	779	1320	1209	637	2160	1683	1467	1816	1997	1855
AC-FT a	57570	33540	47870	81150	67160	39180	128600	103500	87300	111700	122800	110400
CAL YR 1981 TOTAL	33148.5			MEAN 90.8	MAX 443	MIN 2.3	AC-FT 65750	MEAN a 969	AC-FT a 701800			
WTR YR 1982 TOTAL	41825.5			MEAN 115	MAX 1050	MIN 2.3	AC-FT 82960	MEAN a 1368	AC-FT a 990700			

a Adjusted for diversion through Belden powerhouse.

SACRAMENTO RIVER BASIN

11401500 INDIAN CREEK NEAR CRESCENT MILLS, CA

LOCATION.--Lat 40°04'42", long 120°55'36", in SW¼SW¼ sec.25, T.26 N., R.9 E., Plumas County, Hydrologic Unit 18020122, on left bank 0.8 mi (1.3 km) upstream from Dixie Creek, and 1.5 mi (2.4 km) south of Crescent Mills.

DRAINAGE AREA.--739 mi² (1,914 km²).

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

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

GAGE.--Water-stage recorder. Altitude of gage is 3,500 ft (1,070 m), from topographic map. Prior to March 1918, nonrecording gage at site 800 ft (240 m) upstream at different datum.

REMARKS.--Records good. Natural flow affected by storage in Round Valley Reservoir since 1865, capacity 5,000 acre-ft (6.2 hm³), Taylor Lake since 1929, capacity, 380 acre-ft (469,000 m³), and Antelope Lake (station 11401120) since November 1963. Diversions above station for irrigation of about 11,800 acres (47.8 km²) of which 9,700 acres (39.2 km²) are in Indian and Genesee Valleys. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--61 years (water years 1907-9, 1912-17, 1931-82), 547 ft³/s (15.49 m³/s), 396,300 acre-ft/yr (489 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 25,000 ft³/s (708 m³/s) Mar. 19, 1907, gage height, 20.2 ft (6.16 m) site and datum then in use; minimum daily, 0.90 ft³/s (0.025 m³/s) July 28, 29, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 17	1830	5,210 148	9.51 2.899	Feb. 16	1630	13,500 382	14.21 4.331
Nov. 24	1200	*16,500 467	15.38 4.688	Apr. 3	1815	2,400 68.0	6.98 2.128
Dec. 21	0030	10,300 292	12.68 3.865	Apr. 12	0745	12,100 343	13.56 4.133
Dec. 30	0300	2,870 81.3	7.57 2.307				

Minimum daily, 18 ft³/s (0.51 m³/s) Oct. 2-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	140	1130	2170	635	1860	1030	2830	799	350	70	40
2	18	133	1040	1810	630	2340	1220	2790	749	323	66	41
3	18	124	935	1570	631	2020	1930	2750	697	296	60	40
4	18	119	850	1480	616	1760	1920	2680	674	273	61	42
5	18	116	792	1520	537	1560	1570	2470	652	255	59	43
6	19	110	741	1230	512	1450	1420	2270	615	230	58	46
7	40	108	768	1060	549	1410	1320	2260	575	203	55	46
8	47	105	731	1010	555	1330	1230	2240	524	191	50	50
9	44	101	757	959	524	1280	1240	2130	498	170	49	51
10	43	99	1210	907	515	1290	1490	1930	466	159	45	49
11	104	98	1040	866	476	1820	5490	1810	455	156	40	50
12	109	516	916	817	465	1840	10800	1670	440	149	42	54
13	86	1880	927	756	524	1620	8160	1600	435	139	43	51
14	80	3350	938	731	1460	1730	6400	1590	431	129	45	50
15	79	2010	1000	709	4230	1750	5670	1590	418	125	45	59
16	73	2520	1020	701	11400	1570	4770	1550	405	122	46	69
17	71	4390	890	693	9440	1440	4220	1560	396	116	41	85
18	67	3700	933	714	6140	1430	4110	1500	426	111	37	102
19	63	1750	2310	678	4650	1340	3940	1410	517	108	39	132
20	66	1130	8110	675	4100	1270	3690	1350	491	105	39	120
21	65	1890	9060	674	3780	1210	3400	1340	421	102	43	104
22	65	4000	6120	609	3890	1120	3310	1340	370	95	43	94
23	68	5260	4190	609	3500	1070	3380	1330	344	88	44	87
24	70	13900	2920	583	2890	1040	3580	1310	330	84	46	88
25	69	8510	2190	590	2380	1020	3660	1290	316	85	42	104
26	67	4850	1930	928	2050	999	3520	1290	299	83	40	126
27	73	3050	2280	849	1870	967	3400	1250	286	79	42	121
28	406	2000	1790	821	1660	1010	3360	1130	280	74	44	114
29	492	1500	2020	724	---	1040	3180	1020	300	72	47	108
30	251	1270	2720	672	---	1010	2940	942	317	75	45	106
31	167	---	2330	662	---	1030	---	848	---	68	46	---
TOTAL	2876	68729	64588	28777	70609	43626	105350	53070	13926	4615	1472	2272
MEAN	92.8	2291	2083	928	2522	1407	3512	1712	464	149	47.5	75.7
MAX	492	13900	9060	2170	11400	2340	10800	2830	799	350	70	132
MIN	18	98	731	583	465	967	1030	848	280	68	37	40
AC-FT	5700	136300	128100	57080	140100	86530	209000	105300	27620	9150	2920	4510
CAL YR 1981	TOTAL	192426.3	MEAN	527	MAX	13900	MIN	5.2	AC-FT	381700		
WTR YR 1982	TOTAL	459910.0	MEAN	1260	MAX	13900	MIN	18	AC-FT	912200		

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA

LOCATION.--Lat 40°00'11", long 120°57'12", in SE¼NE¼ sec.27, T.25 N., R.9 E., Plumas County, Hydrologic Unit 18020122, on right bank 200 ft (61 m) upstream from Blackhawk Creek, and 0.9 mi (1.4 km) southeast of Keddle.

DRAINAGE AREA.--184 mi² (477 km²).

PERIOD OF RECORD.--October 1933 to current year. Prior to October 1953, published as "at Keddle." Records for October 1911 to September 1933 at site 1.2 mi (1.9 km) downstream not equivalent owing to inflow.

REVISED RECORDS.--WSP 1041: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 3,129.86 ft (953.981 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Flow regulated by five small reservoirs having a combined capacity of 800 acre-ft (986,000 m³). Approximately 4,600 acres (18.6 km²) irrigated above station (from information furnished by U.S. Forest Service). City of Quincy diverts about 450 acre-ft (555,000 m³) annually for municipal supply. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--49 years, 270 ft³/s (7.646 m³/s), 195,600 acre-ft/yr (241 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft³/s (436 m³/s) Dec. 22, 1964, gage height, 13.53 ft (4.124 m), from rating curve extended above 5,200 ft³/s (147 m³/s) on basis of slope-area measurement at gage height 12.47 ft (3.801 m); minimum, 3.8 ft³/s (0.11 m³/s) Aug. 12, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft³/s (48.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 17	0630	4,370 124	7.58 2.310	Feb. 16	0330	*9,310 264	10.67 3.252
Nov. 23	2000	8,540 242	10.26 3.127	Apr. 3	1915	1,960 55.5	5.46 1.664
Dec. 20	0130	8,360 237	10.16 3.097	Apr. 11	1100	8,670 246	10.33 3.149
Dec. 30	0100	2,170 61.5	5.68 1.731				

Minimum daily, 28 ft³/s (0.79 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	84	350	1280	266	949	530	1190	378	223	53	47
2	28	76	330	898	260	1390	491	1190	346	182	55	46
3	30	72	301	696	264	971	1400	1180	334	163	59	48
4	30	67	278	671	258	764	1150	1160	327	148	58	49
5	29	64	261	706	240	646	787	1060	315	143	54	48
6	29	62	250	578	226	576	665	1000	293	137	56	46
7	80	60	326	480	224	534	591	1030	279	132	54	44
8	68	58	316	431	221	503	546	1020	262	126	63	43
9	48	56	330	400	214	478	604	912	253	118	60	41
10	47	55	540	373	210	544	991	783	249	113	56	44
11	80	54	406	351	201	1050	7480	692	241	102	44	39
12	69	379	366	332	194	936	4890	660	237	107	43	41
13	53	1540	371	308	243	753	2900	659	230	103	45	39
14	48	1790	392	295	1530	874	2880	671	227	101	46	41
15	45	1380	473	286	4040	783	2290	653	220	97	47	49
16	42	2140	443	277	5990	692	1800	674	209	93	48	56
17	42	3010	371	275	2450	620	1690	709	204	89	48	65
18	40	1010	488	280	1610	594	1600	670	205	84	46	72
19	39	520	3910	277	1340	539	1540	622	247	84	48	83
20	39	392	4650	280	1300	487	1470	597	217	82	51	70
21	39	1520	3300	269	1280	452	1420	614	199	77	50	65
22	38	1600	2200	242	1350	423	1400	625	187	74	47	62
23	39	5040	1300	235	1070	400	1420	632	178	67	44	61
24	38	4560	895	232	856	386	1450	639	172	68	43	65
25	38	1660	722	233	718	378	1450	639	166	68	41	71
26	38	1050	647	473	647	365	1420	633	158	68	41	76
27	39	748	824	431	618	355	1350	608	160	64	40	67
28	338	559	640	372	555	403	1380	527	160	59	45	64
29	300	453	1300	323	---	394	1270	472	180	56	47	61
30	142	392	1780	292	---	394	1190	432	185	56	49	60
31	101	---	1270	278	---	553	---	408	---	54	49	---
TOTAL	2065	30451	30030	12854	28375	19186	50045	23361	7018	3138	1530	1663
MEAN	66.6	1015	969	415	1013	619	1668	754	234	101	49.4	55.4
MAX	338	5040	4650	1280	5990	1390	7480	1190	378	223	63	83
MIN	28	54	250	232	194	355	491	408	158	54	40	39
AC-FT	4100	60400	59560	25500	56280	38060	99260	46340	13920	6220	3030	3300
CAL YR 1981 TOTAL	103860.1		MEAN 285	MAX 5040	MIN 9.1	AC-FT 206000						
WTR YR 1982 TOTAL	209716.0		MEAN 575	MAX 7480	MIN 28	AC-FT 416000						

11403000 EAST BRANCH OF NORTH FORK FEATHER RIVER NEAR RICH BAR, CA

LOCATION.--Lat 40°00'38", long 121°13'03", in SW¼NE¼ sec.20, T.25 N., R.7 E., Plumas County, Hydrologic Unit 18020122, Plumas National Forest, on left bank 0.5 mi (0.8 km) upstream from mouth, and 1.3 mi (2.1 km) west of Rich Bar.

DRAINAGE AREA.--1,025 mi² (2,655 km²).

PERIOD OF RECORD.--October 1950 to September 1961, 1965-67 (annual maximum), December 1967 to current year.

REVISED RECORDS.--WSP 1245: 1951(M).

GAGE.--Water-stage recorder. Altitude of gage is 2,300 ft (701 m), from topographic map. Prior to Nov. 29, 1950, at site 30 ft (9 m) downstream at same datum.

REMARKS.--No storage or diversion between stations on Indian and Spanish Creeks and station near Rich Bar.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. and reviewed by Geological Survey.

AVERAGE DISCHARGE.--25 years (water years 1951-61, 1969-82), 1,047 ft³/s (29.65 m³/s), 758,600 acre-ft/yr (935 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,300 ft³/s (1,370 m³/s) Dec. 22, 1964, gage height, 16.56 ft (5.048 m), from rating curve extended above 15,000 ft³/s (425 m³/s) on basis of study of upstream and downstream peak discharges; minimum daily, 23 ft³/s (0.65 m³/s) Aug. 29-31, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,400 ft³/s (691 m³/s) Nov. 24, gage height, 12.75 ft (3.886 m); minimum daily, 111 ft³/s (3.14 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	369	1880	4180	1090	2980	1850	4430	1440	687	186	130
2	116	336	1740	3370	1060	4250	1980	4390	1350	632	185	131
3	114	317	1580	2820	1060	3560	3630	4350	1280	585	184	133
4	114	303	1430	2640	1050	3020	3850	4270	1230	539	181	133
5	114	293	1330	2690	932	2640	2900	4000	1190	512	184	134
6	111	284	1260	2320	868	2390	2550	3730	1130	480	174	134
7	181	277	1370	1930	903	2260	2290	3730	1070	447	175	134
8	249	271	1360	1790	908	2140	2110	3700	998	423	172	133
9	208	265	1300	1690	864	2040	2160	3490	953	398	176	137
10	200	258	2160	1590	841	2070	2670	3160	913	378	173	132
11	243	258	1900	1510	801	3170	15700	2920	890	357	163	133
12	305	728	1650	1420	763	3320	19700	2730	857	355	150	135
13	252	3620	1660	1310	837	2830	13600	2640	857	336	133	136
14	223	6330	1700	1250	2810	2940	11100	2620	848	322	139	132
15	214	3980	1830	1210	9700	2970	9460	2610	826	310	143	140
16	205	6220	1910	1170	20800	2660	7680	2590	790	300	144	163
17	197	8310	1650	1150	14600	2420	6640	2620	774	291	146	188
18	194	5830	1710	1180	9140	2340	6430	2520	798	277	146	228
19	186	3120	7020	1160	6800	2190	6150	2360	932	274	136	266
20	181	2070	17700	1140	6080	2040	5780	2260	871	265	133	253
21	184	3210	14700	1140	5650	1940	5320	2250	783	261	139	231
22	181	6670	9440	1020	5840	1810	5200	2270	707	250	140	211
23	181	10600	6360	981	5110	1720	5400	2270	657	237	139	204
24	184	22400	4500	962	4190	1670	5790	2270	628	223	140	208
25	186	13000	3530	950	3570	1630	5820	2240	604	226	135	220
26	186	7170	3080	1490	3120	1600	5490	2260	577	221	136	242
27	189	4680	3560	1680	2890	1540	5330	2190	563	217	133	241
28	778	3310	2970	1480	2580	1620	5280	1960	560	204	127	239
29	1120	2540	3550	1330	---	1670	4920	1800	596	195	123	238
30	651	2130	5340	1190	---	1670	4560	1660	656	196	125	234
31	448	---	4210	1140	---	2000	---	1530	---	192	128	---
TOTAL	8015	119149	115380	50883	114857	73100	181340	87820	26328	10590	4688	5373
MEAN	259	3972	3722	1641	4102	2358	6045	2833	878	342	151	179
MAX	1120	22400	17700	4180	20800	4250	19700	4430	1440	687	186	266
MIN	111	258	1260	950	763	1540	1850	1530	560	192	123	130
AC-FT	15900	236300	228900	100900	227800	145000	359700	174200	52220	21010	9300	10660
CAL YR 1981	TOTAL	380547	MEAN	1043	MAX	22400	MIN	30	AC-FT	754800		
WTR YR 1982	TOTAL	797523	MEAN	2185	MAX	22400	MIN	111	AC-FT	1582000		

11403500 BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°53'45", long 121°12'10", in NW¼ sec.33, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, in intake tower No. 2 upstream from dam on Bucks Creek, 2 mi (3 km) northwest of Bucks Lodge, and 15 mi (24 km) west of Quincy.

DRAINAGE AREA.--28.6 mi² (74.1 km²).

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 and nonrecording gage monitored once daily. Datum of gage is 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 (125 hm³) between elevations 5,064.75 ft (1,543.736 m), sill of outlet gate and 5,154.85 ft (1,571.198 m), spillway crest, NGVD. Released water flows down Bucks Creek to Lower Bucks Lake, where it enters tunnel that discharges into Grizzly Creek, then to Bucks Creek powerhouse. Figures given herein represent total contents, of which 274 acre-ft (338,000 m³) is not available for release. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records furnished by Pacific Gas and Electric Co., in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 106,720 acre-ft (132 hm³) June 8, 1982, elevation, 5,157.6 ft (1,572.04 m); minimum, 12,330 acre-ft (15.2 hm³) Feb. 27, 1929, elevation, 5,090.7 ft (1,551.65 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 106,720 acre-ft (132 hm³) June 8, elevation, 5,157.6 ft (1,572.04 m); minimum, 54,150 acre-ft (66.8 hm³) Nov. 7, elevation, 5,126.1 ft (1,562.44 m).

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

5,064.75	274	5,075	2,400	5,100	21,200	5,125	52,500
5,066	388	5,080	4,740	5,105	26,600	5,130	60,000
5,068	635	5,085	7,920	5,110	32,500	5,140	75,900
5,070	977	5,090	11,700	5,115	38,800	5,150	93,000
5,072	1,440	5,095	16,200	5,120	45,500	5,160	111,200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65738	56079	80386	98839	92071	100469	101744	104128	105051	103392	91017	75894
2	65424	55632	80218	99201	92247	100105	101926	104128	105051	103209	90494	75566
3	65108	55335	80051	99382	91544	100105	101926	104128	105791	102843	89970	75073
4	64325	54893	79883	99743	91017	100469	101562	104313	105420	102476	89445	74580
5	63857	54597	79716	98839	91017	100469	101562	104313	105791	102109	89099	74089
6	63389	54302	79381	98659	90668	100469	101198	104497	106163	101744	88579	73600
7	63233	54155	79381	98297	90319	100287	100287	104497	106535	101380	88232	73110
8	62922	54155	79548	97938	89795	100287	100105	104682	106720	101016	87712	72621
9	62458	54450	79716	97938	89446	100105	99924	104682	106720	100651	87195	72297
10	62149	54450	79716	97938	89099	100469	100469	104682	106720	100287	86678	71811
11	61685	54597	79548	97759	88926	100469	103576	104682	106535	99743	86161	71811
12	61377	55483	79381	97400	88579	100833	104128	104497	106535	99563	85647	71325
13	61070	57726	79213	97041	88406	100651	104128	104682	106349	99201	85305	71001
14	60610	58478	79213	96861	89445	100469	103944	104682	106349	98839	84791	70679
15	59997	61685	79381	96502	91895	100287	103944	104682	106349	98297	84448	70518
16	59541	64325	79548	96324	93835	100287	103944	104682	105977	97938	83937	70036
17	59086	66053	79883	96146	94720	102293	103576	104867	105977	97400	83427	69714
18	58630	66527	81227	95967	95433	102659	103576	104867	105791	97041	82917	69392
19	59328	67003	85818	95611	96146	102476	103576	104867	105791	96502	82239	69073
20	57876	67320	89273	95433	96861	103026	103759	104867	105791	96146	81733	69553
21	57425	69232	90668	95430	97938	102476	103759	105051	105420	95611	81227	69073
22	56824	70036	91368	95076	98659	102476	103759	105605	105236	95255	80721	68594
23	56526	75073	92071	94720	98659	101926	103759	105791	105051	94720	80218	68114
24	55930	76721	92598	94360	98839	101926	103944	105791	104867	94360	79716	67795
25	55930	77715	93127	94543	99201	101744	103944	105420	104682	93835	79213	67478
26	55930	78214	94012	94543	99382	101562	104128	105420	104313	93481	78880	67003
27	56228	78880	94898	94012	99563	101380	103944	105420	104128	92950	78381	66369
28	56824	79213	95255	93658	99743	101198	103944	105236	103944	92774	77881	65895
29	56824	79548	96324	93481	---	101198	103944	105236	103759	92423	77383	65424
30	56973	80051	97400	92950	---	101562	103944	105236	103576	91895	77052	64952
31	56526	---	98478	92598	---	102109	---	105051	---	91368	76390	---
MAX	65738	80051	98478	99743	99743	103026	104128	105791	106720	103392	91017	75894
MIN	55930	54155	79213	92598	88406	100105	99924	104128	103576	91368	76390	64952
a	5127.7	5142.5	5153.1	5149.8	5153.8	5155.1	5156.1	5156.7	5155.9	5149.1	5140.3	5133.2
b	-11300	+23500	+18400	-5880	+7140	+2370	+1840	+1110	-1480	-12200	-15000	-11400

CAL YR 1981 b +49200

WTR YR 1982 b -2840

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

SACRAMENTO RIVER BASIN

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA

LOCATION.--Lat 39°47'39", long 121°27'03", in SW¼NE¼ sec.6, T.22 N., R.5 E., Butte County, Hydrologic Unit 18020121, Plumas National Forest, on left bank between railroad and highway bridges, 0.5 mi (0.8 km) downstream from Flea Valley Creek and Pulga, and 1.5 mi (2.4 km) downstream from Poe Dam.

DRAINAGE AREA.--1,953 mi² (5,058 km²).

WATER-DISCHARGE RECORDS

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 1315A. Prior to October 1960, published as "at Big Bar."

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 (397.953 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1937, at site 1.1 mi (1.8 km) upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records good. Flow regulated by Lake Almanor (station 11399000), Bucks Lake (station 11403500), Mountain Meadows Reservoir, Butt Valley Reservoir, and five forebays, combined capacity, 1,386,000 acre-ft (1.71 km³). Diversion through Poe powerhouse began on May 29, 1958. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (including diversion through Poe powerhouse).--72 years, 2,975 ft³/s (84.25 m³/s), 2,155,000 acre-ft/yr (2.66 km³/yr).

EXTREMES FOR PERIOD OF RECORD (prior to diversion to Poe powerhouse).--Maximum discharge, 72,400 ft³/s (2,050 m³/s) Dec. 23, 1955, gage height, 35.60 ft (10.851 m) present datum, from rating curve extended above 34,000 ft³/s (963 m³/s); minimum daily, 235 ft³/s (6.66 m³/s) Oct. 31, 1932.
1958 to current year: Maximum discharge, 73,000 ft³/s (2,070 m³/s) Dec. 22, 1964, gage height, 35.80 ft (10.912 m), from rating curve extended above 34,000 ft³/s (963 m³/s); minimum daily, 5.4 ft³/s (0.15 m³/s) Sept. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,400 ft³/s (974 m³/s) Feb. 15, gage height, 25.35 ft (7.727 m); minimum daily, 46 ft³/s (1.30 m³/s) Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	46	102	4390	138	2940	571	7000	472	53	56	50
2	55	47	97	4110	123	4640	634	6800	69	52	54	51
3	55	49	94	1900	111	4560	2820	6200	64	52	51	50
4	53	51	90	1690	105	2090	4540	5700	65	130	49	52
5	54	54	89	1350	97	1490	3300	5570	159	53	50	51
6	55	57	89	1100	92	919	1680	5410	64	50	52	49
7	61	58	96	707	92	656	1490	5490	63	55	57	50
8	56	56	90	529	93	678	956	4840	61	61	52	51
9	56	56	95	493	85	595	1220	4380	60	59	52	51
10	63	57	100	458	81	1020	4230	4030	58	54	51	50
11	63	56	88	435	78	4230	26100	3630	54	55	51	51
12	57	79	89	373	76	5710	25000	3640	54	55	51	51
13	57	3280	111	296	181	2430	15700	3660	55	55	51	51
14	55	6520	116	278	5070	2220	15100	3620	58	79	49	51
15	53	8350	123	240	15300	2070	12500	3050	58	54	51	52
16	56	13700	111	218	25400	1480	10200	3440	55	54	52	53
17	55	12500	102	186	14700	1060	8980	3660	55	53	53	53
18	56	5750	471	185	9590	760	8630	2530	55	52	53	55
19	55	1980	13400	191	7000	605	8400	1710	77	53	51	54
20	54	175	24500	179	5850	444	7930	1830	54	52	52	54
21	55	3150	16000	146	5470	383	6900	2380	53	52	51	52
22	57	6700	9790	103	5600	340	6500	2250	52	52	52	53
23	56	18600	6450	102	4530	519	6500	1810	52	51	51	53
24	56	22600	4530	102	5550	363	8900	3280	51	52	52	56
25	54	12300	3600	103	2340	279	7500	3380	52	52	53	55
26	53	6770	2410	468	1960	105	7300	2630	50	52	51	54
27	59	5440	4090	364	1540	103	7900	2520	51	50	51	53
28	2070	2070	1630	305	1050	107	8100	1430	52	77	53	51
29	78	704	3890	202	---	106	7200	1710	58	57	52	54
30	57	279	6980	158	---	142	7200	1750	54	57	52	53
31	48	---	4810	137	---	964	---	1040	---	57	53	---
TOTAL	3767	131534	104233	21498	112302	44008	233981	110370	2235	1790	1609	1564
MEAN	122	4384	3362	693	4011	1420	7799	3560	74.5	57.7	51.9	52.1
MAX	2070	22600	24500	4390	25400	5710	26100	7000	472	130	57	56
MIN	48	46	88	102	76	103	571	1040	50	50	49	49
AC-FT	7470	260900	206700	42640	222800	87290	464100	218900	4430	3550	3190	3100
MEAN a	1709	7322	7271	4796	7926	5481	11740	7549	3494	2804	2643	2482
AC-FT a	105100	435700	447100	294900	440200	337000	698300	464200	207900	172400	162500	147700

CAL YR 1981 TOTAL 262643 MEAN 720 MAX 24500 MIN 46 AC-FT 521000 MEAN a 2919 AC-FT a 2113000
WTR YR 1982 TOTAL 768891 MEAN 2107 MAX 26100 MIN 46 AC-FT 1525000 MEAN a 5405 AC-FT a 3913000

a Adjusted for diversion through Poe Powerhouse.

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

CHEMICAL ANALYSES: Water years 1963-66, 1972, 1977.

WATER TEMPERATURES: Water years 1963 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1962 to current year.

INSTRUMENTATION.--Temperature recorder since October 1962.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 25.5°C on several days during August 1981; minimum recorded, 0.5°C Jan. 4, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 23.5°C July 30, 31; minimum recorded, 3.5°C on several days during January, March, and April.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	16.0	11.5	10.0	8.0	7.0	6.5	5.5	6.0	5.5	7.0	7.0
2	18.0	16.5	11.5	10.0	8.0	7.0	5.5	5.0	6.5	5.5	7.0	6.5
3	18.5	17.5	11.5	10.0	8.0	7.5	5.0	4.5	6.5	5.5	7.5	6.5
4	17.5	16.0	12.0	10.5	8.0	7.5	4.5	4.0	6.0	5.0	7.5	7.0
5	17.5	15.5	12.0	11.0	8.5	7.5	5.5	4.5	5.0	4.0	7.5	7.0
6	17.0	15.5	12.5	11.5	8.5	8.0	5.5	4.5	5.0	4.0	7.0	7.0
7	16.5	16.0	12.0	11.0	9.0	8.5	4.5	3.5	6.0	4.5	7.5	7.0
8	16.5	15.0	12.5	11.0	9.0	8.5	3.5	3.5	6.0	5.0	8.0	7.5
9	16.0	15.0	12.0	11.0	9.0	8.5	4.0	3.5	6.0	5.5	8.5	7.5
10	16.0	15.0	12.0	11.5	9.0	8.5	4.5	4.0	6.5	6.0	8.0	7.5
11	15.0	14.5	12.0	11.0	8.5	7.5	4.5	4.0	6.5	5.0	8.0	7.5
12	14.5	13.5	12.0	12.0	8.0	7.5	4.5	4.0	6.5	5.0	8.0	7.5
13	14.0	12.5	12.0	10.5	8.5	7.5	5.0	4.0	7.0	5.0	8.0	7.5
14	13.5	12.0	10.5	9.5	9.5	8.5	5.0	4.5	6.0	5.0	8.0	7.5
15	13.5	12.0	10.5	9.5	10.0	9.5	5.5	5.0	6.5	6.0	8.0	7.0
16	14.0	12.0	11.0	10.5	9.5	7.5	5.5	5.0	7.0	6.0	7.0	6.5
17	14.0	12.0	11.0	10.0	8.5	7.5	6.0	5.0	7.0	6.5	6.5	6.0
18	14.5	12.5	10.0	9.0	9.0	8.5	6.0	5.5	7.5	7.0	6.5	6.0
19	14.5	13.0	9.5	9.0	8.5	7.5	5.5	5.0	8.0	7.0	6.5	6.0
20	14.5	13.0	10.5	9.5	9.0	8.5	5.0	4.0	8.5	8.0	6.5	5.5
21	15.0	13.5	10.5	10.0	9.0	7.5	5.0	4.0	8.0	8.0	7.0	6.0
22	15.0	13.5	10.5	10.5	7.5	6.5	6.0	4.5	8.0	8.0	8.0	6.5
23	14.5	13.5	11.0	10.5	7.0	6.5	6.0	5.0	8.0	6.5	7.5	6.5
24	14.5	13.0	11.0	10.0	6.5	6.0	6.5	5.5	6.5	6.0	8.0	7.0
25	14.0	13.0	10.0	8.5	6.5	6.5	6.5	6.0	6.5	6.0	8.5	7.5
26	14.0	13.0	8.5	8.0	7.0	6.5	6.5	5.5	6.5	6.0	8.0	7.5
27	14.0	13.0	8.0	7.5	7.0	7.0	6.0	5.5	6.5	6.0	8.0	7.5
28	13.5	12.0	7.5	7.0	7.0	6.0	5.5	5.0	7.0	6.5	8.0	6.5
29	12.0	11.0	7.0	7.0	6.5	6.0	6.0	5.0	---	---	6.5	5.0
30	11.0	10.0	7.0	6.5	7.0	6.5	6.0	5.0	---	---	5.0	5.0
31	11.5	10.0	---	---	7.0	6.5	6.0	5.0	---	---	5.0	3.5
MONTH	18.5	10.0	12.5	6.5	10.0	6.0	6.5	3.5	8.5	4.0	8.5	3.5

SACRAMENTO RIVER BASIN

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.5	10.5	9.5	14.5	13.0	16.5	15.5	23.0	20.5	21.0	18.5
2	4.5	4.0	10.5	10.0	15.0	11.5	17.0	15.5	22.5	20.0	21.0	18.5
3	4.5	4.0	11.0	10.0	14.5	12.0	18.0	16.0	22.5	20.0	21.0	19.0
4	4.5	4.5	11.0	10.0	13.5	11.5	18.5	16.0	22.5	20.0	21.0	19.0
5	5.5	4.5	11.0	10.0	14.5	12.5	19.0	16.0	22.5	20.0	21.0	19.0
6	5.5	5.0	11.0	10.0	14.5	11.5	19.5	17.0	23.0	20.0	21.0	19.5
7	5.5	5.0	11.5	10.5	14.5	11.5	19.5	17.5	22.0	20.5	21.0	19.0
8	6.5	5.0	12.0	11.5	15.0	12.0	20.5	18.0	23.0	20.5	21.5	19.0
9	7.0	6.5	11.5	10.5	15.0	12.0	20.5	18.0	22.5	20.0	21.0	19.0
10	6.5	6.0	11.0	10.5	16.0	13.0	21.0	18.0	22.5	20.0	21.0	19.0
11	6.5	5.0	10.5	10.0	16.0	13.5	21.5	18.5	22.5	20.0	20.5	16.5
12	5.5	5.0	11.5	10.5	15.0	14.0	21.5	18.5	22.5	20.0	19.5	17.5
13	6.0	5.5	12.0	11.0	15.0	13.0	22.5	19.5	22.5	20.0	19.5	17.0
14	6.0	6.0	12.0	11.0	16.0	13.0	22.5	20.0	22.5	20.0	19.5	16.5
15	6.5	6.0	11.5	10.5	17.0	13.5	22.0	19.5	22.0	20.0	19.0	17.0
16	7.0	6.0	12.5	11.5	17.5	14.5	22.0	19.5	22.5	20.0	18.5	16.5
17	8.0	7.0	13.0	11.5	18.0	15.5	22.0	19.0	22.5	20.0	18.5	17.0
18	8.0	7.5	12.5	11.5	18.0	15.5	22.0	19.0	22.5	20.0	17.5	17.0
19	8.0	7.5	12.0	11.5	17.5	15.5	22.0	19.0	22.0	20.0	17.5	16.0
20	8.0	8.0	12.5	11.5	18.0	15.5	22.0	19.0	22.5	20.0	17.5	15.5
21	8.0	7.5	13.0	12.5	18.0	15.5	22.5	19.5	22.5	20.0	17.0	15.5
22	8.5	8.0	13.0	12.5	18.0	15.5	22.5	19.0	23.0	20.5	17.0	15.5
23	9.0	8.5	13.5	12.5	18.5	15.5	22.5	19.5	23.0	20.5	17.5	15.5
24	9.0	9.0	13.5	12.5	18.5	16.5	22.5	20.0	23.0	20.5	17.5	16.5
25	9.0	8.5	14.0	13.0	17.5	15.5	23.0	20.0	22.5	20.0	17.0	16.0
26	9.0	8.5	14.0	13.5	18.0	15.0	23.0	20.5	22.5	20.0	17.0	16.0
27	9.5	9.0	14.0	13.0	18.0	16.0	23.0	20.5	22.5	19.5	17.0	15.0
28	10.0	9.5	13.5	12.0	17.5	15.5	23.0	20.5	21.5	19.0	16.5	15.0
29	9.5	9.0	12.5	12.0	16.5	15.0	23.0	21.0	21.5	19.5	15.5	13.0
30	10.0	9.5	13.0	12.5	16.5	15.5	23.5	21.0	21.5	19.0	16.0	13.0
31	---	---	13.0	12.5	---	---	23.5	20.5	21.5	18.5	---	---
MONTH	10.0	3.5	14.0	9.5	18.5	11.5	23.5	15.5	23.0	18.5	21.5	13.0

11405300 WEST BRANCH FEATHER RIVER NEAR PARADISE, CA

LOCATION.--Lat 39°47'12", long 121°33'42", in SE¼SE¼ sec.6, T.22 N., R.4 E., Butte County, Hydrologic Unit 18020121, on right bank 0.6 mi (1.0 km) upstream from Griffin Gulch, and 4.0 mi (6.4 km) northeast of Paradise.

DRAINAGE AREA.--110 mi² (285 km²).

PERIOD OF RECORD.--October 1957 to current year.

REVISED RECORDS.--WSP 2131: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,370 ft (418 m), from topographic map. Prior to June 1, 1970, on left bank at same datum.

REMARKS.--Records good. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin for power development at DeSabra and Centerville plants of Pacific Gas and Electric Co. Upper Miocene Canal diverts about 50 ft³/s (1.42 m³/s) to Lime Saddle powerplant. Flow regulated by Round Valley Reservoir, usable capacity, 5,000 acre-ft (6.16 hm³) and Philbrook Reservoir, capacity, 5,010 acre-ft (6.18 hm³).

AVERAGE DISCHARGE.--25 years, 310 ft³/s (8.779 m³/s), 224,600 acre-ft/yr (277 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,300 ft³/s (745 m³/s) Dec. 22, 1964, gage height, 26.2 ft (7.99 m) from floodmarks, from rating curve extended above 14,000 ft³/s (396 m³/s); minimum daily, 0.29 ft³/s (0.008 m³/s) Aug. 24, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 28	0630	2,750 77.9	9.39 2.862	Feb. 16	0145	*11,300 320	16.98 5.176
Nov. 15	1630	11,000 312	16.79 5.118	Mar. 1	1600	2,250 63.7	8.76 2.670
Nov. 23	0915	10,600 300	16.49 5.026	Mar. 11	1315	2,030 57.5	8.49 2.588
Dec. 19	2045	11,200 317	16.91 5.154	Apr. 11	0500	8,930 253	15.12 4.609
Dec. 29	2230	4,520 128	11.24 3.426				

Minimum daily, 0.52 ft³/s (0.015 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	34	450	1870	305	1400	1720	1030	496	123	2.6	1.3
2	4.5	25	421	1430	294	1320	1890	1010	456	83	2.6	1.3
3	1.4	19	379	1150	297	1000	2260	1020	434	62	2.6	1.3
4	.66	13	339	1100	281	860	985	1040	362	46	2.6	1.3
5	.54	8.6	310	1110	250	759	801	1030	331	35	2.6	1.3
6	.52	5.8	313	900	231	677	691	1030	313	29	2.5	1.3
7	34	6.7	706	765	221	624	598	1060	299	24	2.3	5.1
8	31	4.8	481	678	209	671	532	1030	298	20	2.5	13
9	3.3	3.6	497	624	196	679	510	925	260	9.8	2.4	2.1
10	18	3.4	731	588	186	918	1180	807	289	7.3	2.2	2.0
11	102	3.3	498	555	174	1790	7640	722	298	5.9	2.3	1.9
12	32	387	479	495	167	1310	4570	674	267	5.3	2.3	9.6
13	9.3	1840	675	462	407	1060	2630	688	245	4.8	2.2	4.2
14	3.8	1660	954	433	2410	1070	2770	744	232	4.5	2.1	11
15	1.6	4980	1080	406	5830	1020	1990	742	243	4.2	2.0	15
16	1.1	6420	785	380	6030	908	1620	750	244	3.9	2.0	20
17	1.1	4380	624	362	2570	835	1430	806	237	3.6	2.0	21
18	.93	1390	1130	348	1790	771	1310	789	261	3.3	1.9	32
19	.85	864	6530	357	1560	703	1210	762	240	3.1	1.8	50
20	.85	641	6760	371	1420	611	1160	751	212	3.0	1.8	36
21	.84	2220	3110	359	1330	546	1110	747	169	2.9	1.7	26
22	.65	1720	2020	296	1370	503	1110	796	139	2.8	1.7	23
23	.57	6680	1530	278	1070	495	1140	845	115	2.7	1.7	22
24	.56	3920	1230	285	926	480	1160	912	81	2.7	1.5	37
25	.53	1920	1060	294	820	462	1120	873	69	2.6	1.5	8.2
26	.54	1450	1040	693	773	458	1070	790	61	2.6	1.5	2.9
27	1.5	1190	1320	532	750	449	1070	796	56	2.6	1.5	2.3
28	1130	900	957	455	700	465	1080	681	56	2.6	1.5	7.7
29	358	710	2350	383	---	502	1020	600	153	2.6	1.5	8.2
30	68	550	2990	341	---	1010	1020	545	107	2.6	1.5	7.9
31	41	---	2080	319	---	3990	---	534	---	2.6	1.4	---
TOTAL	1851.94	43949.2	43829	18619	32567	28346	48397	25529	7023	510.0	62.3	375.9
MEAN	59.7	1465	1414	601	1163	914	1613	824	234	16.5	2.01	12.5
MAX	1130	6680	6760	1870	6030	3990	7640	1060	496	123	2.6	50
MIN	.52	3.3	310	278	167	449	510	534	56	2.6	1.4	1.3
AC-FT	3670	87170	86930	36930	64600	56220	96000	50640	13930	1010	124	746

CAL YR 1981 TOTAL	127304.87	MEAN 349	MAX 6760	MIN .52	AC-FT 252500
WTR YR 1982 TOTAL	251059.34	MEAN 688	MAX 7640	MIN .52	AC-FT 498000

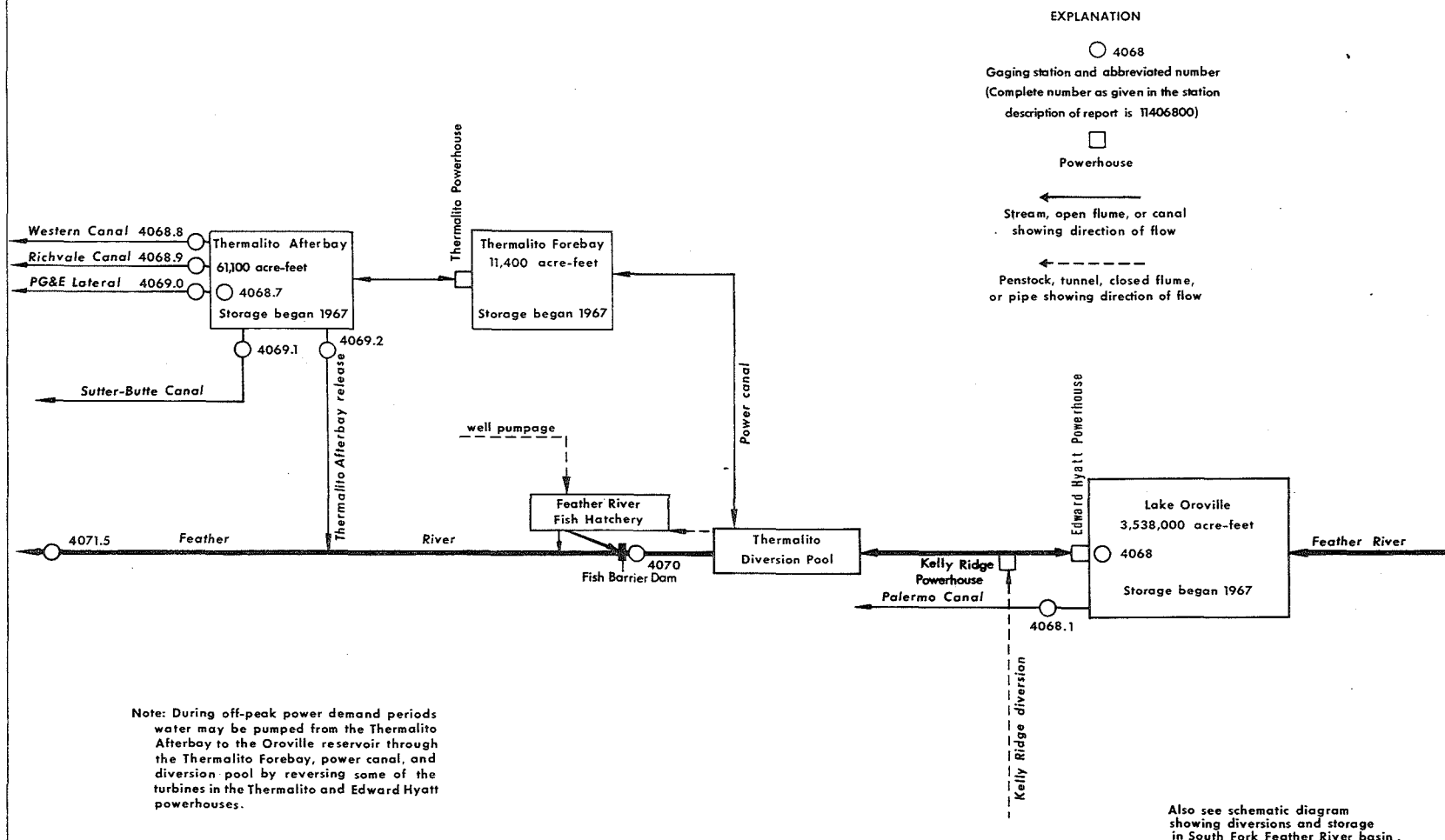


FIGURE 7.--Schematic diagram showing diversions and storage from Feather River at Lake Oroville.

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 (1.6 km) downstream from North Fork Feather River, and 4.2 mi (6.8 km) east of Oroville.

DRAINAGE AREA.--3,607 mi² (9,342 km²).

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft (0.143 m) National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources).

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 (3.31 km³) between elevations 640.0 ft (195.07 m) minimum power pool, and 900.0 ft (274.32 m) normal maximum pool. Dead storage, 852,192 acre-ft (1.05 km³). Total capacity at normal maximum pool, 3,537,577 acre-ft (4.36 km³); temporary detention storage occurred at times during construction; maximum was 155,200 acre-ft (191 hm³) Dec. 23, 1964. Water is released to Edward Hyatt powerhouse 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.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,536,000 acre-ft (4.36 km³) June 4, 1973, gage height, 899.88 ft (274.283 m); minimum since initial storage began, 882,395 acre-ft (1.09 km³) Sept. 7, 1977, gage height, 645.11 ft (196.630 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,535,206 acre-ft (4.36 km³) June 7, gage height 899.85 ft (274.274 m); minimum, 2,348,477 acre-ft (2.90 km³) Oct. 6, gage height, 813.56 ft (247.973 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

640	852,192	730	1,498,175	820	2,425,571
650	911,975	740	1,586,086	830	2,548,850
660	974,560	750	1,677,554	840	2,676,446
670	1,040,003	760	1,772,690	850	2,808,349
680	1,108,406	770	1,871,511	860	2,944,741
690	1,179,915	780	1,974,240	870	3,085,747
700	1,254,634	790	2,080,969	880	3,231,454
710	1,332,547	800	2,191,742	890	3,382,038
720	1,413,685	810	2,306,597	900	3,537,577

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2356774	2394600	2876250	2844321	2778548	2956967	3009590	3287047	3513927	3489138	3311103	2990901
2	2358198	2393281	2866051	2833239	2781744	2966853	3013394	3301165	3514241	3486947	3299360	2981098
3	2363783	2393161	2842427	2832024	2783743	2968527	3024261	3316231	3518490	3487573	3290198	2970340
4	2361880	2394360	2824476	2837425	2785877	2967969	3021436	3329379	3521797	3486947	3276114	2962255
5	2350846	2393281	2806336	2839993	2784677	2966714	3015932	3340743	3526526	3485227	3266997	2953074
6	2348477	2393640	2786544	2834724	2786544	2962952	3010435	3351527	3533785	3481631	3258197	2945716
7	2349780	2394480	2776285	2824745	2787745	2957801	3002273	3362031	3535206	3476009	3248968	2935048
8	2353334	2396040	2764727	2814254	2787611	2954186	2992444	3371184	3531574	3473981	3241984	2928136
9	2355825	2396640	2754260	2802316	2788412	2949324	2981797	3378366	3533943	3468363	3233677	2919305
10	2360573	2399042	2746065	2791216	2787211	2947519	2984036	3383109	3533469	3464941	3224650	2911594
11	2362594	2398682	2741710	2784143	2789346	2957940	3094354	3383415	3532364	3460116	3214752	2904446
12	2360811	2410112	2746065	2774024	2786277	2964623	3134174	3380813	3531732	3452344	3203257	2898407
13	2358436	2444280	2753069	2763400	2792418	2966575	3126499	3389390	3530470	3447997	3193700	2889639
14	2360217	2485320	2764859	2757437	2819092	2971177	3125342	3400285	3529049	3444739	3185337	2882393
15	2360217	2544087	2776552	2754260	2910081	2974807	3111335	3413209	3526526	3441019	3173331	2875568
16	2361286	2621430	2783477	2751747	2985997	2975925	3089761	3425240	3522427	3436992	3161067	2867938
17	2361167	2649407	2785610	2747518	2980678	2974807	3075580	3437457	3517545	3427712	3149417	2860866
18	2359742	2725390	2795759	2748178	2956549	2972154	3081448	3446756	3516444	3425703	3139685	2858964
19	2353808	2745273	2895254	2748046	2946548	2967969	3098090	3456539	3516286	3419066	3128525	2851229
20	2349898	2761146	2957801	2754127	2955298	2962116	3112921	3461361	3515972	3409974	3116384	2842427
21	2352030	2795492	2966017	2759556	2965599	2955576	3128960	3467277	3513140	3400746	3105859	2834859
22	2357367	2837560	2944883	2760218	2975785	2948074	3145057	3477883	3512039	3393070	3094067	2830406
23	2359979	2938924	2909943	2761146	2980678	2947380	3161213	3490703	3509682	3384028	3083883	2823398
24	2364139	2980118	2882393	2763267	2980258	2950018	3179476	3501203	3508110	3377601	3072436	2818824
25	2364496	2971596	2868891	2763931	2975087	2950712	3196492	3508424	3503556	3370878	3062729	2813448
26	2361524	2954603	2864944	2767779	2969364	2951129	3213425	3512354	3499477	3360659	3052618	2806604
27	2362950	2934357	2866985	2767381	2962673	2953074	3229236	3514556	3503086	3353048	3040402	2800709
28	2376291	2915723	2863177	2768974	2955020	2963091	3244954	3513612	3497439	3344841	3029352	2790815
29	2381905	2904583	2874886	2772960	---	2968527	3259836	3514241	3495245	3337710	3019883	2783877
30	2388127	2891282	2877887	2774556	---	2983896	3273571	3516129	3490077	3325597	3009308	2775088
31	2391842	---	2861409	2778149	---	3009590	---	3514556	---	3318345	3000165	---
MAX	2391842	2980118	2966017	2844321	2985997	3009590	3273571	3516129	3535206	3489138	3311103	2990901
MIN	2348477	2393161	2741710	2747518	2778548	2947380	2981797	3287047	3490077	3318345	3000165	2775088
a	817.20	856.12	853.93	847.74	860.74	864.64	882.83	896.98	896.98	885.81	863.97	847.51
b	+37441	+499440	-29873	-83260	+176871	+54570	+263981	+240985	-24479	-171732	-318180	-225077
c	3688	1368	684	797	1455	1956	3922	8223	8280	10654	10044	7127
CAL YR 1981	b	+129052										
WTR YR 1982	b	+420687										

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

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 (15 m) downstream from Oroville Dam, and 4.4 mi (7.1 km) east of Oroville.

PERIOD OF RECORD.--April 1965 to current year. Daily discharge 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 California district office of Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 547.67 ft (166.930 m) 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 (0.6 km) downstream at different datum.

REMARKS.--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.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 11.5 ft³/s (0.326 m³/s) 8,330 acre-ft/yr (10.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 28 ft³/s (0.79 m³/s) on several days during July to September 1967; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.1		0	2.4	2.4	4.4	4.2	13	17	18	18
2	11	9.1		0	2.4	2.4	4.4	4.2	13	15	18	18
3	12	9.1		0	2.4	2.4	4.6	6.3	13	13	18	18
4	12	9.1		0	2.4	2.4	4.5	8.5	13	13	18	18
5	11	9.1		0	2.4	2.4	4.4	11	13	13	18	18
6	8.8	9.1		0	2.4	2.4	4.4	12	15	13	18	18
7	8.9	9.1		0	2.4	2.4	4.4	12	15	15	18	18
8	8.9	9.1		0	2.4	2.4	4.4	12	15	16	18	18
9	8.9	9.2		0	2.4	3.7	4.4	15	15	16	18	18
10	8.9	9.2		0	2.4	4.4	4.4	16	17	16	18	18
11	9.0	9.2		0	2.4	4.4	4.5	16	18	16	18	18
12	8.9	3.9		0	2.4	4.4	4.0	16	18	17	18	18
13	8.9	.19		0	2.4	4.4	3.8	16	18	18	18	18
14	8.9	.09		0	2.4	4.3	4.0	16	18	19	18	18
15	8.9	.09		0	2.4	4.4	4.2	16	18	20	18	18
16	9.0	.09		0	2.5	4.4	4.2	16	19	20	18	18
17	8.9	.07		0	2.5	4.4	4.2	17	21	20	19	18
18	9.0	.05		1.3	2.4	4.4	4.1	16	21	20	19	16
19	8.9	.05		2.4	2.4	4.4	4.1	17	21	20	19	14
20	9.0	.03		2.4	2.4	4.4	4.1	17	20	19	18	14
21	8.9	.03		2.4	2.5	4.3	4.1	17	21	18	18	13
22	8.9	.03		2.4	2.5	4.4	4.2	17	20	18	18	11
23	9.0	.03		2.4	2.5	4.4	4.2	17	21	18	18	11
24	9.0	.03		2.4	2.5	4.4	4.2	14	20	18	18	11
25	9.0	.01		2.4	2.5	4.4	4.2	13	20	18	18	8.0
26	9.0	.01		2.4	2.5	4.4	4.2	13	20	18	18	6.3
27	9.0	0		2.4	2.5	4.4	4.2	13	20	18	18	6.3
28	9.0	0		2.4	2.5	4.4	4.2	13	20	18	18	6.3
29	9.1	0		2.4	---	4.4	4.2	13	20	18	18	6.2
30	9.1	0		2.4	---	4.4	4.2	13	19	18	18	6.2
31	9.1	---		2.4	---	4.4	---	13	---	18	18	---
TOTAL	289.9	105.10	0	32.5	68.2	119.5	127.4	420.2	535	534	561	435.3
MEAN	9.35	3.50	0	1.05	2.44	3.85	4.25	13.6	17.8	17.2	18.1	14.5
MAX	12	9.2	0	2.4	2.5	4.4	4.6	17	21	20	19	18
MIN	8.8	0	0	0	2.4	2.4	3.8	4.2	13	13	18	6.2
AC-FT	575	208	0	64	135	237	253	833	1060	1060	1110	863
CAL YR 1981 TOTAL	3376.75		MEAN 9.25	MAX 23	MIN 0	AC-FT 6700						
WTR YR 1982 TOTAL	3228.10		MEAN 8.84	MAX 21	MIN 0	AC-FT 6400						

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 (59 m) northeast of centerline of outlet structure, and 5.7 mi (9.2 km) southwest of Oroville.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft (30.623 m) National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources). Auxiliary water-stage recorder 90 ft (27 m) southwest of centerline of Western Canal outlet, and 7.2 mi (11.6 km) 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 (75.4 hm³) between gage heights 120.0 ft (36.58 m) and 139.0 ft (42.37 m) extreme operating levels. Normal operating range is 123 ft (37.5 m) to 136.5 ft (41.61 m). 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 (113 m³/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 collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 57,300 acre-ft (70.7 hm³) May 24, 1969, gage height, 136.56 ft (41.623 m); minimum since initial operation began, 5,590 acre-ft (6.89 hm³) Mar. 1, 1968, gage height, 119.09 ft (36.299 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,577 acre-ft (36.5 hm³) Apr. 11, gage height, 129.21 ft (39.383 m); minimum, 13,689 acre-ft (16.9 hm³) Nov. 15, gage height, 123.36 ft (37.600 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

120	7,054	128	25,832
122	10,792	130	32,150
124	15,157	134	46,719
126	20,171	139	68,198

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22077	13756	25831	25235	19641	26131	22551	19959	25294	23456	19826	22861
2	19273	17033	25621	25353	19142	21497	23003	20493	23458	25621	21799	22411
3	13846	17481	25621	25921	17959	19773	23918	20439	21689	23401	19773	23487
4	13801	15962	25413	26889	17331	18315	24121	20199	23060	22272	24939	23259
5	23060	16984	25353	26131	19694	18443	24266	21579	23717	23036	24646	23316
6	25562	17331	25235	24734	18495	18137	24412	21387	21689	21442	24675	21524
7	25294	17083	24353	24266	16738	18778	23918	19273	21332	21060	24266	23487
8	21882	15866	25532	24121	17782	19509	23803	19142	22861	21196	21332	22355
9	19773	16010	25771	24529	18367	19090	23803	18960	20306	23602	20012	22664
10	15962	15156	25981	26676	20627	20012	28688	20493	18960	22664	20627	22467
11	13779	16861	26828	24998	20762	21250	29577	21387	20119	22608	21579	21772
12	15039	17959	25621	24939	23401	23060	29067	25981	20573	25502	24121	21141
13	16591	17656	24208	24412	22748	24529	27257	25413	20439	25711	24939	22077
14	14852	16567	19826	21442	22861	24208	25831	25205	19826	23316	23202	22467
15	15794	13689	17909	22411	25621	24734	25532	21332	20252	20951	23116	22160
16	15250	16130	18546	22411	25353	24646	25562	21060	22355	19694	23803	23717
17	14118	16396	21579	22467	24998	25146	25562	20066	24616	24734	23602	24734
18	14760	19273	26312	20386	24734	24998	25294	20386	24529	19588	23803	21332
19	22355	19273	25921	21827	25087	25087	25087	17656	23861	21141	22411	21196
20	27165	16910	25413	20762	24792	25502	24529	20762	21827	22608	24529	23602
21	25981	17581	25205	18675	25087	25502	23259	24998	22160	23116	24470	24266
22	21689	17656	25711	18960	24881	25831	22411	22077	21689	23401	25562	23602
23	18546	24529	25771	19273	24734	25562	22077	18495	22216	24324	24470	23717
24	16518	27906	25711	19142	24998	22861	21827	19906	22160	22748	25502	23458
25	14690	26828	25801	18546	25562	23458	21882	19694	24998	19959	23602	23803
26	17732	25353	25981	20306	26131	23316	21497	20493	25981	21579	24324	23316
27	18341	25771	25981	21827	26737	24998	21497	22216	17581	21579	25621	21772
28	18960	25502	25621	22160	25502	22551	21196	25353	18086	21966	25205	22918
29	18960	26041	26131	19273	---	25831	22551	25353	17732	20306	24734	22946
30	16299	26312	25771	20762	---	23717	20870	24324	23401	23659	24734	23516
31	14323	---	25502	18960	---	22272	---	25353	---	22077	23602	---
MAX	27165	27906	26828	26889	26737	26131	29577	25981	25981	25711	25621	24734
MIN	13779	13689	17909	18546	16738	18137	20870	17656	17581	19588	19773	21141
a	123.64	128.16	127.89	125.54	127.89	126.77	126.26	127.84	127.17	126.70	127.24	127.21
b	-8793	+11989	-810	-6542	+6542	-3230	-1402	+4483	-1952	-1324	+1525	-86
c	744	335	144	134	332	437	911	1710	1566	1846	1835	1424

CAL YR 1981 b +5303

WTR YR 1982 b +400

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

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 (152 m) downstream from axis of Thermalito Afterbay Dam, and 7.3 mi (11.7 km) west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft (30.623 m) National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources).

REMARKS.--Canal diverts from Thermalito Afterbay; water is used for irrigation. The canal is part of the Oroville project. 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 Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--14 years, 118 ft³/s (3.342 m³/s) 85,490 acre-ft/yr (105 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 511 ft³/s (14.5 m³/s) May 16, 1974; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	207	212	354	324	282
2							0	225	210	334	325	236
3							0	261	175	326	324	189
4							0	264	119	328	321	175
5							0	262	134	327	304	173
6							0	263	157	327	301	173
7							0	261	158	325	301	154
8							0	263	143	328	300	115
9							0	262	131	340	301	103
10							0	274	164	346	297	103
11							0	276	202	347	298	80
12							0	275	228	348	298	61
13							0	329	235	349	311	63
14							0	366	235	346	323	60
15							0	402	256	346	324	51
16							0	407	266	346	326	51
17							0	389	296	346	325	46
18							0	434	322	346	325	46
19							0	450	343	346	326	47
20							0	442	347	346	327	48
21							0	440	352	346	324	48
22							0	440	349	346	326	47
23							0	410	348	346	326	47
24							0	349	362	346	297	24
25							0	332	367	347	284	0
26							0	312	369	347	284	0
27							0	301	369	344	283	0
28							0	302	368	346	283	0
29							0	277	367	336	283	0
30							121	263	368	332	284	0
31							---	261	---	326	284	---
TOTAL	0	0	0	0	0	0	121	9999	7952	10563	9539	2422
MEAN	0	0	0	0	0	0	4.03	323	265	341	308	80.7
MAX	0	0	0	0	0	0	121	450	369	354	327	282
MIN	0	0	0	0	0	0	0	207	119	325	283	0
AC-FT	0	0	0	0	0	0	240	19830	15770	20950	18920	4800
CAL YR 1981	TOTAL	44687.30	MEAN 122	MAX 462	MIN 0	AC-FT 88640						
WTR YR 1982	TOTAL	40596.00	MEAN 111	MAX 450	MIN 0	AC-FT 80520						

11406900 PACIFIC GAS AND 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 (25 m) downstream from axis of Thermalito Afterbay Dam, and 7.2 mi (11.6 km) west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 113.47 ft (34.586 m) National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources).

REMARKS.--Flow regulated at outlet works from Thermalito Afterbay; water is used for irrigation.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--14 years, 4.96 ft³/s (0.140 m³/s), 3,590 acre-ft/yr (4.43 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 46 ft³/s (1.30 m³/s) Apr. 24, 1977, May 16, 1978; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								0	6.2	12	18	7.2
2								0	9.2	12	16	5.6
3								0	13	12	14	1.0
4								0	18	11	14	0
5								0	20	11	14	0
6								0	20	11	14	0
7								8.7	19	11	14	0
8								14	18	11	14	0
9								14	18	11	14	0
10								17	17	12	13	1.3
11								25	16	12	12	.70
12								28	15	12	12	0
13								27	15	13	12	0
14								29	12	14	12	0
15								36	9.2	14	12	0
16								33	9.2	13	12	0
17								27	9.2	13	12	0
18								26	9.2	13	12	0
19								21	15	13	12	0
20								15	17	13	12	0
21								14	17	13	12	0
22								13	18	13	12	0
23								13	19	13	11	0
24								13	18	13	11	0
25								18	16	13	11	0
26								16	15	13	11	0
27								9.9	15	13	11	0
28								9.2	16	15	10	0
29								9.2	15	17	11	0
30								9.2	14	17	9.4	0
31								6.6	---	18	7.7	---
TOTAL	0	0	0	0	0	0	0	451.8	448.2	402	382.1	15.80
MEAN	0	0	0	0	0	0	0	14.6	14.9	13.0	12.3	.53
MAX	0	0	0	0	0	0	0	36	20	18	18	7.2
MIN	0	0	0	0	0	0	0	0	6.2	11	7.7	0
AC-FT	0	0	0	0	0	0	0	896	889	797	758	31
CAL YR 1981	TOTAL	2161.51	MEAN 5.92	MAX 42	MIN 0	AC-FT	4290					
WTR YR 1982	TOTAL	1699.90	MEAN 4.66	MAX 36	MIN 0	AC-FT	3370					

151

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 (206 m) downstream from Thermalito Afterbay Dam, and 6.8 mi (10.9 km) southwest of Oroville.

GAGE.--Water-stage recorder. Datum of gage is 109.97 ft (33.519 m) National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 109.50 ft (33.376 m) lower.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,110 ft³/s (59.8 m³/s) Apr. 22-24, 1968; no flow for several months in each year.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	354						0	505	1480	1440	1610	1310
2	354						0	485	1470	1450	1600	1300
3	354						0	656	1480	1470	1600	1290
4	371						0	836	1450	1480	1600	1250
5	379						0	1040	1400	1520	1650	1190
6	379						0	1160	1360	1550	1670	1140
7	354						0	1300	1390	1560	1660	1100
8	304						0	1480	1400	1570	1650	1010
9	291						0	1520	1410	1560	1650	956
10	287						0	1720	1420	1550	1650	919
11	287						0	1780	1460	1550	1660	879
12	256						0	1830	1460	1550	1670	859
13	231						0	1880	1450	1580	1670	844
14	223						0	1860	1450	1610	1670	780
15	199						0	1910	1450	1610	1670	718
16	177						0	1940	1450	1590	1680	634
17	152						0	1940	1490	1590	1650	593
18	163						0	1940	1520	1560	1620	474
19	174						0	1900	1520	1570	1620	425
20	177						0	1870	1450	1600	1610	364
21	191						0	1920	1410	1590	1610	327
22	194						0	1950	1420	1600	1600	313
23	194						0	1880	1430	1580	1600	313
24	194						43	1830	1450	1600	1590	307
25	194						169	1820	1440	1600	1580	307
26	194						116	1820	1440	1570	1590	307
27	197						172	1790	1440	1580	1570	300
28	57						262	1680	1450	1610	1520	313
29	0						347	1630	1440	1630	1490	320
30	0						440	1570	1420	1650	1470	320
31	0						---	1520	---	1640	1380	---
TOTAL	6881	0	0	0	0	0	1549	48962	43300	48610	49860	21162
MEAN	222	0	0	0	0	0	51.6	1579	1443	1568	1608	705
MAX	379	0	0	0	0	0	440	1950	1520	1650	1680	1310
MIN	0	0	0	0	0	0	0	485	1360	1440	1380	300
AC-FT	13650	0	0	0	0	0	3070	97120	85890	96420	98900	41970
CAL YR 1981	TOTAL	249027.00	MEAN 682	MAX 1950	MIN 0	AC-FT	493900					
WTR YR 1982	TOTAL	220324.00	MEAN 604	MAX 1950	MIN 0	AC-FT	437000					

SACRAMENTO RIVER BASIN

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 (291 m) downstream from centerline of Thermalito Afterbay Dam, and 5.7 mi (9.2 km) 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 (34.586 m) National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 13.00 ft (3.962 m) lower.

REMARKS.--Flow regulated by gates of Thermalito Afterbay outlet 955 ft (291 m) 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 Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--14 years, 4,101 ft³/s (116.1 m³/s), 2,971,000 acre-ft/yr (3.66 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s (612 m³/s) Jan. 28, 1970, gage height, 23.30 ft (7.102 m) previous datum; no flow for many days in 1968.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 17,300 ft³/s (490 m³/s) Feb. 18; minimum daily, 775 ft³/s (21.9 m³/s) Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	920	802	16000	16900	6650	15700	13600	11900	7610	3130	4610	5640
2	1420	812	16000	16600	6660	15900	13600	11700	5800	3130	4620	5640
3	1580	812	16000	15600	6640	15900	15600	11600	4360	3130	4610	5650
4	1600	802	16000	16400	6630	14100	17000	11400	3370	3120	4630	5650
5	1610	802	16000	16900	6630	13000	16900	11100	2390	3110	4620	5660
6	1610	802	16100	16900	6630	13000	16600	11100	2500	3130	4620	5640
7	1610	793	13000	16900	6620	12900	16500	11100	4670	3120	4610	5640
8	1590	784	12700	16300	6630	13000	16500	10400	5140	3120	4610	5640
9	1610	784	12700	16000	5760	12100	16500	10100	5120	3130	4610	5640
10	1580	775	12700	14100	5650	12100	14600	10100	5130	3130	4610	5640
11	1470	784	9380	14000	5630	12100	17000	10100	5170	3130	4610	5640
12	1290	784	6520	14100	5650	12100	16800	8870	5130	3130	4620	5640
13	1110	784	6520	14000	5620	12600	16900	6610	5130	3120	4620	5650
14	953	793	6410	12500	7310	13000	17100	5660	5120	3120	5180	5650
15	917	802	6230	8950	15000	13000	17000	4940	5090	3120	5640	5630
16	912	812	6240	9010	16800	13000	17000	4620	5100	3150	5640	5680
17	903	812	6230	9050	16900	13000	17000	4610	5100	3170	5640	5670
18	800	812	6230	8930	17300	13000	16900	4620	4660	3860	5640	5600
19	811	928	11700	7310	17200	13000	16500	4590	4660	4160	5630	5630
20	808	1530	16800	6990	16100	13000	16500	4520	4650	4140	5660	5640
21	807	1750	17100	7000	15700	13000	14300	4630	4630	4140	5640	5640
22	805	3460	17000	6950	15700	13000	13500	4640	4160	4130	5640	5640
23	808	9160	17000	7020	15600	10200	13500	4110	4130	4130	5640	5650
24	797	16600	16900	7010	15600	8590	13000	4500	4120	4130	5640	5640
25	797	17200	16900	7010	15700	8590	13000	7040	4120	4610	5630	5640
26	808	17000	15900	7310	15700	8100	13000	7660	4120	4630	5620	5640
27	807	17100	15700	8630	15700	8180	13000	7660	4080	4630	5630	5630
28	807	17100	15500	8610	15600	4630	13000	7670	4120	4620	5630	5650
29	807	15000	16500	7600	---	4640	13100	7660	3600	4610	5640	5650
30	802	15700	17000	6650	---	4620	12700	7630	3140	4630	5640	5640
31	797	---	17000	6630	---	11100	---	7650	---	4620	5640	---
TOTAL	33946	146879	411960	347860	313310	360150	458200	240490	136120	114230	161020	169290
MEAN	1095	4896	13290	11220	11190	11620	15270	7758	4537	3685	5194	5643
MAX	1610	17200	17100	16900	17300	15900	17100	11900	7610	4630	5660	5680
MIN	797	775	6230	6630	5620	4620	12700	4110	2390	3110	4610	5600
AC-FT	67330	291300	817100	690000	621500	714400	908800	477000	270000	226600	319400	335800
CAL YR 1981 TOTAL		1229475	MEAN	3368	MAX	17200	MIN	775	AC-FT	2439000		
WTR YR 1982 TOTAL		2893455	MEAN	7927	MAX	17300	MIN	775	AC-FT	5739000		

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: 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 furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 28.5°C June 23, 1977; minimum recorded, 1.5°C Dec. 13, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 23.0°C July 14; minimum recorded, 6.0°C on several days during January and February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	16.5	15.5	14.0	9.5	9.5	9.0	8.5	8.0	7.0	8.5	8.0
2	17.0	17.0	15.5	14.5	9.5	9.5	8.5	8.0	8.0	7.0	8.5	8.0
3	18.0	17.0	15.5	15.0	9.5	9.5	8.0	7.0	8.5	8.0	8.0	7.0
4	18.0	16.5	15.5	15.0	9.5	9.5	7.0	7.0	8.0	6.5	8.5	7.0
5	18.0	16.5	15.5	15.0	9.5	9.5	8.0	7.0	6.5	6.0	9.0	7.0
6	17.0	16.5	15.5	15.0	9.5	9.5	8.0	7.0	7.0	6.0	9.0	8.0
7	16.5	16.0	15.5	14.5	10.0	9.5	7.0	6.5	8.0	6.5	8.5	8.5
8	16.5	16.0	15.5	15.0	10.0	10.0	8.0	7.0	8.0	6.5	9.0	8.5
9	16.5	16.0	15.5	15.0	10.0	10.0	8.0	7.0	7.0	7.0	9.0	8.5
10	16.5	16.0	15.5	15.0	10.0	10.0	8.0	7.0	8.0	7.0	8.5	8.5
11	16.5	15.5	15.0	14.5	10.0	9.5	8.0	7.0	8.0	7.0	9.0	8.5
12	16.0	15.0	15.0	15.0	9.5	9.5	8.0	7.0	8.0	7.0	9.5	9.0
13	15.5	15.0	15.0	14.5	9.5	9.5	8.0	7.0	8.0	7.0	9.0	8.5
14	15.5	14.5	14.5	14.0	10.5	9.5	8.0	7.0	9.0	8.0	9.0	9.0
15	15.0	14.0	14.0	14.0	10.5	10.5	8.0	7.0	9.0	8.5	9.0	8.5
16	15.0	14.0	14.5	14.0	10.5	9.5	7.0	7.0	8.5	8.5	8.5	8.0
17	15.5	14.0	14.5	14.5	9.5	9.5	7.0	6.5	9.0	8.0	8.5	7.0
18	16.0	14.5	14.5	13.5	9.5	9.5	6.5	6.5	8.5	8.0	8.5	8.0
19	16.0	15.0	13.5	13.5	10.0	9.5	6.5	6.5	8.5	8.0	8.5	8.0
20	16.0	15.5	13.5	13.5	10.5	10.0	6.5	6.0	8.5	8.0	9.0	8.5
21	16.5	15.5	13.5	13.5	10.5	10.0	6.5	6.0	8.5	8.0	9.5	8.5
22	17.0	16.0	13.5	13.5	10.0	9.5	6.5	6.0	8.0	7.0	9.5	8.5
23	17.0	16.5	13.5	11.5	9.5	9.5	7.0	6.5	7.0	6.5	10.0	9.0
24	17.0	16.0	11.5	10.5	9.5	9.5	8.0	7.0	7.0	6.5	10.5	9.5
25	16.5	16.0	11.5	11.0	9.5	9.5	7.0	7.0	7.0	7.0	10.5	9.5
26	16.5	15.5	11.5	11.0	9.5	9.0	8.0	7.0	7.0	7.0	10.0	9.5
27	15.5	15.0	11.0	10.5	9.0	8.5	8.0	7.0	8.0	7.0	9.5	9.0
28	15.0	15.0	10.5	10.0	8.5	8.5	7.0	6.5	8.0	8.0	9.5	9.0
29	15.0	14.5	10.0	10.0	9.0	8.5	7.0	6.5	---	---	9.5	8.5
30	14.5	14.0	10.0	9.5	9.0	9.0	7.0	6.5	---	---	8.5	8.0
31	15.0	14.0	---	---	9.0	9.0	8.0	6.5	---	---	8.0	6.5
MONTH	18.0	14.0	15.5	9.5	10.5	8.5	9.0	6.0	9.0	6.0	10.5	6.5

SACRAMENTO RIVER BASIN

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.5	6.5	13.5	11.5	16.0	14.5	18.5	17.0	21.5	19.5	19.0	18.0
2	6.5	6.5	13.0	11.5	15.5	14.5	18.5	18.0	21.0	19.5	18.0	16.5
3	8.0	6.5	14.0	11.0	16.0	15.0	18.5	18.5	20.0	19.0	16.5	15.5
4	8.5	7.0	13.5	11.0	17.0	15.5	19.5	18.0	20.5	19.0	16.5	15.5
5	8.0	7.0	14.0	11.5	18.0	15.5	21.0	18.5	20.5	19.5	16.0	15.5
6	8.5	7.0	14.5	13.0	19.0	16.0	20.0	19.0	21.0	20.0	16.0	15.5
7	8.5	7.0	14.5	13.5	18.5	16.0	20.0	19.0	20.5	20.0	15.5	15.0
8	9.0	7.0	14.0	13.0	18.5	16.0	20.5	19.0	21.0	19.5	16.0	15.0
9	9.5	8.0	13.5	12.0	18.0	16.5	20.5	19.5	20.5	19.5	16.5	15.5
10	9.0	8.5	13.0	11.5	18.5	16.5	21.5	19.5	20.5	19.5	16.5	16.0
11	10.0	9.0	13.5	12.0	18.0	16.5	21.5	20.0	20.0	19.0	16.0	15.0
12	9.5	8.5	13.5	12.0	16.5	16.0	21.5	20.5	20.5	19.5	16.0	15.0
13	9.0	8.5	14.0	12.0	18.0	15.5	22.0	21.0	20.5	19.0	16.0	15.0
14	9.5	8.5	15.0	13.5	19.0	16.5	23.0	21.0	20.0	19.0	16.0	15.5
15	9.0	8.5	15.5	13.5	19.5	18.0	22.0	21.0	20.0	19.0	16.0	15.5
16	10.0	8.5	15.5	14.5	19.5	18.0	21.5	20.5	20.0	19.0	15.5	15.0
17	10.5	9.5	14.5	14.0	19.5	18.0	21.0	19.5	20.0	19.0	15.0	14.5
18	10.5	9.5	15.0	14.0	18.5	18.5	20.5	19.0	20.0	19.0	14.5	14.0
19	10.5	9.5	16.0	14.0	19.5	18.5	20.0	18.5	19.5	18.5	15.0	14.0
20	10.5	9.5	15.5	14.0	20.5	18.5	20.0	18.5	19.0	18.0	15.0	14.0
21	11.5	10.0	16.0	14.5	20.0	18.5	20.0	18.5	19.5	18.5	15.0	14.5
22	11.5	10.5	16.0	14.5	20.0	18.5	20.0	19.0	20.0	18.5	15.5	14.5
23	11.0	10.5	18.0	15.5	20.5	19.0	20.5	19.5	20.5	19.5	15.5	15.0
24	11.5	10.0	18.5	16.0	19.5	18.5	20.5	19.5	20.5	19.5	15.0	14.5
25	11.0	10.5	18.0	16.0	19.0	18.0	20.5	19.5	19.5	19.0	14.5	14.5
26	11.5	10.0	17.0	15.5	19.5	18.0	20.5	19.5	19.5	18.5	15.0	14.5
27	11.5	10.5	16.0	15.0	21.5	19.5	20.5	19.5	18.5	18.0	15.0	14.5
28	11.5	10.5	15.5	14.5	20.5	19.0	21.0	19.5	18.0	17.0	14.5	14.0
29	12.0	10.5	16.0	14.0	19.0	18.5	21.5	20.0	18.5	17.0	14.5	13.5
30	13.0	11.0	16.5	15.0	18.5	18.0	21.5	20.0	19.0	18.0	14.0	13.5
31	---	---	15.5	15.0	---	---	21.0	20.0	19.5	18.0	---	---
MONTH	13.0	6.5	18.5	11.0	21.5	14.5	23.0	17.0	21.5	17.0	19.0	13.5

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 (91 m) upstream from fish barrier dam on Feather River, and 0.8 mi (1.3 km) northeast of Oroville Post Office.
DRAINAGE AREA.--3,624 mi² (9,386 km²).

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." Records since October 1967 equivalent to earlier records if diversions out of Thermalito Afterbay are added to flow past station.

REVISED RECORDS.--WSP 843: 1907(M), 1909(M), 1914-15(M), 1919(M), 1927-28(M). WSP 881: 1913-28 (yearly summaries only). 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 (45.406 m) 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.--Flow regulated by Lake Oroville (station 11406800) and other powerplants and reservoirs above station. Several diversions above station for power and irrigation. Feather River Fish Hatchery diverts up to 120 ft³/s (3.40 m³/s) at Thermalito diversion dam 0.4 mi (0.6 km) upstream from gage. Diverted flow returns to Feather River approximately 0.3 mi (0.5 km) downstream from gage. Daily figures shown are combined figures of river flow and diversion to fish hatchery. See REMARKS for upstream stations and schematic diagrams showing diversions from Feather River at Lake Oroville and for South Fork Feather River basin.

COOPERATION.--Records collected by California Department of Water Resources under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for diversions into and out of, change in contents in, and evaporation from Lake Oroville, Thermalito diversion pool, Thermalito Forebay, and Thermalito Afterbay).--81 years, 5,920 ft³/s (167.7 m³/s), 4,289,000 acre-ft/yr (5.29 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge observed, 230,000 ft³/s (6,510 m³/s) Mar. 19, 1907, elevation, 167.5 ft (51.05 m) above mean sea level; minimum daily, 89 ft³/s (2.52 m³/s) Sept. 19, 1972.

Combined flow (since construction of Oroville Dam): Maximum discharge, 69,600 ft³/s (1,970 m³/s) Jan. 15, 1980; minimum daily, 222 ft³/s (6.29 m³/s) Sept. 19, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of February 1881 reached a stage of 25 ft (7.6 m) from floodmarks, site and datum in use from Dec. 16, 1912, to Sept. 30, 1934.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 45,000 ft³/s (1,270 m³/s) Dec. 20, gage height, 13.20 ft (4.023 m); minimum daily, 249 ft³/s (7.05 m³/s) Sept. 2.

Combined flow: Maximum daily discharge, 41,400 ft³/s (1,170 m³/s) Dec. 20; minimum daily, 352 ft³/s (9.97 m³/s) Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	398	398	419	16300	422	424	421	424	415	411	405	356
2	401	405	408	7480	422	416	429	423	414	411	407	352
3	395	406	410	489	417	411	4320	424	409	406	414	358
4	399	410	418	453	411	408	4510	421	403	405	417	407
5	405	407	421	420	409	407	1650	417	405	405	416	407
6	400	407	416	405	408	408	419	416	409	409	413	408
7	405	405	408	402	414	408	411	425	410	429	413	356
8	400	400	406	404	416	405	411	431	410	415	413	403
9	422	402	403	413	419	405	410	432	409	413	416	406
10	423	403	415	413	422	414	420	425	410	408	417	358
11	411	407	415	409	417	414	12200	424	403	411	417	409
12	406	413	412	411	415	416	34900	430	398	415	407	410
13	408	415	413	412	420	416	38000	421	395	413	406	356
14	405	412	411	406	424	415	30500	423	400	413	409	357
15	403	407	411	406	2200	416	28000	422	409	417	408	406
16	402	408	405	409	32100	412	25400	423	419	419	406	365
17	409	411	405	412	35500	416	17800	421	419	416	406	403
18	410	411	426	408	27900	416	6650	418	418	413	404	405
19	411	409	4020	409	12300	417	474	422	414	412	402	410
20	410	396	41400	415	1220	417	416	424	412	405	405	409
21	411	409	32900	414	428	417	414	419	415	408	403	366
22	411	405	28600	408	424	417	416	415	415	417	401	408
23	411	7840	25100	413	414	416	418	419	418	416	403	406
24	408	27500	15400	403	414	415	418	420	416	417	406	406
25	405	22100	5630	407	418	416	419	418	412	418	407	407
26	404	16000	485	417	421	413	421	413	405	421	408	410
27	404	10700	412	417	419	414	420	414	398	414	406	404
28	405	5470	412	417	419	413	419	413	413	414	405	405
29	402	435	4520	387	---	413	411	413	417	408	403	404
30	403	406	13200	415	---	415	416	412	410	413	405	401
31	401	---	17000	411	---	437	---	416	---	409	405	---
TOTAL	12588	99397	196501	35785	120413	12847	211913	13038	12300	12801	12653	11758
MEAN	406	3313	6339	1154	4300	414	7064	421	410	413	408	392
MAX	423	27500	41400	16300	35500	437	38000	432	419	429	417	410
MIN	395	396	403	387	408	405	410	412	395	405	401	352
AC-FT	24970	197200	389800	70980	238800	25480	420300	25860	24400	25390	25100	23320
MEAN a	2506	16940	19160	10950	18830	12910	26890	15070	7168	4321	3513	3336
AC-FT a	154100	1008000	1178000	673500	1046000	793900	1600000	926700	426500	265700	216000	198500

CAL YR 1981 TOTAL 419408 MEAN 1149 MAX 41400 MIN 389 AC-FT 831900 MEAN a 6018 AC-FT a 4357000
WTR YR 1982 TOTAL 751994 MEAN 2060 MAX 41400 MIN 352 AC-FT 1492000 MEAN a 11720 AC-FT a 8487000

a Adjusted for diversions in and out of, change in contents in, and evaporation from Lake Oroville, Thermalito diversion pool, Thermalito Forebay, and Thermalito Afterbay.

SACRAMENTO RIVER BASIN

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-7, 1951 to current year.

CHEMICAL ANALYSES: Water years 1906-7, 1951-77.

SPECIFIC CONDUCTANCE: Water years 1972-78.

WATER TEMPERATURES: Water years 1954, 1957 to current year.

SEDIMENT RECORDS: Water years 1957-79.

PERIOD OF DAILY RECORD.--

CHEMICAL ANALYSES: January to December 1906.

SPECIFIC CONDUCTANCE: March 1972 to September 1978.

WATER TEMPERATURES: October 1953 to September 1954, November 1956 to current year.

SEDIMENT DISCHARGE: November 1956 to September 1979.

REVISED RECORDS.--WDR CA-74-2: 1966, sediment.

INSTRUMENTATION.--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 of discharge and temperature data furnished by California Department of Water Resources and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD (water years 1954, 1957-67).--

WATER TEMPERATURES: Maximum, 27.0°C Sept. 10, 12, 1959; minimum, 1.5°C Dec. 27, 1959, Jan. 23-25, 1962.

Water years 1969-82.

WATER TEMPERATURES: Maximum recorded, 20.0°C on several days in 1977; minimum recorded, 6.5°C on many days in 1971-73, 1974-75, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 17.0°C Aug. 2, 5, 13; minimum recorded, 7.0°C on several days during February to April.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	12.0	11.5	11.0	9.5	9.5	9.5	9.0	8.0	8.0	8.5	8.0
2	13.0	13.0	11.5	11.0	9.5	9.5	9.0	9.0	8.0	8.0	8.0	7.0
3	13.0	13.0	11.5	10.5	10.0	9.5	9.0	9.0	8.0	8.0	8.0	7.0
4	13.5	11.5	11.0	10.5	10.5	10.0	9.0	9.0	8.0	8.0	8.0	8.0
5	12.0	10.5	11.0	10.5	10.0	10.0	9.0	9.0	8.0	8.0	8.5	8.0
6	11.0	11.0	11.0	11.0	10.0	10.0	9.0	9.0	8.0	8.0	8.5	8.5
7	11.0	10.5	11.0	11.0	10.0	10.0	9.0	9.0	8.0	8.0	8.5	8.5
8	11.0	10.5	11.0	11.0	10.0	10.0	9.0	9.0	8.0	7.0	8.5	8.5
9	11.5	11.0	11.0	11.0	10.0	10.0	9.0	8.5	8.0	7.0	8.5	8.5
10	11.0	11.0	11.0	11.0	10.0	9.5	8.5	8.5	8.0	7.0	8.5	8.5
11	11.0	10.5	11.0	11.0	10.0	10.0	8.5	8.5	7.0	7.0	8.5	8.5
12	11.5	10.5	11.0	11.0	10.0	10.0	8.5	8.5	7.0	7.0	9.0	8.5
13	11.5	11.0	11.0	11.0	10.0	10.0	8.5	8.5	8.0	7.0	9.0	8.5
14	11.5	11.0	11.0	11.0	10.0	10.0	8.5	8.5	8.0	7.0	9.0	8.5
15	12.0	11.5	11.0	11.0	10.0	10.0	8.5	8.5	7.0	7.0	8.5	8.5
16	12.0	11.5	11.5	11.0	10.0	9.5	8.5	8.5	8.0	7.0	8.5	8.5
17	12.0	11.5	11.5	11.5	10.0	10.0	8.5	8.5	8.5	8.0	8.5	8.5
18	12.0	11.5	11.5	10.5	10.0	10.0	8.5	8.5	8.5	8.5	8.5	8.5
19	12.0	11.0	10.5	10.5	10.0	9.5	8.5	8.0	8.5	8.5	8.5	8.5
20	11.5	11.5	10.5	10.5	10.0	9.5	8.0	8.0	8.5	8.0	9.0	8.5
21	12.0	11.5	10.5	10.5	10.5	10.0	8.0	8.0	8.0	8.0	9.0	8.5
22	12.0	12.0	10.5	10.5	10.5	10.5	8.0	8.0	8.0	7.0	9.0	8.5
23	13.0	12.0	11.5	10.0	10.5	10.0	8.0	8.0	7.0	7.0	9.0	8.5
24	12.0	12.0	11.5	11.5	10.0	10.0	8.0	8.0	8.0	7.0	9.0	9.0
25	12.0	11.5	12.0	11.5	10.0	10.0	8.0	8.0	8.0	8.0	9.0	9.0
26	13.0	11.5	11.5	11.0	10.0	9.5	8.0	8.0	8.0	8.0	9.0	8.5
27	12.0	11.5	11.0	11.0	9.5	9.0	8.0	8.0	8.0	8.0	9.0	8.5
28	11.5	11.5	11.0	10.5	9.5	9.0	8.0	8.0	8.5	8.0	8.5	8.5
29	11.5	11.0	10.5	10.0	9.5	9.5	8.0	8.0	---	---	8.5	8.0
30	11.5	11.0	10.0	9.5	9.5	9.0	8.0	8.0	---	---	8.0	8.0
31	11.0	11.0	---	---	9.5	9.5	8.0	8.0	---	---	8.0	7.0
MONTH	13.5	10.5	12.0	9.5	10.5	9.0	9.5	8.0	8.5	7.0	9.0	7.0

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	7.0	10.5	10.0	13.0	11.0	15.0	14.0	16.5	16.0	13.5	12.0
2	8.0	8.0	10.5	10.0	13.5	13.0	15.0	14.5	17.0	16.0	13.5	13.0
3	8.0	8.0	11.0	10.0	13.5	13.0	15.0	14.5	16.5	15.5	13.0	11.5
4	8.0	8.0	11.5	10.5	13.5	12.0	15.0	14.5	16.5	15.5	12.0	11.5
5	8.0	8.0	12.0	11.5	14.0	13.0	15.5	15.0	17.0	16.0	12.0	11.5
6	8.0	8.0	11.5	11.0	14.0	13.0	15.5	15.0	16.5	16.0	12.0	12.0
7	8.0	8.0	11.5	11.0	14.0	13.0	15.5	15.0	16.0	15.5	13.0	12.0
8	8.5	8.0	11.5	11.0	14.0	13.0	15.5	14.5	16.0	15.5	13.0	12.0
9	8.5	8.5	11.0	10.5	14.0	13.5	15.5	15.0	16.0	15.5	12.0	12.0
10	8.5	8.5	11.5	10.5	14.0	13.5	15.5	15.0	16.0	15.5	13.5	12.0
11	8.5	8.0	12.0	11.0	14.0	13.5	16.0	15.5	16.5	16.0	13.5	13.0
12	8.5	8.0	11.5	11.0	13.5	13.5	16.0	15.5	16.5	16.0	13.5	13.0
13	8.5	8.5	11.5	10.5	14.0	13.5	16.0	15.5	17.0	15.5	13.5	13.0
14	8.5	8.0	11.5	10.5	14.0	13.5	15.5	14.5	16.0	15.5	13.0	11.5
15	8.5	8.0	11.5	11.0	14.5	14.0	14.5	14.0	16.0	15.5	12.0	11.5
16	9.0	8.5	11.5	11.0	14.5	14.0	14.5	14.5	16.5	15.5	13.0	11.5
17	9.0	9.0	11.5	11.0	14.5	14.0	14.5	14.0	15.5	15.0	13.0	11.5
18	9.5	9.0	11.5	10.5	14.5	14.0	14.5	14.0	15.5	15.0	12.0	11.5
19	9.5	9.0	12.0	11.5	14.5	14.0	15.0	14.0	15.5	15.0	13.5	11.5
20	10.0	9.5	12.0	11.0	15.0	14.5	15.0	14.5	16.0	15.5	13.5	12.0
21	10.0	10.0	12.0	11.5	15.0	14.5	15.0	15.0	16.5	15.5	12.0	11.5
22	9.5	9.0	12.0	11.5	15.0	14.5	15.5	15.0	16.5	15.0	11.5	11.5
23	9.5	9.0	13.0	12.0	15.0	15.0	15.5	15.0	16.0	16.0	11.5	11.5
24	9.5	9.5	14.0	13.0	15.0	14.5	15.5	15.0	16.0	15.0	11.5	11.5
25	10.0	9.0	14.0	13.0	15.0	14.5	15.5	15.0	15.5	14.5	12.0	11.5
26	10.0	9.5	14.0	13.0	15.5	14.5	16.0	15.5	15.5	15.0	12.0	11.5
27	10.0	9.5	13.0	12.0	15.5	14.0	16.0	15.5	15.5	14.5	13.0	12.0
28	10.5	10.0	13.5	12.0	15.0	14.0	16.0	15.5	15.5	15.0	13.0	12.0
29	11.0	10.0	14.0	13.0	15.0	14.5	16.0	15.5	15.5	15.5	13.0	12.0
30	11.0	10.5	14.0	13.0	15.0	14.5	16.0	16.0	15.5	14.0	13.5	13.0
31	---	---	13.5	12.0	---	---	16.5	16.0	14.0	13.5	---	---
MONTH	11.0	7.0	14.0	10.0	15.5	11.0	16.5	14.0	17.0	13.5	13.5	11.5

SACRAMENTO RIVER BASIN

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 (91 m) upstream from highway bridge, and 2.7 mi (4.3 km) east of Gridley.

DRAINAGE AREA.--3,676 mi² (9,521 km²).

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-66-2: 1965. WDR CA-80-4: 1967 (M), 1968 (M).

GAGE.--Water-stage recorder. Datum of gage is 2.91 ft (0.887 m) below National Geodetic Vertical Datum of 1929. Prior to Mar. 13, 1966, water-stage recorder on left bank. Mar. 14, 1966, to Sept. 30, 1973, on right bank, at datum 47.09 ft (14.353 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Lake Oroville since November 1967 (station 11406800) and Thermalito Afterbay release to the Feather River since December 1968 (station 11406920). See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--18 years, 5,025 ft³/s (142.3 m³/s), 3,641,000 acre-ft/yr (4.49 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 151,000 ft³/s (4,280 m³/s) Dec. 23, 1964, gage height, 100.43 ft (30.611 m), present datum; minimum daily, 117 ft³/s (3.31 m³/s) June 27, 1966. Maximum discharge since construction of Oroville Dam in 1967, 90,100 ft³/s (2,550 m³/s) Jan. 15, 1980, gage height, 94.45 ft (28.788 m); minimum daily, 366 ft³/s (10.4 m³/s) July 26, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 102.25 ft (31.166 m) present datum, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 61,800 ft³/s (1,750 m³/s) Dec. 20, gage height 90.68 ft (27.639 m); minimum daily, 1,040 ft³/s (29.4 m³/s) Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	1050	16700	33600	7450	16300	14300	13000	8110	3200	4930	5750
2	1700	1040	16700	28200	7460	16500	14300	12600	6340	3210	4950	5780
3	1900	1070	16700	17600	7450	16400	18000	12600	4700	3190	4930	5820
4	1930	1090	16800	17900	7370	15200	22700	12400	3610	3190	4880	5890
5	1940	1100	16900	18700	7380	13900	18800	12100	2590	3170	4860	5960
6	1990	1080	17000	17900	7410	13900	17100	12000	2440	3200	4830	6020
7	2020	1080	14900	17600	7430	13800	16800	12000	4700	3220	4810	6000
8	1950	1060	14000	17000	7450	13100	16800	11500	5350	3230	4790	6090
9	1970	1050	13900	16400	6620	13000	16800	11100	5330	3210	4760	5970
10	2000	1050	13800	14900	6340	13100	15200	11100	5340	3220	4710	5950
11	1870	1050	11300	14700	6310	13100	21900	11100	5370	3230	4720	6000
12	1650	1150	7970	14600	6310	13100	45800	9950	5310	3240	4690	6060
13	1480	1170	7340	14600	6370	13400	59300	7380	5320	3260	4700	6080
14	1310	1160	7220	13700	8000	13900	50500	6140	5340	3250	5230	6110
15	1240	1120	6860	10200	14900	13900	46600	5360	5290	3250	5730	6210
16	1230	1100	6760	10100	36900	13900	41100	4890	5330	3290	5780	6270
17	1230	1110	6730	10100	55200	13900	36500	4860	5330	3310	5770	6380
18	1140	1070	6780	9950	49700	13900	27700	4820	4870	3960	5740	6340
19	1130	1100	10700	8420	34500	13900	19100	4790	4800	4380	5730	6340
20	1120	1640	50600	7850	21700	13800	17500	4820	4790	4390	5720	6380
21	1110	1870	53900	7830	17300	13800	15700	4800	4760	4410	5710	6360
22	1110	3530	46700	7730	16700	13800	14600	4790	4280	4420	5690	6390
23	1100	10500	42600	7790	16400	11700	14500	4340	4230	4440	5660	6390
24	1090	38700	34900	7780	16300	9820	14100	4360	4180	4450	5650	6390
25	1080	39800	26400	7770	16000	9690	14000	7260	4180	4920	5650	6410
26	1100	34700	18600	8050	16300	9230	13900	8100	4210	5030	5580	6390
27	1100	30400	16900	9560	16200	7150	13900	8130	4150	5040	5600	6380
28	1150	25100	16500	9710	16200	5270	13900	8160	4190	5020	5620	6390
29	1080	17600	18500	8660	---	5140	13800	8140	3770	4990	5690	6380
30	1050	16600	28300	7600	---	5130	13600	8090	3260	5000	5710	6430
31	1050	---	32400	7420	---	10800	---	8120	---	4970	5720	---
TOTAL	44070	241140	615360	403920	443650	383530	678800	258800	141470	120290	164540	185310
MEAN	1422	8038	19850	13030	15840	12370	22630	8348	4716	3880	5308	6177
MAX	2020	39800	53900	33600	55200	16500	59300	13000	8110	5040	5780	6430
MIN	1050	1040	6730	7420	6310	5130	13600	4340	2440	3170	4690	5750
AC-FT	87410	478300	1221000	801200	880000	760700	1346000	513300	280600	238600	326400	367600
CAL YR 1981 TOTAL	1629600	MEAN	4465	MAX	53900	MIN	1040	AC-FT	3232000			
WTR YR 1982 TOTAL	3680880	MEAN	10080	MAX	59300	MIN	1040	AC-FT	7301000			

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1979-81.

WATER TEMPERATURES: Water years 1965-81.

SEDIMENT RECORDS: Water years 1965 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1964 to June 1978.

SEDIMENT RECORDS: October 1964 to current year.

REVISED RECORDS.--WDR-CA-73-2: 1966, sediment. WDR CA-74-2: 1965, 1970, 1971, 1973, sediment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (water years 1965-69, 1971-78): Maximum recorded, 29.5°C June 25, 1977; minimum recorded, 4.0°C on several days in December and January of most years.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,340 mg/L Dec. 25, 1964; minimum daily mean, 1 mg/L Dec. 12, 1968, Dec. 4, 1969, Sept. 1, 1970, Dec. 14, 1971.

SEDIMENT DISCHARGE: Maximum, 527,000 tons (478,000 metric tons) Dec. 23, 1964; minimum daily, 1.4 tons (1.3 metric tons) Oct. 27, 1966.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 60 mg/L Nov. 23; minimum daily mean, 1 mg/L several days.

SEDIMENT DISCHARGE: Maximum daily, 7,280 tons (6,600 metric tons) Dec. 21; minimum daily, 13 tons (12 metric tons) Aug. 13.

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1250	9	30	1050	8	23	16700	15	676
2	1700	10	46	1040	7	20	16700	14	631
3	1900	12	62	1070	6	17	16700	13	586
4	1930	13	68	1090	7	21	16800	12	544
5	1940	12	63	1100	8	24	16900	11	502
6	1990	11	59	1080	8	23	17000	10	459
7	2020	10	55	1080	8	23	14900	9	362
8	1950	9	47	1060	8	23	14000	8	302
9	1970	7	37	1050	9	26	13900	7	263
10	2000	7	38	1050	9	26	13800	6	224
11	1870	15	76	1050	10	28	11300	4	122
12	1650	22	98	1150	11	34	7970	3	65
13	1480	24	96	1170	12	38	7340	2	40
14	1310	24	85	1160	16	50	7220	2	39
15	1240	24	80	1120	18	54	6860	2	37
16	1230	23	76	1100	13	39	6760	2	37
17	1230	23	76	1110	8	24	6730	2	36
18	1140	22	68	1070	13	38	6780	2	37
19	1130	19	58	1100	22	65	10700	3	87
20	1120	16	48	1640	23	102	50600	42	5670
21	1110	13	39	1870	28	141	53900	50	7280
22	1110	11	33	3530	39	372	46700	39	4920
23	1100	8	24	10500	60	1700	42600	34	3910
24	1090	9	26	38700	44	4600	34900	27	2540
25	1080	12	35	39800	12	1290	26400	14	998
26	1100	15	45	34700	13	1220	18600	8	402
27	1100	11	33	30400	16	1310	16900	7	319
28	1150	10	31	25100	17	1150	16500	7	312
29	1080	9	26	17600	17	808	18500	8	400
30	1050	9	26	16600	16	717	28300	16	1220
31	1050	8	23	---	---	---	32400	21	1840
TOTAL	44070	---	1607	241140	---	14006	615360	---	34860

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

JANUARY				FEBRUARY				MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	33600	22	2000	7450	6	121	16300	6	264	
2	28200	16	1220	7460	6	121	16500	7	312	
3	17600	7	333	7450	7	141	16400	7	310	
4	17900	8	387	7370	7	139	15200	8	328	
5	18700	7	353	7380	8	159	13900	7	263	
6	17900	7	338	7410	11	220	13900	6	225	
7	17600	8	380	7430	16	321	13800	7	261	
8	17000	8	367	7450	21	422	13100	8	283	
9	16400	6	266	6620	24	429	13000	9	316	
10	14900	7	282	6340	14	240	13100	8	283	
11	14700	8	318	6310	4	68	13100	8	283	
12	14600	8	315	6310	3	51	13100	7	248	
13	14600	8	315	6370	8	138	13400	5	181	
14	13700	8	296	8000	16	346	13900	5	188	
15	10200	8	220	14900	8	322	13900	4	150	
16	10100	8	218	36900	6	598	13900	4	150	
17	10100	8	218	55200	10	1490	13900	4	150	
18	9950	8	215	49700	11	1480	13900	5	188	
19	8420	9	205	34500	11	1020	13900	5	188	
20	7850	10	212	21700	13	762	13800	5	186	
21	7830	11	233	17300	15	701	13800	5	186	
22	7730	12	250	16700	9	406	13800	5	186	
23	7790	11	231	16400	10	443	11700	6	190	
24	7780	10	210	16300	19	836	9820	7	186	
25	7770	9	189	16000	26	1120	9690	6	157	
26	8050	9	196	16300	14	616	9230	6	150	
27	9560	9	232	16200	8	350	7150	6	116	
28	9710	8	210	16200	6	262	5270	7	100	
29	8660	7	164	---	---	---	5140	7	97	
30	7600	6	123	---	---	---	5130	7	97	
31	7420	5	100	---	---	---	10800	8	233	
TOTAL	403920	---	10596	443650	---	13322	383530	---	6455	

	APRIL				MAY				JUNE			
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)			
1	14300	9	347	13000	14	491	8110	11	241			
2	14300	8	309	12600	16	544	6340	11	188			
3	18000	7	340	12600	13	442	4700	10	127			
4	22700	7	429	12400	11	368	3610	10	97			
5	18800	7	355	12100	11	359	2590	9	63			
6	17100	7	323	12000	12	389	2440	8	53			
7	16800	6	272	12000	9	292	4700	10	127			
8	16800	7	318	11500	10	310	5350	11	159			
9	16800	8	363	11100	14	420	5330	10	144			
10	15200	10	410	11100	18	539	5340	10	144			
11	21900	13	769	11100	12	360	5370	10	145			
12	45800	14	1730	9950	7	188	5310	10	143			
13	59300	12	1920	7380	8	159	5320	11	158			
14	50500	10	1360	6140	9	149	5340	11	159			
15	46600	9	1130	5360	8	116	5290	10	143			
16	41100	12	1330	4890	6	79	5330	11	158			
17	36500	16	1580	4860	6	79	5330	12	173			
18	27700	6	449	4820	8	104	4870	13	171			
19	19100	6	309	4790	9	116	4800	12	156			
20	17500	7	331	4820	7	91	4790	11	142			
21	15700	8	339	4800	6	78	4760	10	129			
22	14600	13	512	4790	7	91	4280	8	92			
23	14500	14	548	4340	10	117	4230	9	103			
24	14100	6	228	4360	13	153	4180	11	124			
25	14000	5	189	7260	15	294	4180	12	5.8			
26	13900	6	225	8100	15	328	4210	13	148			
27	13900	8	300	8130	15	329	4150	12	134			
28	13900	9	338	8160	14	308	4190	11	124			
29	13800	9	335	8140	14	308	3770	10	102			
30	13600	10	367	8090	13	284	3260	9	79			
31	---	---	---	8120	12	263	---	---	---			
TOTAL	678800	---	17755	258800	---	8148	141470	---	3931.8			

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3200	9	78	4930	4	53	5750	5	78
2	3210	9	78	4950	3	40	5780	5	78
3	3190	9	78	4930	2	27	5820	4	63
4	3190	9	78	4880	2	26	5890	4	64
5	3170	9	77	4860	2	26	5960	4	64
6	3200	10	86	4830	2	26	6020	4	65
7	3220	10	87	4810	3	39	6000	4	65
8	3230	11	96	4790	4	52	6090	4	66
9	3210	11	95	4760	5	64	5970	4	64
10	3220	11	96	4710	4	51	5950	3	48
11	3230	10	87	4720	3	38	6000	3	49
12	3240	9	79	4690	2	25	6060	3	49
13	3260	9	79	4700	1	13	6080	3	49
14	3250	9	79	5230	1	14	6110	3	49
15	3250	9	79	5730	2	31	6210	3	50
16	3290	9	80	5780	3	47	6270	3	51
17	3310	8	71	5770	4	62	6380	2	34
18	3960	8	855	5740	3	46	6340	2	34
19	4380	7	83	5730	3	46	6340	2	34
20	4390	7	83	5720	4	62	6380	2	34
21	4410	8	95	5710	5	77	6360	2	34
22	4420	9	107	5690	4	61	6390	2	35
23	4440	8	96	5660	4	61	6390	2	35
24	4450	8	96	5650	4	61	6390	1	17
25	4920	10	133	5650	4	61	6410	1	17
26	5030	12	163	5580	4	60	6390	1	17
27	5040	9	122	5600	5	76	6380	1	17
28	5020	6	81	5620	5	76	6390	1	17
29	4990	6	81	5690	6	92	6380	1	17
30	5000	6	81	5710	6	93	6430	1	17
31	4970	5	67	5720	5	77	---	---	---
TOTAL	120290	---	3546	164540	---	1583	185310	---	1311
YEAR	3680880		117120.8						

SACRAMENTO RIVER BASIN

11407500 SOUTH HONCUT CREEK NEAR BANGOR, CA

LOCATION.--Lat 39°22'04", long 121°22'16", in SE 1/4 SE 1/4 sec.35, T.18 N., R.5 E., Butte County, Hydrologic Unit 18020124, on right bank 2.3 mi (3.7 km) southeast of Bangor, 3.3 mi (5.3 km) upstream from Tennessee Creek, and 16.3 mi (26.2 km) southeast of Oroville.

DRAINAGE AREA.--30.6 mi² (79.3 km²).

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 620 ft (189 m), from topographic map.

REMARKS.--Records fair. Some small diversions upstream for irrigation.

AVERAGE DISCHARGE.--32 years, 36.3 ft³/s (1.028 m³/s), 26,300 acre-ft/yr (32.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s (498 m³/s) Dec. 26, 1964, gage height, 19.25 ft (5.867 m), from rating curve extended above 2,200 ft³/s (62.3 m³/s) on basis of slope-area measurements at gage heights 11.15 ft (3.399 m) and 19.25 ft (5.867 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft³/s (39.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 23	1600	3,110 88.1	8.77 2.673	Feb. 15	1015	2,720 77.0	8.43 2.569
Dec. 19	2115	3,280 92.9	8.91 2.716	Mar. 31	0930	2,910 82.4	8.60 2.621
Dec. 29	1515	2,080 58.9	7.84 2.390	Apr. 3	0630	2,600 73.6	8.32 2.536
Jan. 5	0045	1,460 41.3	7.16 2.182	Apr. 11	0400	*7,750 219	12.10 3.688

Minimum daily, 1.2 ft³/s (0.034 m³/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.9	28	254	59	129	359	32	7.1	11	2.3	4.1
2	3.2	3.0	23	204	52	161	718	30	6.9	9.2	2.4	3.5
3	3.5	2.4	20	126	47	85	1550	28	6.7	8.2	2.9	3.4
4	3.3	2.1	17	707	41	66	398	25	6.4	7.6	2.8	2.9
5	2.9	2.1	15	724	36	55	224	22	6.7	6.7	2.9	2.3
6	2.8	2.0	13	215	33	48	170	21	6.4	5.8	2.9	2.2
7	7.6	2.1	15	128	31	45	129	20	6.1	5.2	2.7	2.2
8	5.6	2.4	13	99	29	43	107	19	5.8	4.8	3.3	2.0
9	3.7	2.3	17	84	28	39	94	20	5.5	4.4	3.2	2.5
10	3.9	2.7	58	78	27	58	212	20	5.7	4.1	2.6	3.0
11	23	2.8	27	70	24	170	1850	20	5.8	4.5	2.4	2.5
12	9.1	43	42	59	23	96	542	18	6.5	4.6	2.7	2.6
13	4.1	371	68	50	71	70	256	18	7.0	4.5	2.5	2.0
14	2.7	125	62	45	208	92	287	18	5.7	4.1	2.6	1.7
15	2.0	57	56	41	1470	160	176	17	4.9	4.0	2.9	2.1
16	1.8	138	44	37	478	122	137	16	4.5	4.2	2.4	3.4
17	1.6	341	32	34	178	125	114	16	4.9	4.5	2.7	6.0
18	1.5	38	276	33	119	139	98	15	4.9	5.2	2.5	9.8
19	1.3	19	1640	36	93	135	87	14	5.6	6.6	2.7	10
20	1.2	14	1040	85	78	102	77	13	6.1	5.5	2.9	7.0
21	1.3	434	233	117	69	84	69	11	5.5	3.7	2.7	6.4
22	1.3	143	121	78	62	71	63	11	5.4	3.7	2.7	5.0
23	1.3	706	83	69	54	62	59	10	5.5	3.6	2.7	3.0
24	1.4	354	65	73	49	55	54	8.8	5.1	3.6	2.8	3.0
25	1.3	82	54	70	45	50	50	7.7	5.1	3.6	2.8	5.7
26	1.4	115	47	181	43	47	46	7.7	4.6	3.6	2.9	6.8
27	2.0	133	45	98	41	43	43	8.0	5.0	3.5	3.0	4.3
28	64	106	36	153	37	61	40	8.0	5.6	3.5	2.9	3.7
29	79	57	638	109	---	86	37	8.4	8.0	3.2	3.1	3.5
30	12	38	232	80	---	338	34	7.8	9.7	3.0	3.4	3.4
31	5.6	---	284	68	---	1420	---	7.0	---	2.6	5.2	---
TOTAL	258.6	3341.8	5344	4205	3525	4257	8080	497.4	178.7	152.3	88.5	120.0
MEAN	8.34	111	172	136	126	137	269	16.0	5.96	4.91	2.85	4.00
MAX	79	706	1640	724	1470	1420	1850	32	9.7	11	5.2	10
MIN	1.2	2.0	13	33	23	39	34	7.0	4.5	2.6	2.3	1.7
AC-FT	513	6630	10600	8340	6990	8440	16030	987	354	302	176	238

CAL YR 1981 TOTAL 14477.34 MEAN 39.7 MAX 1640 MIN .05 AC-FT 28720
WTR YR 1982 TOTAL 30048.30 MEAN 82.3 MAX 1850 MIN 1.2 AC-FT 59600

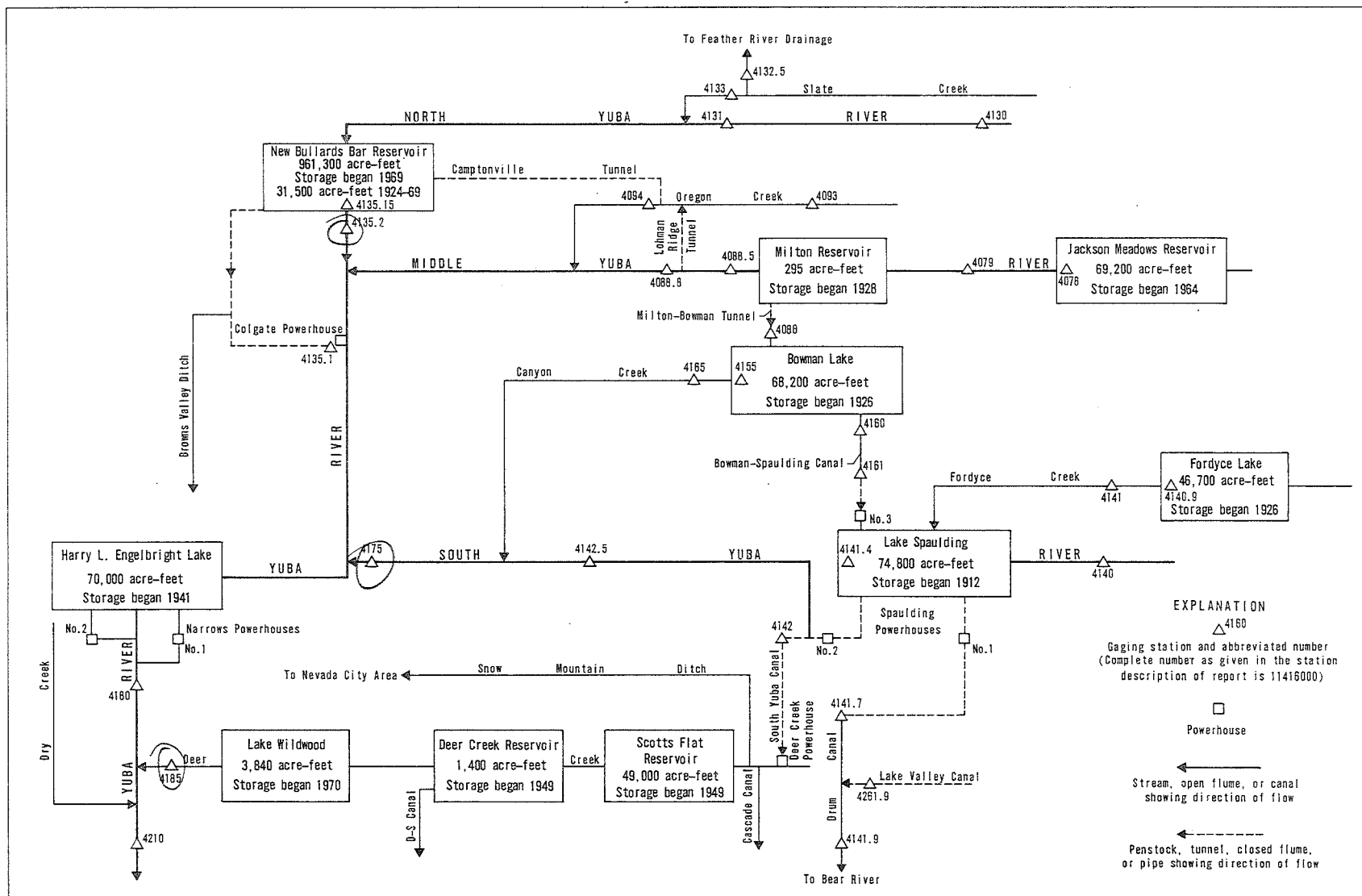


FIGURE 8. — Schematic diagram showing diversions and storage in Yuba River basin.

SACRAMENTO RIVER BASIN

11407800 JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'40", long 120°33'15", in NW¼SE¼ 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 (1.1 km) downstream from Pass Creek, and 5.7 mi (9.2 km) southeast of Sierra City.

DRAINAGE AREA.--37.6 mi² (97.4 km²).

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 (82.2 hm³) between elevations 5,933.0 ft (1,808.38 m), bottom of intake tower, and 6,036.0 ft (1,839.77 m), top of spillway Tainter gates. Dead storage, 2,500 acre-ft (3.08 hm³). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,000 acre-ft (87.5 hm³) on several days in 1969-71, elevation, 6,037.7 ft (1,840.29 m); minimum since reservoir first filled, 2,500 acre-ft (3.08 hm³) Sept. 27-29, 1976, elevation, 5,933.1 ft (1,808.41 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 70,400 acre-ft (86.8 hm³) June 16, elevation, 6,037.1 ft (1,840.108 m); minimum, 28,400 acre-ft (35.0 hm³) Nov. 12, elevation, 5,991.1 ft (1,826.087 m).

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

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

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52300	34900	45600	54900	54400	54900	54700	55600	68500	69900	69300	68500
2	51900	34300	45800	54800	54400	54900	54700	55700	69200	69900	69300	68000
3	51600	33600	46000	54700	54400	54800	54700	55800	69800	69900	69300	67700
4	51100	33000	46300	54800	54400	54800	54700	55800	69900	69800	69300	67300
5	50700	32400	46500	54800	54400	54700	54600	55800	70000	69800	69300	67000
6	50300	31700	46700	54700	54400	54700	54600	55800	70000	69800	69300	66600
7	49900	31100	46800	54600	54400	54700	54500	55900	70000	69700	69300	66300
8	49400	30500	47000	54600	54400	54700	54500	55900	70200	69700	69300	65900
9	48900	29900	47200	54600	54400	54700	54500	55700	70300	69700	69300	65200
10	48200	29300	47400	54600	54400	54900	54700	55500	70300	69700	69300	64600
11	47700	28600	47600	54600	54400	55100	56500	55400	70300	69700	69300	64100
12	47100	28400	47800	54500	54400	55000	56200	55400	70300	69600	69300	63500
13	46500	29300	48000	54600	54600	54900	55700	55500	70200	69600	69300	62900
14	45900	29300	48400	54500	55300	54900	55400	55600	70200	69600	69200	62500
15	45300	30100	48900	54500	57200	54800	55200	55700	70300	69600	69200	62000
16	44800	30400	49100	54500	57100	54800	55100	55900	70400	69500	69200	61400
17	44200	31200	49400	54500	56100	54800	55100	55900	70300	69500	69200	60800
18	43600	31000	50300	54500	55600	54700	55100	55900	70200	69500	69200	60300
19	43000	30600	57300	54500	55400	54700	55100	55900	70200	69500	69200	59700
20	42400	30200	57900	54500	55400	54700	55100	56000	70000	69500	69200	59200
21	41800	31700	56400	54500	55400	54700	55100	56100	69900	69500	69200	58600
22	41200	32300	55800	54500	55400	54600	55100	56200	69800	69400	69200	58000
23	40500	38700	55400	54500	55300	54700	55200	56300	69900	69400	69100	57300
24	39900	42100	55200	54500	55200	54700	55300	57500	69800	69400	69100	56800
25	39200	43100	55100	54500	55100	54600	55300	59400	69900	69400	69100	56400
26	38600	43800	55100	54500	55000	54600	55300	61400	69900	69400	69100	56000
27	37900	44300	55000	54500	54900	54600	55400	63000	69800	69400	69000	55400
28	37400	44700	54900	54500	54900	54700	55400	64300	69800	69400	69000	54800
29	36900	45000	55000	54500	---	54700	55400	65400	69800	69400	69000	54200
30	36300	45300	55000	54500	---	54700	55500	66400	69900	69400	69000	53700
31	35600	---	55000	54400	---	54800	---	67400	---	69400	68800	---
MAX	52300	45300	57900	54900	57200	55100	56500	67400	70400	69900	69300	68500
MIN	35600	28400	45600	54400	54400	54600	54500	55400	68500	69400	68800	53700
a	6000.3	6011.5	6021.9	6021.3	6021.8	6021.7	6022.4	6034.3	6036.7	6036.2	6035.6	6020.5
b	-16700	+9700	+9700	-600	+500	-100	+700	+11900	+2500	-500	-600	-15100

CAL YR 1981 b +33400

WTR YR 1982 b +1400

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

b Change in contents, in acre-feet.

11407900 MIDDLE YUBA RIVER BELOW JACKSON MEADOWS DAM, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'58", long 120°33'40", in SE¼NW¼ sec.18, T.19 N., R.13 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 0.6 mi (1.0 km) downstream from Jackson Meadows Dam, and 5.2 mi (8.4 km) southeast of Sierra City.

DRAINAGE AREA.--38.3 mi² (99.2 km²).

PERIOD OF RECORD.--October 1964 to current year. If record for Milton-Bowman tunnel near Graniteville is added to record published as Middle Yuba River at Milton, a record equivalent to this site can be obtained for the period 1928-64.

GAGE.--Water-stage recorder. Datum of gage is 5,717.20 ft (1,742.603 m) National Geodetic Vertical Datum of 1929 (levels by Nevada Irrigation District). Prior to Aug. 12, 1982, at site 160 ft (48.77 m) downstream at same datum.

REMARKS.--Records good. Flow regulated by Jackson Meadows Reservoir (station 11407800) since November 1964. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Jackson Meadows Reservoir).--18 years, 114 ft³/s (3,228 m³/s), 82,590 acre-ft/yr (102 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,660 ft³/s (104 m³/s) Dec. 20, 1981, gage height, 9.61 ft (2.929 m), from rating curve extended above 400 ft³/s (11.3 m³/s) on basis of computation of flow over Milton Dam, adjusted for diversion and inflow, gage height, 9.61 ft (2.929 m); no flow many days in 1976-77.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1925, 10.57 ft (3.222 m) Jan. 31, 1963, from floodmarks, discharge, 10,000 ft³/s (283 m³/s) by computation of flow over Milton Dam, adjusted for diversion and inflow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 3,660 ft³/s (104 m³/s) Dec. 20, gage height, 9.61 ft (2.929 m); minimum daily, 5.2 ft³/s (0.15 m³/s) Aug. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	337	9.7	207	45	205	169	505	15	203	15	173
2	136	337	9.7	185	43	240	152	597	14	188	12	173
3	184	334	9.2	175	43	211	165	673	128	169	9.8	173
4	203	334	9.2	175	40	183	155	700	291	152	7.1	173
5	220	334	9.3	168	39	164	125	700	321	139	6.0	173
6	220	334	8.4	133	38	148	117	691	318	124	6.0	173
7	220	334	8.2	121	38	140	105	727	316	119	5.7	173
8	244	330	8.2	107	38	129	95	765	324	106	5.7	227
9	297	330	8.1	93	38	127	86	691	342	100	6.4	287
10	297	330	9.3	88	38	150	101	527	371	92	5.7	285
11	297	334	8.5	86	35	255	697	425	397	84	7.5	286
12	294	335	7.9	79	35	259	1160	406	382	82	5.8	286
13	294	348	8.2	75	50	227	790	444	360	75	5.4	286
14	294	341	9.5	70	219	232	517	513	336	70	5.3	285
15	294	348	14	68	743	207	384	565	347	67	5.3	293
16	294	341	10	65	2360	190	315	655	381	56	5.3	303
17	294	354	10	63	1320	171	276	746	440	51	5.3	303
18	294	337	14	66	765	148	257	765	454	44	5.3	300
19	294	337	275	75	515	145	253	727	434	40	5.3	300
20	294	337	3190	77	429	131	257	746	399	36	5.3	300
21	290	363	1730	79	404	122	257	813	370	35	5.3	300
22	310	353	869	70	445	116	276	879	297	31	5.3	300
23	330	277	513	61	386	113	305	979	248	29	5.3	301
24	330	57	364	53	336	113	353	449	238	28	5.3	303
25	330	25	290	53	289	115	376	23	215	26	5.2	304
26	330	17	257	66	255	115	376	22	219	25	5.3	302
27	330	14	276	68	235	119	406	21	222	23	5.5	299
28	355	13	235	63	210	143	450	19	215	22	5.5	300
29	345	11	235	57	---	151	464	18	186	22	5.5	303
30	341	10	248	50	---	154	464	17	164	20	5.5	304
31	340	---	223	47	---	188	---	16	---	18	84	---
TOTAL	8642	7886	8876.4	2843	9431	5111	9903	15824	8744	2276	272.9	7968
MEAN	279	263	286	91.7	337	165	330	510	291	73.4	8.80	266
MAX	355	363	3190	207	2360	259	1160	979	454	203	84	304
MIN	47	10	7.9	47	35	113	86	16	14	18	5.2	173
AC-FT	17140	15640	17610	5640	18710	10140	19640	31390	17340	4510	541	15800

CAL YR 1981 TOTAL 26973.60 MEAN 73.9 MAX 3190 MIN .01 AC-FT 53500 MEAN a 120 AC-FT a 86900
WTR YR 1982 TOTAL 87777.30 MEAN 240 MAX 3190 MIN 5.2 AC-FT 174100 MEAN a 242 AC-FT a 175500

a Adjusted for change in contents in Jackson Meadows Reservoir.

SACRAMENTO RIVER BASIN

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'36", long 120°36'40", in NW¼NE¼ sec.3, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank 100 ft (30 m) downstream from tunnel outlet near upper end of Bowman Lake, and 6.9 mi (11.1 km) 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 (1,704.597 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 22, 1964, at datum 0.56 ft (0.171 m) higher.

REMARKS.--Records excellent. Tunnel diverts from Middle Yuba River at Milton, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake. Practically 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.

AVERAGE DISCHARGE.--54 years, 73.2 ft³/s (2.073 m³/s), 53,030 acre-ft/yr (65.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 492 ft³/s (13.9 m³/s) Feb. 11, 1941; minimum daily, 0.4 ft³/s (0.011 m³/s) Oct. 7, 1944.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	332	21	28	23	105	87	90	23	138	11	168
2	39	330	20	28	23	105	86	91	23	138	9.4	169
3	195	329	18	28	22	105	87	91	24	138	8.1	169
4	197	327	17	28	22	104	86	91	28	137	7.2	169
5	224	326	17	29	69	104	86	91	27	135	6.6	169
6	224	325	16	28	80	104	86	91	27	131	6.1	169
7	230	323	16	26	52	104	85	92	135	124	6.0	168
8	244	321	15	26	51	104	85	92	245	116	6.2	202
9	292	320	15	26	51	103	84	91	194	103	6.1	276
10	301	318	19	26	50	105	84	90	118	89	5.8	278
11	302	316	16	26	48	107	93	89	28	82	5.7	278
12	299	335	16	26	47	106	95	89	27	77	5.8	277
13	297	374	17	26	56	105	92	89	26	73	5.4	277
14	296	383	19	26	124	105	90	90	26	68	5.1	277
15	296	373	30	25	146	105	89	90	26	63	5.1	281
16	295	375	26	25	146	104	88	91	26	61	5.1	299
17	293	393	21	25	116	104	88	91	25	50	4.9	300
18	292	363	28	25	112	104	88	91	25	46	4.8	301
19	291	346	207	25	110	103	87	91	24	41	4.7	300
20	290	338	297	24	109	103	87	91	24	36	4.7	298
21	289	377	276	24	109	103	87	92	23	33	4.7	296
22	302	397	144	24	109	102	87	92	23	29	4.6	295
23	331	417	33	24	108	102	87	92	23	26	4.5	295
24	333	219	32	24	108	96	88	90	64	24	4.5	301
25	333	63	31	24	107	86	88	82	134	23	4.4	305
26	333	45	31	23	106	86	88	72	134	21	4.3	302
27	333	34	31	23	106	86	89	50	135	19	4.4	298
28	351	28	30	23	105	86	89	32	138	18	4.5	297
29	343	25	30	23	---	87	89	25	138	17	4.6	301
30	337	22	31	23	---	87	90	23	137	15	4.6	299
31	334	---	29	23	---	87	---	23	---	13	50	---
TOTAL	8517.7	8474	1549	784	2315	3097	2635	2485	2050	2084	218.9	7814
MEAN	275	282	50.0	25.3	82.7	99.9	87.8	80.2	68.3	67.2	7.06	260
MAX	351	417	297	29	146	107	95	92	245	138	50	305
MIN	1.7	22	15	23	22	86	84	23	23	13	4.3	168
AC-FT	16890	16810	3070	1560	4590	6140	5230	4930	4070	4130	434	15500
CAL YR 1981 TOTAL	21029.1			MEAN 57.6	MAX 417	MIN 1.6	AC-FT 41710					
WTR YR 1982 TOTAL	42023.6			MEAN 115	MAX 417	MIN 1.7	AC-FT 83350					

11408850 MIDDLE YUBA RIVER NEAR CAMPTONVILLE, CA

LOCATION.--Lat 30°25'01", long 120°57'06", in SW 1/4 SE 1/4 sec.15, T.18 N., R.9 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 0.6 mi (1.0 km) downstream from Kanaka Creek, and 5.8 mi (9.3 km) southeast of Camptonville.

DRAINAGE AREA.--136 mi² (352 km²).

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,170 ft (661 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by Jackson Meadows Reservoir since November 1964 (station 11407800), Milton-Bowman tunnel (station 11408000) which diverts above station to Bowman Lake (station 11415500), and other small diversions above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--15 years, 334 ft³/s (9.459 m³/s), 242,000 acre-ft/yr (298 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft³/s (439 m³/s) Jan. 13, 1980, gage height, 16.00 ft (4.877 m); minimum daily, 11 ft³/s (0.31 m³/s) July 29, Aug. 17, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,400 ft³/s (436 m³/s) Feb. 16, gage height, 15.97 ft (4.868 m); minimum daily, 21 ft³/s (0.59 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	61	392	1870	387	930	756	1610	519	239	62	43
2	21	55	356	1450	377	1320	661	1730	480	223	61	42
3	22	50	321	1160	377	1040	1310	1820	473	197	61	42
4	25	46	296	1110	366	873	1140	1900	699	171	61	42
5	26	43	275	1210	344	755	832	1900	779	155	60	41
6	25	42	257	990	304	659	694	1800	762	143	58	40
7	58	41	255	831	294	602	596	1850	717	136	57	40
8	46	39	250	735	286	559	539	1920	439	130	60	40
9	31	38	245	677	278	522	538	1780	539	123	58	40
10	37	37	346	655	270	794	976	1480	615	118	55	40
11	86	37	292	641	259	1600	6520	1230	828	112	54	40
12	64	159	299	603	249	1420	5270	1140	807	107	53	39
13	41	1050	421	548	520	1180	3540	1180	764	102	52	39
14	35	1220	587	518	2740	1290	2820	1290	710	100	51	39
15	32	977	739	497	6290	1150	2300	1370	710	98	51	42
16	31	959	690	478	9240	1020	1820	1490	760	93	51	48
17	30	1720	551	465	4090	904	1610	1600	823	91	50	48
18	29	769	602	475	2610	833	1530	1590	895	85	49	54
19	28	488	6380	475	1880	747	1480	1520	886	81	48	63
20	27	354	10800	477	1630	666	1460	1520	816	80	48	52
21	27	1600	4750	461	1520	615	1390	1620	729	81	48	49
22	27	1680	2710	409	1510	566	1410	1710	644	79	48	47
23	26	4910	1920	384	1340	530	1490	1810	480	77	47	46
24	26	4990	1460	384	1150	515	1570	1710	464	76	46	51
25	26	1820	1180	407	994	520	1560	1050	291	73	44	101
26	26	1170	1110	714	890	527	1510	1040	265	72	45	127
27	31	868	1960	616	816	565	1530	951	254	70	44	64
28	284	682	1360	559	726	659	1620	781	244	69	44	55
29	205	549	1980	484	---	640	1600	667	271	68	44	52
30	91	451	2540	439	---	643	1560	570	208	67	44	50
31	68	---	1950	408	---	889	---	548	---	64	43	---
TOTAL	1552	26905	47274	21130	41737	25533	51632	44177	17871	3380	1597	1516
MEAN	50.1	897	1525	682	1491	824	1721	1425	596	109	51.5	50.5
MAX	284	4990	10800	1870	9240	1600	6520	1920	895	239	62	127
MIN	21	37	245	384	249	515	538	548	208	64	43	39
AC-FT	3080	53370	93770	41910	82790	50640	102400	87630	35450	6700	3170	3010
CAL YR 1981 TOTAL	118568			MEAN 325	MAX 10800	MIN 20	AC-FT 235200					
WTR YR 1982 TOTAL	284304			MEAN 779	MAX 10800	MIN 21	AC-FT 563900					

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 400 ft (122 m) downstream from Our House Dam, and 4.0 mi (6.4 km) southeast of Camptonville.

DRAINAGE AREA.--145 mi² (376 km²).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,957.51 ft (596.649 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1970, at datum 10.0 ft (3.05 m) higher.

REMARKS.--Records good. Natural flow of stream affected by Jackson Meadows Reservoir since November 1964 (station 11407800), Milton-Bowman tunnel (station 11408000) which diverts above station to Bowman Lake (station 11415500), Lohman Ridge tunnel since October 1968 which diverts 400 ft (122 m) upstream to Oregon Creek and then to New Bullards Bar Reservoir via Camptonville tunnel. Other small diversions above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--14 years, 141 ft³/s (3.993 m³/s), 102,200 acre-ft/yr (126 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s (419 m³/s) Jan. 13, 1980, gage height, 23.01 ft (7.013 m) present datum; minimum daily, 2.1 ft³/s (0.059 m³/s) Jan. 10, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,500 ft³/s (382 m³/s) Dec. 20, gage height, 22.44 ft (6.840 m); minimum daily, 2.1 ft³/s (0.059 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	35	28	1180	38	209	43	770	64	39	38	38
2	21	34	27	700	38	642	41	870	64	39	38	38
3	22	34	27	412	38	358	597	953	65	39	38	38
4	23	34	27	383	38	163	425	1000	69	38	38	38
5	25	34	27	537	38	52	77	974	70	38	38	38
6	26	34	26	270	38	26	45	890	68	38	38	38
7	27	34	27	63	38	26	45	933	68	38	38	38
8	27	34	29	2.9	38	26	45	993	66	37	38	38
9	26	34	30	2.2	38	26	45	862	65	37	38	38
10	28	34	32	2.1	38	130	359	584	65	37	38	38
11	31	34	32	8.6	38	764	6110	337	67	37	38	38
12	31	36	34	40	38	607	5100	234	67	37	38	38
13	32	263	37	43	370	361	3310	282	68	36	38	38
14	38	435	39	43	2000	489	2660	398	68	36	38	38
15	38	296	41	43	5800	371	2270	468	55	36	38	38
16	36	229	37	41	9200	222	1840	567	37	37	38	38
17	32	888	32	38	3700	94	1550	678	39	37	38	38
18	31	131	41	38	2100	38	1430	679	53	37	38	38
19	31	42	5410	38	1150	29	1350	609	59	37	38	38
20	31	37	10800	38	845	29	1310	609	41	37	38	38
21	31	922	4320	38	740	29	1210	707	39	37	38	38
22	30	848	2420	37	721	28	1220	798	39	37	38	37
23	30	3990	1370	37	594	28	1320	883	37	36	38	37
24	29	3990	648	37	414	28	1430	802	38	35	38	38
25	29	927	401	37	254	28	1390	164	40	35	38	39
26	29	319	296	38	148	28	1320	160	40	34	38	40
27	30	40	1180	39	86	33	1320	110	40	34	38	38
28	37	28	577	39	35	37	1420	67	40	37	38	38
29	37	27	1210	38	---	38	1040	66	40	38	38	38
30	35	28	1830	38	---	38	721	65	39	38	38	38
31	35	---	1210	38	---	131	---	64	---	38	38	---
TOTAL	930	13851	32245	4338.8	28613	5108	41043	17576	1610	1146	1178	1141
MEAN	30.0	462	1040	140	1022	165	1368	567	53.7	37.0	38.0	38.0
MAX	38	3990	10800	1180	9200	764	6110	1000	70	39	38	40
MIN	21	27	26	2.1	35	26	41	64	37	34	38	37
AC-FT	1840	27470	63960	8610	56750	10130	81410	34860	3190	2270	2340	2260
a	1530	30920	38620	37250	33820	45270	30590	61010	35590	5060	1130	1030

CAL YR 1981 TOTAL 57045.0 MEAN 156 MAX 10800 MIN 17 AC-FT 113100
WTR YR 1982 TOTAL 148779.8 MEAN 408 MAX 10800 MIN 2.1 AC-FT 295100

a Lohman Ridge tunnel diversion, in acre-feet, to Oregon Creek.

NOTE.--No gage-height record Feb. 11-17.

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 (8 m) downstream from county bridge, 0.5 mi (0.8 km) southeast of Camptonville, and 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--23.0 mi² (59.6 km²).

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,230 ft (680 m), from topographic map.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--15 years, 71.2 ft³/s (2.016 m³/s), 51,580 acre-ft/yr (63.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,830 ft³/s (108 m³/s) Jan. 13, 1980, gage height, 10.83 ft (3.301 m); minimum daily, 0.53 ft³/s (0.015 m³/s) Aug. 14-16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 23	2300	1,820 51.5	8.35 2.545	Feb. 16	0130	3,250 92.0	10.20 3.109
Dec. 19	2200	*3,390 96.0	10.36 3.158	Apr. 11	0545	2,570 72.8	9.40 2.865
Dec. 29	1700	1,160 32.9	7.18 2.188				

Minimum daily, 1.1 ft³/s (0.031 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	18	84	645	93	173	134	170	31	17	4.7	1.7
2	10	17	75	405	91	340	126	163	29	15	4.7	1.6
3	12	16	67	302	90	263	315	158	27	14	4.7	1.6
4	13	16	62	272	88	213	280	152	26	13	4.7	1.9
5	12	15	58	295	82	183	202	145	25	12	4.7	1.6
6	12	15	54	229	77	161	172	135	24	12	4.4	1.5
7	20	15	55	186	74	148	152	129	23	11	4.4	1.5
8	18	14	52	160	71	138	143	125	22	11	5.3	1.4
9	14	14	62	147	68	127	151	120	20	10	4.3	1.3
10	15	14	115	140	66	166	399	107	19	10	3.8	1.3
11	26	14	86	133	62	345	1880	94	18	9.6	3.6	1.3
12	21	28	94	124	59	332	1280	84	18	9.5	3.6	1.1
13	17	93	155	113	164	267	840	78	18	9.3	3.5	1.3
14	16	79	195	108	970	311	805	77	18	9.0	3.4	1.3
15	15	61	253	103	1900	296	639	78	17	8.5	3.3	1.5
16	14	65	229	99	1910	259	480	78	15	8.2	3.3	4.5
17	14	187	178	97	843	223	405	78	15	7.5	3.1	4.2
18	14	68	204	98	515	202	363	74	17	7.4	2.9	5.8
19	14	47	2040	95	376	179	336	69	16	6.9	2.8	6.1
20	13	37	2420	94	309	164	313	66	18	6.6	2.7	3.8
21	13	215	1080	87	270	153	287	64	17	6.2	2.5	3.1
22	13	136	609	78	241	145	269	62	16	5.9	2.2	2.7
23	13	1010	387	75	211	137	261	59	15	5.7	2.1	2.4
24	13	1070	288	74	185	130	256	57	14	5.5	2.0	3.7
25	13	399	223	78	161	125	241	55	13	5.5	1.9	8.7
26	14	257	221	161	149	123	225	51	13	5.4	1.7	11
27	16	181	542	153	138	128	212	48	13	5.2	1.7	5.4
28	48	142	340	134	125	139	204	43	13	5.1	1.9	4.3
29	35	116	711	115	---	134	193	39	19	4.9	2.0	4.0
30	24	96	871	105	---	131	180	36	17	4.8	1.8	3.7
31	20	---	659	98	---	158	---	33	---	4.7	1.7	---
TOTAL	523	4455	12469	5003	9388	5993	11743	2727	566	266.4	99.4	95.3
MEAN	16.9	149	402	161	335	193	391	88.0	18.9	8.59	3.21	3.18
MAX	48	1070	2420	645	1910	345	1880	170	31	17	5.3	11
MIN	10	14	52	74	59	123	126	33	13	4.7	1.7	1.1
AC-FT	1040	8840	24730	9920	18620	11890	23290	5410	1120	528	197	189
CAL YR 1981 TOTAL	28014.9			MEAN 76.8	MAX 2420	MIN 1.0	AC-FT 55570					
WTR YR 1982 TOTAL	53328.1			MEAN 146	MAX 2420	MIN 1.1	AC-FT 105800					

SACRAMENTO RIVER BASIN

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 right bank 500 ft (152 m) downstream from Log Cabin Dam, 670 ft (204 m) upstream from High Point Ravine, and 1.1 mi (1.8 km) southwest of Camptonville.

DRAINAGE AREA.--29.1 mi² (75.4 km²).

PERIOD OF RECORD.--August 1968 to current year.

REVISED RECORDS.--WDR CA-81-4: 1980(M).

GAGE.--Water-stage recorder. Datum of gage is 1,919.96 ft (585.204 m) National Geodetic Vertical Datum of 1929 (levels by Yuba County Water Agency). Prior to July 24, 1973, at site 470 ft (143 m) downstream at datum 8.40 ft (2.560 m) lower.

REMARKS.--Records good except those for Jan. 3 to Feb. 3, which are fair. Camptonville tunnel, maximum capacity, about 1,000 ft³/s (28.3 m³/s), 520 ft (158 m) upstream, diverts to New Bullards Bar Reservoir (station 11413515); diversion began October 1968. See schematic diagram showing diversions and storage in Yuba River basin.

AVERAGE DISCHARGE.--14 years, 35.4 ft³/s (1.00 m³/s), 25,650 acre-ft/yr (31.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,860 ft³/s (138 m³/s) Jan. 12, 1980, gage height, 9.80 ft (2.987 m); minimum daily, 0.34 ft³/s (0.010 m³/s) Sept. 18, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,560 ft³/s (129 m³/s) Dec. 20, gage height, 9.52 ft (2.90 m); minimum daily, 2.5 ft³/s (0.071 m³/s) Oct. 18, 20-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	11	6.2	399	6.0	14	9.7	17	12	11	10	6.5
2	2.7	9.6	6.2	93	6.4	40	9.6	17	12	11	10	6.5
3	3.0	8.4	6.1	5.8	6.9	14	78	17	12	11	10	6.5
4	3.2	7.2	6.2	6.2	6.9	13	20	17	12	11	10	6.5
5	3.2	6.2	6.7	6.2	6.9	12	10	17	12	11	10	6.5
6	3.6	5.4	6.9	6.2	6.9	12	9.4	17	12	11	10	6.5
7	5.6	6.1	6.8	6.2	6.7	12	9.1	17	12	11	10	6.5
8	6.9	7.5	6.7	6.2	6.6	11	8.7	16	11	11	10	6.5
9	5.0	8.4	6.8	6.2	6.5	10	8.7	16	11	11	10	6.5
10	4.9	6.9	7.1	6.2	6.5	10	186	16	11	11	8.3	6.4
11	5.7	6.7	6.8	6.2	6.9	26	2280	16	12	11	6.9	6.4
12	4.6	8.6	6.8	6.2	7.1	12	1440	16	12	11	6.9	6.3
13	3.8	14	7.4	6.2	20	11	763	16	12	11	6.7	6.5
14	3.4	8.3	8.5	6.2	781	11	711	16	11	11	6.7	6.4
15	3.1	3.6	9.7	6.2	2230	11	380	16	11	11	6.5	6.4
16	2.8	4.6	10	6.2	2240	11	56	16	11	10	6.5	6.5
17	2.7	6.2	9.4	6.2	235	11	31	16	15	10	6.7	6.5
18	2.5	6.1	9.3	6.2	50	10	24	16	15	10	6.5	6.7
19	2.6	6.4	2300	6.2	87	10	33	16	12	10	6.5	6.8
20	2.5	6.4	3090	6.2	28	9.9	15	16	13	10	6.5	6.5
21	2.5	105	977	5.9	15	9.6	19	16	13	10	6.5	6.5
22	2.5	21	237	5.9	15	9.6	19	16	13	10	6.5	6.5
23	2.5	924	48	5.9	15	9.5	19	16	12	10	6.5	6.5
24	2.8	801	2.9	5.9	15	9.1	19	15	12	10	6.5	6.5
25	3.3	139	2.7	5.6	14	9.1	18	15	12	10	6.5	7.0
26	3.3	10	2.7	5.6	14	9.1	19	15	12	10	6.5	7.6
27	3.5	8.4	211	5.6	14	9.1	19	15	12	10	6.5	6.7
28	12	6.7	7.2	5.6	14	9.3	19	14	11	10	6.5	6.5
29	16	6.6	431	5.3	---	9.1	52	13	12	10	6.5	6.5
30	13	6.3	656	5.3	---	9.3	17	13	12	10	6.5	6.5
31	13	---	375	5.6	---	10	---	12	---	10	6.5	---
TOTAL	149.1	2175.6	8474.1	665.4	5867.3	373.7	6302.2	487	362	325	236.2	196.7
MEAN	4.81	72.5	273	21.5	210	12.1	210	15.7	12.1	10.5	7.62	6.56
MAX	16	924	3090	399	2240	40	2280	17	15	11	10	7.6
MIN	2.5	3.6	2.7	5.3	6.0	9.1	8.7	12	11	10	6.5	6.3
AC-FT	296	4320	16810	1320	11640	741	12500	966	718	645	469	390
a	2550	37410	53090	48480	45730	59570	47550	66880	36290	5080	910	879

CAL YR 1981 TOTAL 12967.6 MEAN 35.5 MAX 3090 MIN 1.2 AC-FT 25720

WTR YR 1982 TOTAL 25614.3 MEAN 70.2 MAX 3090 MIN 2.5 AC-FT 50810

a Camptonville tunnel diversion, in acre-feet, to New Bullards Bar Reservoir.

NOTE.--No gage-height record Jan. 3 to Feb. 3.

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 (61 m) downstream from St. Catherine Creek, 3.1 mi (5.0 km) southwest of Goodyears Bar, and 6.4 mi (10.3 km) southwest of Downieville.

DRAINAGE AREA.--250 mi² (648 km²).

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 (747.7 m) National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Records good. Several small diversions above station for irrigation and mining. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--52 years, 759 ft³/s (21.49 m³/s), 549,900 acre-ft/yr (678 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,130 m³/s) Feb. 1, 1963, gage height, 25.8 ft (7.25 m) from floodmarks, from rating curve extended above 8,500 ft³/s (241 m³/s) on basis of one float measurement at 17,900 ft³/s (507 m³/s) and slope-area measurements at gage heights 19.15 ft (5.837 m) and 23.8 ft (7.25 m); minimum daily, 60 ft³/s (1.70 m³/s) Sept. 7-14, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,200 ft³/s (90.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 17	0530	6,450 183	10.39 3.167	Feb. 16	0130	19,900 564	16.79 5.118
Nov. 23	2400	17,600 498	15.92 4.852	Apr. 11	0930	13,000 368	13.97 4.258
Dec. 20	0030	*20,800 589	17.13 5.221	May 26	2030	5,160 146	9.46 2.883
Dec. 30	0130	5,050 143	9.38 2.859				

Minimum daily, 104 ft³/s (2.95 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	239	1050	2920	774	1920	1330	2950	2320	1110	322	231
2	104	233	975	2290	760	2340	1280	3160	2210	959	318	228
3	115	226	886	1920	762	2020	1860	3290	2150	882	316	227
4	115	210	824	1820	743	1780	1750	3360	2040	821	314	226
5	109	198	775	1730	712	1610	1450	3230	1870	771	311	223
6	107	195	738	1530	693	1480	1320	3130	1770	737	306	219
7	197	192	815	1370	687	1400	1220	3320	1750	710	303	218
8	167	181	752	1270	670	1350	1150	3360	1750	682	314	215
9	131	172	744	1210	655	1290	1150	3010	1790	647	299	212
10	150	168	926	1180	638	1670	1740	2560	1860	621	291	212
11	275	167	794	1150	618	2740	10700	2260	1900	600	286	211
12	185	587	788	1100	602	2360	7610	2250	1820	581	284	209
13	152	2750	955	1040	868	2060	4780	2380	1730	566	282	210
14	140	2660	1210	1010	4800	2180	3920	2550	1690	548	279	209
15	136	2730	1850	978	10200	1990	3370	2620	1770	529	277	238
16	133	2650	1580	950	12800	1840	2860	2860	1830	510	272	266
17	132	3940	1260	933	5910	1700	2690	2990	1860	491	268	264
18	134	1760	1480	953	3830	1590	2620	2910	1930	474	264	290
19	129	1170	12800	933	3070	1460	2510	2790	1880	455	260	318
20	124	891	16000	925	2890	1380	2440	2860	1770	441	260	264
21	121	3230	7520	878	2860	1320	2340	3080	1630	427	257	244
22	119	3240	4550	804	2950	1260	2400	3220	1490	412	252	235
23	117	11400	3230	783	2580	1220	2610	3440	1380	402	247	228
24	116	10200	2460	775	2220	1210	2780	3770	1300	394	244	267
25	114	3870	2090	785	2000	1190	2750	3970	1210	384	242	419
26	113	2610	2010	1080	1850	1170	2720	4090	1140	375	239	434
27	150	2000	2940	1060	1730	1190	2790	3660	1120	366	237	283
28	968	1620	2140	1000	1610	1260	2900	2980	1070	359	239	261
29	474	1360	3150	893	---	1210	2820	2640	1190	351	240	257
30	273	1180	4240	833	---	1210	2800	2460	1070	341	239	258
31	236	---	3170	798	---	1420	---	2430	---	330	235	---
TOTAL	5641	62029	84702	36901	70482	49820	84660	93580	50290	17276	8497	7576
MEAN	182	2068	2732	1190	2517	1607	2822	3019	1676	557	274	253
MAX	968	11400	16000	2920	12800	2740	10700	4090	2320	1110	322	434
MIN	104	167	738	775	602	1170	1150	2250	1070	330	235	209
AC-FT	11190	123000	168000	73190	139800	98820	167900	185600	99750	34270	16850	15030
CAL YR 1981	TOTAL	283706	MEAN	777	MAX	16000	MIN	93	AC-FT	562700		
WTR YR 1982	TOTAL	571454	MEAN	1566	MAX	16000	MIN	104	AC-FT	1133000		

SACRAMENTO RIVER BASIN

11413100 NORTH YUBA RIVER ABOVE SLATE CREEK, NEAR STRAWBERRY, CA

LOCATION--Lat 39°31'29", long 121°05'26", in NE 1/4 SW 1/4 sec.9, T.19 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 500 ft (152 m) upstream from Slate Creek, and 2.8 mi (4.5 km) southeast of Strawberry Valley.

DRAINAGE AREA--351 mi² (909 km²).

PERIOD OF RECORD--June 1968 to current year.

GAGE--Water-stage recorder and crest-stage gage. Datum of gage is 1,953.44 ft (595.409 m) National Geodetic Vertical Datum of 1929.

REMARKS--Records good. Several small diversions above station for irrigation and mining. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE--14 years, 1,225 ft³/s (34.69 m³/s); 887,500 acre-ft/yr (1.09 km³/s).

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 43,600 ft³/s (1,230 m³/s) Jan. 13, 1980, gage height, 22.12 ft (6.742 m); minimum daily, 71 ft³/s (2.01 m³/s) Sept. 7-15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD--Flood of Dec. 22, 1964, reached at stage of 29.8 ft (9.08 m) from floodmarks, discharge, 63,400 ft³/s (1,800 m³/s) from slope-area measurement.

EXTREMES FOR CURRENT YEAR--Peak discharges above base of 4,500 ft³/s (127 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)				
Nov. 17	0700	10,500	297	12.74	3.883	Feb. 16	0200	*40,200	1,140	20.98	6.395
Nov. 24	0030	30,400	861	17.96	5.474	Apr. 11	1100	26,000	736	16.78	5.115
Dec. 19	2330	39,000	1,100	20.57	6.270	May 26	2230	5,710	162	10.79	3.289
Dec. 30	0130	8,940	253	12.17	3.709						

Minimum daily, 129 ft³/s (3.65 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	369	1500	5300	1180	3020	1900	4250	2950	1360	377	254
2	131	355	1360	4120	1140	4020	1780	4430	2790	1170	372	251
3	139	340	1200	3310	1150	3250	3310	4540	2720	1070	364	250
4	143	311	1100	3090	1120	2750	2970	4630	2570	1000	355	250
5	137	288	1010	2910	1060	2450	2270	4500	2340	938	345	244
6	132	274	936	2540	1010	2230	1970	4340	2200	896	352	240
7	225	269	1120	2220	999	2080	1760	4480	2160	857	343	237
8	226	251	1050	2010	962	2000	1630	4560	2160	821	340	234
9	162	237	1040	1880	931	1890	1620	4190	2190	779	337	231
10	163	227	1650	1820	899	2490	2640	3610	2270	748	329	228
11	434	222	1300	1770	826	4480	18200	3210	2330	721	323	227
12	294	811	1240	1670	832	3870	11900	3150	2230	697	321	227
13	217	4230	1740	1570	1270	3270	7740	3270	2120	678	317	227
14	192	4760	2280	1520	7530	3510	6640	3480	2060	650	314	227
15	180	4210	3250	1470	17100	3210	5800	3540	2160	626	311	253
16	176	4330	2890	1420	21500	2880	4810	3750	2220	600	304	295
17	173	6830	2210	1390	8860	2610	4340	3940	2280	574	299	299
18	174	2990	2440	1420	6010	2450	4200	3830	2380	555	292	336
19	171	1890	21000	1400	4850	2220	4030	3650	2300	532	288	392
20	163	1400	28000	1370	4530	2050	3940	3690	2170	514	286	299
21	159	4370	11900	1300	4370	1930	3800	3930	1970	496	285	270
22	156	5250	7520	1180	4420	1830	3820	4080	1810	478	278	260
23	152	18200	5430	1140	3840	1760	4010	4250	1680	464	271	250
24	150	16800	4270	1130	3300	1730	4220	4520	1570	453	267	281
25	148	6490	3540	1150	2930	1700	4160	4710	1460	440	264	418
26	147	4350	3380	1770	2700	1670	4070	4820	1370	427	260	578
27	170	3240	5600	1770	2510	1700	4130	4520	1340	413	258	328
28	1780	2520	3940	1600	2330	1840	4290	3770	1280	405	260	295
29	920	2050	5850	1400	---	1760	4190	3360	1460	396	262	282
30	478	1720	7930	1290	---	1730	4070	3100	1290	385	263	285
31	374	---	5690	1230	---	2130	---	3060	---	382	258	---
TOTAL	8395	99584	143366	59160	110159	76510	134210	123160	61830	20525	9495	8448
MEAN	271	3319	4625	1908	3934	2468	4474	3973	2061	662	306	282
MAX	1780	18200	28000	5300	21500	4480	18200	4820	2950	1360	377	578
MIN	129	222	936	1130	826	1670	1620	3060	1280	382	258	227
AC-FT	16650	197500	284400	117300	218500	151800	266200	244300	122600	40710	18830	16760
CAL YR 1981	TOTAL	451302	MEAN	1236	MAX	28000	MIN	122	AC-FT	895200		
WTR YR 1982	TOTAL	854842	MEAN	2342	MAX	28000	MIN	129	AC-FT	1696000		

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 (9 m) upstream from diversion dam on Slate Creek, 0.3 mi (0.5 km) upstream from Feney Ravine, and 4.5 mi (7.2 km) northeast of town of Strawberry Valley.

PERIOD OF RECORD.--October 1966 to current year. Records of daily discharge for December 1961 to September 1966 are in files of Geological Survey. Monthly diversion used to adjust Slate Creek below diversion dam near Strawberry Valley since February 1962.

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

REMARKS.--Records good. 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.

AVERAGE DISCHARGE.--16 years, 93.9 ft³/s (2.659 m³/s), 68,030 acre-ft/yr (83.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 863 ft³/s (24.4 m³/s) Apr. 6, 1963; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	75		0	134	0	233		183	131	14	0
2	0	67		0	131	0	182		333	102	13	0
3	0	58		0	132	0	206		309	89	13	0
4	0	48		0	129	0	228		285	78	12	0
5	0	41		0	120	0	202		254	70	12	0
6	0	38		0	113	0	176		229	65	11	0
7	0	34		0	111	0	160		219	61	11	0
8	0	30		0	107	0	152		212	57	13	0
9	0	26		0	102	0	156		212	52	11	0
10	0	24		0	97	357	295		213	48	9.1	0
11	0	23		0	93	384	136		214	45	8.7	0
12	0	296		0	89	0	20		203	43	8.4	0
13	0	635		48	256	0	0		191	41	8.6	0
14	0	538		94	406	0	0		197	39	7.2	0
15	0	488		88	0	0	0		191	36	6.9	0
16	0	332		82	0	0	0		197	34	6.4	0
17	0	527		78	0	0	0		204	32	5.7	0
18	0	716		81	0	0	0		256	30	5.1	0
19	0	490		53	0	0	0		322	28	4.9	0
20	0	353		0	0	0	0		230	27	4.4	0
21	0	669		0	0	0	0		179	26	3.8	0
22	0	841		0	0	104	0		153	24	3.2	0
23	0	582		0	0	117	0		134	23	2.3	0
24	0	480		0	0	0	0		122	22	1.2	0
25	0	798		0	0	134	0		109	21	0	0
26	11	800		0	0	244	0		99	19	0	0
27	24	409		0	0	259	0		100	19	0	2.8
28	480	0		8.2	0	273	0		92	18	0	7.4
29	202	0		56	---	246	0		130	17	0	4.2
30	92	0		138	---	220	0		117	16	0	0
31	77	---		135	---	186	---		---	15	0	---
TOTAL	886	9418	0	861.2	2020	2524	2146	0	5889	1328	195.9	14.4
MEAN	28.6	314	0	27.8	72.1	81.4	71.5	0	196	42.8	6.32	4.8
MAX	480	841	0	138	406	384	295	0	333	131	14	7.4
MIN	0	0	0	0	0	0	0	0	92	15	0	0
AC-FT	1760	18680	0	1710	4010	5010	4260	0	11680	2630	389	29
CAL YR 1981	TOTAL	38697.60	MEAN	106	MAX	841	MIN	0	AC-FT	76760		
WTR YR 1982	TOTAL	25282.50	MEAN	69.3	MAX	841	MIN	0	AC-FT	50150		

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 (91 m) downstream from diversion dam, 0.2 mi (0.3 km) upstream from Fenev Ravine, and 4.5 mi (7.2 km) northeast of town of Strawberry Valley.

DRAINAGE AREA.--49.4 mi² (127.9 km²).

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,570 ft (1,088 m), from topographic map.

REMARKS.--Records good except those for periods Oct. 1 to Dec. 1 and July 27 to Sept. 30, which are fair. Slate Creek tunnel (station 11413250) diverts at diversion dam, 300 ft (91 m) upstream, up to 900 ft³/s (25.5 m³/s) from Slate Creek Reservoir, capacity, 223 acre-ft (275,000 m³) to Sly Creek Reservoir (station 11395400). Diversion began in February 1962. See schematic diagrams of South Fork Feather and Yuba River basins. Daily records represent flow in Slate Creek below the diversion dam.

AVERAGE DISCHARGE (adjusted for diversion to Slate Creek tunnel).--22 years, 211 ft³/s (5.976 m³/s), 152,900 acre-ft/yr (189 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 13,100 ft³/s (371 m³/s) Dec. 22, 1964, gage height, 16.42 ft (5.005 m), from rating curve extended above 5,500 ft³/s (156 m³/s) on basis of computed flow over dam at gage heights 12.75 ft (3.886 m) and 15.90 ft (4.846 m); minimum, 0.3 ft³/s (0.008 m³/s) Mar. 4, 5, 1962.

Combined flow: Maximum discharge, 13,900 ft³/s (394 m³/s) Dec. 22, 1964; minimum daily, 2.3 ft³/s (0.065 m³/s) Nov. 23, 1961.

EXTREMES FOR CURRENT YEAR.--Creek only: Maximum discharge, 10,500 ft³/s (297 m³/s) Feb. 16, gage height, 13.96 ft (4.255 m); minimum daily, 7.4 ft³/s (0.210 m³/s) Jan. 30 to Feb. 1.

Combined flow: Maximum discharge, 10,500 ft³/s (297 m³/s) Feb. 16; minimum daily, 10 ft³/s (0.283 m³/s) Oct. 1, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.0	256	787	7.4	629	16	749	205	9.7	12	13
2	11	8.0	238	614	9.5	738	16	779	17	9.7	12	12
3	11	8.0	215	491	12	552	17	801	17	9.7	12	12
4	12	8.0	199	448	12	452	17	834	17	9.7	12	12
5	11	8.0	185	384	12	395	16	822	17	9.7	12	12
6	10	8.0	182	326	12	354	16	804	17	9.6	12	12
7	54	8.0	294	287	12	324	16	837	17	9.5	12	12
8	41	8.0	256	264	12	321	16	819	17	9.5	12	12
9	33	8.0	269	245	12	309	16	730	17	10	12	12
10	28	8.0	414	236	12	258	41	624	17	11	12	12
11	120	8.0	333	221	12	706	5350	542	15	11	12	12
12	70	25	308	207	12	801	2890	525	12	11	12	12
13	28	275	403	159	23	640	1580	544	12	11	12	12
14	22	500	567	93	1640	674	1300	572	12	11	12	12
15	22	920	743	93	5240	558	1020	577	12	11	12	12
16	21	920	598	92	5070	479	791	621	12	11	12	13
17	21	1540	469	92	1710	417	694	643	12	11	12	14
18	21	65	691	90	1020	376	657	610	11	11	12	15
19	20	10	5900	112	825	331	628	581	10	11	12	16
20	18	10	5890	162	774	301	615	585	9.7	11	12	15
21	17	50	2330	164	758	281	598	618	9.7	11	12	14
22	16	450	1200	154	750	183	618	629	9.7	11	12	14
23	15	4650	817	140	626	132	669	659	9.7	11	12	13
24	14	3090	622	142	524	259	713	699	9.7	12	12	17
25	13	602	508	140	454	139	693	707	9.7	12	12	21
26	12	591	606	171	412	16	681	695	9.7	12	12	22
27	14	251	1090	169	392	16	713	622	9.7	12	12	14
28	40	500	679	164	366	16	745	512	9.7	12	12	14
29	8.0	350	1130	95	---	16	725	445	9.7	12	12	14
30	8.0	290	1560	7.4	---	16	719	401	9.7	12	13	14
31	8.0	---	989	7.4	---	23	---	384	---	12	13	---
TOTAL	749.0	15177.0	29941	6756.8	20720.9	10712	22586	19970	572.7	337.1	374	411
MEAN	24.2	506	966	218	740	346	753	644	19.1	10.9	12.1	13.7
MAX	120	4650	5900	787	5240	801	5350	837	205	12	13	22
MIN	8.0	8.0	182	7.4	7.4	16	16	384	9.7	9.5	12	12
AC-FT	1490	30100	59390	13400	41100	21250	44800	39610	1140	669	742	815
MEAN a	52.9	820	966	246	812	427	824	644	215	53.7	18.4	14.2
AC-FT a	3250	48780	59390	15110	45110	26260	49060	39610	12820	3300	1130	844

CAL YR 1981 TOTAL 52197.2 MEAN 143 MAX 5900 MIN 4.4 AC-FT 103500 MEAN a 249 AC-FT a 180300
WTR YR 1982 TOTAL 128307.5 MEAN 352 MAX 5900 MIN 7.4 AC-FT 254500 MEAN a 421 AC-FT a 304600

a Adjusted for diversion to Slate Creek tunnel.

NOTE.--No gage-height record Oct. 1 to Dec. 1; stage-discharge relation indeterminate July 27 to Sept. 30.

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 (0.5 km) upstream from Dobbins Creek, and 2.3 mi (3.7 km) 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 Dam (station 11413515). Colgate powerplant was rebuilt during the 1970 water year with an increased capacity. Browns Valley ditch diverted up to 10 ft³/s (0.28 m³/s) at times from the head of the penstock for use in irrigation. This diversion discontinued Oct. 31, 1973. See schematic diagram of Yuba River basin.

COOPERATION.--Records collected by Yuba County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 1,367 ft³/s (38.71 m³/s) 990,400 acre-ft/yr (1.22 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,200 ft³/s (119 m³/s) June 2, 1971; no flow for several days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	510	502	2750	2460	3480	3520	3550	3590	3640	2950	3460	2880
2	42	723	2680	2840	3470	3520	3550	2610	3650	2980	3410	2500
3	0	229	2500	3320	3470	3520	3560	3310	3650	3140	2930	2290
4	0	374	2680	3470	3470	3520	3560	2850	3650	2270	3090	2790
5	1140	551	2990	3560	3460	3520	3560	3590	3650	2660	2730	2570
6	878	300	2650	3460	3460	3520	3570	3560	3650	2320	2960	2930
7	1300	658	2210	3560	3460	3520	3550	3620	3120	2820	2990	3120
8	692	583	2240	3510	3460	3510	3550	3620	3200	3540	2780	2630
9	335	568	1740	3510	3420	3510	3570	3640	2130	3360	2840	2710
10	10	465	1950	3510	3460	3510	3560	3640	1070	2330	2800	3240
11	165	269	2310	3510	3460	3530	3000	3640	3240	2800	2880	2530
12	293	398	2550	3490	3460	3530	2670	3640	2650	2710	2900	2540
13	384	46	2540	3480	3410	3510	2750	3640	3520	2410	3030	3050
14	467	111	1990	3520	3460	3560	2590	3630	3040	2950	3020	3020
15	579	110	2970	3530	3190	3530	2890	3640	3180	3410	2900	2820
16	339	155	2310	3500	1990	3510	2680	3640	3630	3250	2850	2820
17	242	83	2540	3510	2490	3560	3240	3640	3650	2810	2700	2040
18	448	117	2920	3500	3340	3560	3360	3650	3020	2650	2800	1590
19	873	654	316	3490	3530	3560	3480	3650	2750	2970	2820	2800
20	952	895	1770	3490	3530	3560	3570	3650	2650	3150	2870	677
21	554	478	3250	3500	3540	3560	3560	3590	3080	3060	3040	0
22	755	217	3500	3500	3530	3540	3560	3650	3110	3150	3180	29
23	551	184	3520	3490	3520	3550	3570	3650	3460	3040	2920	0
24	42	213	3520	3490	3530	3550	3570	3650	2890	3460	2910	0
25	212	189	3530	3480	3530	3550	3420	3650	2730	3170	2910	1700
26	543	179	3540	3480	3520	3550	3580	3650	2820	3120	2940	1750
27	398	1550	3540	3490	3520	3550	3580	3640	3130	3400	2790	2250
28	143	2410	3540	3480	3510	3540	3580	3650	3040	3180	2990	2570
29	182	2660	3330	3480	---	2890	3590	3640	2200	3310	2600	1740
30	273	2780	2770	3480	---	2340	3590	3650	2860	3260	2750	1350
31	19	---	2580	3480	---	2750	---	3650	---	3090	3070	---
TOTAL	13321	18651	83226	106570	94670	106950	101410	110520	92060	92720	90860	62936
MEAN	430	622	2685	3438	3381	3450	3380	3565	3069	2991	2931	2098
MAX	1300	2780	3540	3560	3540	3560	3590	3650	3650	3540	3460	3240
MIN	0	46	316	2460	1990	2340	2590	2610	1070	2270	2600	0
AC-FT	26420	36990	165100	211400	187800	212100	201100	219200	182600	183900	180200	124800
CAL YR 1981	TOTAL	261389.00	MEAN	716	MAX	3540	MIN	0	AC-FT	518500		
WTR YR 1982	TOTAL	973894.00	MEAN	2668	MAX	3650	MIN	0	AC-FT	1932000		

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 (3.5 km) upstream from Middle Yuba River, and 2.4 mi (3.9 km) northwest of North San Juan.

DRAINAGE AREA.--489 mi² (1,267 km²).

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 (9.1 m) by 53-ft (16.2 m) radial gates. Storage began in January 1969. Usable capacity, 727,380 acre-ft (897 hm³) between elevations 1,732.0 ft (527.91 m) minimum power pool, and 1,955.0 ft (595.88 m) normal gross pool. Dead storage, 233,920 acre-ft (288 hm³). Total capacity at normal gross pool, 961,300 acre-ft (1.19 km³), elevation, 1,955.0 ft (595.88 m). 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 collected by Yuba County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 966,103 acre-ft (1.19 km³) June 12, 1982, elevation, 1,956.00 ft (596.189 m); minimum since reservoir first filled, 178,230 acre-ft (220 hm³) Dec. 29, 1980, elevation, 1,700.00 ft (518.160 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 966,103 acre-ft (1.19 km³) June 12, elevation, 1,956.00 ft (596.189 m); minimum, 362,599 acre-ft (447 hm³) Oct. 26, elevation, 1,789.60 ft (545.470 m).

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

1,600	64,900	1,750	270,110
1,630	90,570	1,800	389,980
1,660	122,990	1,850	539,750
1,690	162,980	1,900	721,130
1,720	211,770	1,960	985,471

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	375072	370884	613561	817108	759226	803137	847158	889915	964276	946285	819301	669617
2	374600	370362	612702	802881	756564	807734	847820	906802	963988	943443	813589	665466
3	374941	370623	611630	796483	753705	809441	854664	912661	963412	940134	809008	661595
4	375276	370519	611024	795469	750772	809483	857233	919384	962884	938483	804030	657215
5	373236	369893	607639	794794	747886	808587	857544	924413	962069	935893	799699	652371
6	371745	370102	605683	794371	744644	807009	857100	928853	961062	933636	794794	647550
7	369972	369321	605153	794921	741410	806242	856524	933307	960678	930586	790159	641647
8	369113	368723	604089	795554	737824	803443	856214	938013	959865	925813	785835	637243
9	368853	368022	605578	795638	734288	803052	855638	941788	961254	921461	781395	632490
10	369451	367503	607212	795554	730884	804540	860653	943916	964757	918826	776609	626672
11	370884	367503	607106	795216	726932	812818	909521	945100	965141	915578	772084	621970
12	371223	368022	606573	794498	723114	819172	925501	945574	966103	912060	774552	617649
13	370962	381945	607283	793106	721725	823397	916598	947471	964949	909244	762304	612274
14	370493	395390	611202	791632	738508	828851	905882	951272	964661	905284	757465	608570
15	369581	405253	615137	789738	787303	832935	891426	954130	964180	900602	752727	602071
16	369373	418930	619807	788058	840268	836858	879240	958429	963220	896257	748008	597380
17	369321	438680	621790	785961	847334	839043	869847	962261	962261	892154	743551	594218
18	368801	446271	624789	784285	846807	841232	861098	963700	962740	888517	738911	592116
19	367503	449801	687541	782529	843248	842547	859320	963220	963700	884210	734368	587578
20	365691	451572	763455	781025	838825	842985	862077	962740	964805	879465	729685	587056
21	365175	463491	790832	779680	834677	843161	864216	963028	964180	874962	724425	587753
22	364014	477589	804158	776775	830327	842941	865778	963604	963268	870250	718991	588345
23	363242	531369	812519	773867	824693	842108	868683	964661	961110	865778	714054	588972
24	363500	576674	818225	771380	818655	841320	872941	965237	959769	860209	709296	589845
25	363371	593097	821806	768484	811791	840356	876762	964324	958381	855550	704207	587927
26	362599	604798	825126	769104	807520	838912	880142	963700	956182	850686	699025	586083
27	362676	610391	835113	768691	805306	837732	883802	963700	953463	845400	694252	582716
28	367244	613346	838606	768154	802415	837514	887236	962740	950986	840356	689081	578224
29	369581	614420	842240	766668	---	838300	891017	963220	950321	835113	684737	575368
30	370102	614134	841758	764360	---	840869	895801	963028	948420	829892	680258	573514
31	371144	---	830761	761893	---	846412	---	963893	---	825126	674924	---
MAX	375276	614420	842240	817108	847334	846412	922501	965237	966103	946285	819301	669617
MIN	362599	367503	604089	761893	721725	803052	847158	889915	948420	825126	674924	573514
a	1792.90	1871.62	1926.40	1910.10	1919.80	1928.98	1941.00	1955.54	1952.30	1925.10	1888.10	1860.03
b	-4849	+242990	+216627	-68868	+40522	+43997	+49389	+68092	-15473	-123294	-150202	-101410

CAL YR 1981 b +652058

WTR YR 1982 b +197521

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

b Change in contents, in acre-feet.

LOCATION.--Lat 39°22'48", long 121°08'19", in SW 1/4 NE 1/4 sec.36, T.18 N., R.7 E., Yuba County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 1.1 mi (1.8 km) downstream from New Bullards Bar Dam, and 2 mi (3 km) northwest of North San Juan.

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

REMARKS.--Records good. Flow regulated by New Bullards Bar Reservoir since 1969 (station 11413515). Colgate powerplant (station 11413510) diverts from New Bullards Bar Dam 1.1 mi (1.8 km) upstream. Water is diverted out of basin through Slate Creek tunnel (station 11413250). See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,200 ft³/s (1,590 m³/s) Jan. 22, 1970, gage height, 35.29 Ft (10.756 m), from rating curve extended above 40,000 ft³/s (1,130 m³/s) on basis of computation of flow over old Colgate Dam; minimum daily, 0.42 ft³/s (0.012 m³/s) Nov. 5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,400 ft³/s (549 m³/s) Apr. 15, gage height, 21.09 ft (6.428 m); minimum daily, 2.9 ft³/s (0.082 m³/s) Sept. 8.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	6.6	7.4	17400	6.1	1170	9.7	765	197	5.6	5.0	3.8
2	6.4	6.6	7.3	14600	5.9	945	115	776	9.5	5.4	5.0	3.7
3	6.4	6.6	7.2	6440	5.8	960	582	788	6.9	5.4	5.0	3.7
4	6.4	6.6	7.1	2520	5.6	968	753	800	6.4	5.4	4.8	3.7
5	6.4	6.6	6.9	1890	5.4	958	776	802	6.4	5.4	5.0	3.7
6	6.4	6.6	6.9	985	5.4	945	554	814	6.2	5.2	5.0	3.7
7	7.1	6.6	6.9	279	5.3	935	180	815	6.1	5.2	5.0	3.1
8	6.7	6.6	6.8	12	5.3	489	8.0	849	6.1	5.2	5.0	2.9
9	6.6	6.6	7.4	10	5.2	10	6.6	846	5.9	5.2	4.8	3.0
10	6.6	6.6	7.0	10	5.2	8.1	7.1	828	5.7	5.2	4.8	3.1
11	8.3	6.6	6.0	9.8	5.2	9.7	4420	836	5.7	5.5	4.7	3.3
12	6.9	8.4	5.9	9.6	5.2	8.9	13800	843	5.5	5.7	4.6	3.9
13	6.4	11	6.3	9.4	6.7	7.7	16900	1550	5.4	5.7	4.6	3.9
14	6.2	9.6	6.5	9.4	11	8.1	18600	2060	5.7	5.6	4.7	4.0
15	6.2	8.0	6.8	8.3	25	8.3	18800	2060	11	5.4	4.8	4.1
16	6.2	7.9	6.4	6.9	3920	8.1	14500	2060	13	5.4	4.8	4.1
17	6.2	10	5.8	6.6	8480	7.7	10600	1650	8.1	5.2	4.5	3.9
18	6.2	8.0	7.2	6.2	7340	8.0	8960	1600	6.6	5.2	4.3	3.9
19	6.2	7.4	24	6.6	7050	7.8	4480	2060	5.8	5.2	4.1	3.7
20	6.2	7.1	30	6.9	6670	7.3	1270	2060	5.7	5.0	4.1	3.5
21	6.2	13	17	7.5	6300	7.3	1230	2060	5.9	4.8	4.0	3.4
22	6.2	10	12	6.9	6120	6.9	1510	2060	5.5	4.8	4.1	3.4
23	6.3	15	9.7	6.7	5650	6.6	1120	2060	5.4	5.0	4.2	3.5
24	6.4	16	8.5	6.6	5260	6.6	740	2540	5.5	5.0	4.1	3.7
25	6.4	9.9	7.9	6.4	5040	6.4	713	4180	5.4	4.8	3.9	4.2
26	6.4	9.1	8.2	7.5	2970	6.3	721	4270	5.4	4.8	3.9	4.0
27	6.9	8.5	8.6	7.3	1560	6.2	725	2820	5.4	4.6	3.7	3.8
28	9.2	8.2	726	7.6	1530	6.5	731	1850	5.7	4.6	3.7	3.8
29	8.5	7.8	5680	7.5	---	6.7	742	1010	5.8	4.5	3.7	3.9
30	7.1	7.6	12600	6.9	---	7.4	753	645	5.7	4.6	3.7	3.9
31	6.7	---	16500	6.6	---	11	---	157	---	4.9	3.7	---
TOTAL	206.7	255.1	35753.7	44303.2	67998.3	7547.6	124306.4	48514	384.4	159.5	137.3	110.0
MEAN	6.67	8.50	1153	1429	2429	243	4144	1565	12.8	5.15	4.43	3.67
MAX	9.2	16	16500	17400	8480	1170	18800	4270	197	5.7	5.0	4.2
MIN	6.2	6.6	5.8	6.2	5.2	6.2	6.6	157	5.4	4.5	3.7	2.9
AC-FT	410	506	70920	87880	134900	14970	246600	96230	762	316	272	218
CAL YR 1981	TOTAL	37792.4		MEAN 104	MAX 16500	MIN 2.2	AC-FT					

SACRAMENTO RIVER BASIN

11414000 SOUTH YUBA RIVER NEAR CISCO, CA

LOCATION.--Lat 39°19'12", long 120°33'38", in SE¼SW¼ sec.19, T.17 N., R.13 E., Nevada County, Hydrologic Unit 18020126, on right bank 0.7 mi (1.1 km) downstream from Rattlesnake Creek, 1.3 mi (2.1 km) west of Cisco Grove, and 1.5 mi (2.4 km) northwest of Cisco.

DRAINAGE AREA.--51.8 mi² (134.2 km²).

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. Altitude of gage is 5,520 ft (1,682 m), from river-profile map. Prior to October 1945, water-stage recorder at site 200 ft (61 m) upstream at same datum.

REMARKS.--Records good. Low flow regulated by several small lakes operated by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--40 years, 200 ft³/s (5.664 m³/s), 144,900 acre-ft/yr (179 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft³/s (521 m³/s) Jan. 31, 1963, gage height, 19.6 ft (5.97 m) from floodmarks in gage house, 20.6 ft (6.28 m) from outside floodmarks, from rating curve extended above 4,600 ft³/s (130 m³/s) on basis of slope-area measurement at gage height 15.8 ft (4.81 m); minimum daily, 0.1 ft³/s (0.003 m³/s) Nov. 5-7, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 13	2400	4,520 128	10.33 3.149	Apr. 11	1100	4,420 125	10.22 3.115
Nov. 23	2100	6,840 194	12.42 3.786	May 7	2130	1,610 45.6	6.62 2.018
Dec. 20	0130	*8,760 248	13.87 4.228	May 26	2100	2,310 65.4	7.66 2.335
Feb. 16	0130	6,830 193	12.41 3.783	June 19	0100	1,560 44.2	6.53 1.990

Minimum daily, 3.1 ft³/s (0.088 m³/s) Oct. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	49	168	176	69	226	92	966	861	362	18	7.0
2	14	51	185	159	69	201	105	1100	836	287	17	7.8
3	14	50	199	142	75	185	115	1140	820	259	16	53
4	13	40	190	125	75	169	118	1170	712	230	13	44
5	16	37	181	120	74	155	108	1050	584	208	12	43
6	46	40	173	117	72	147	102	1050	566	196	11	42
7	56	43	172	115	69	147	99	1190	658	201	10	40
8	47	31	182	116	66	141	97	1120	739	185	11	35
9	13	27	181	113	63	143	99	839	827	165	12	33
10	9.0	24	197	112	61	432	199	519	891	150	9.5	33
11	14	24	163	110	60	685	3280	443	872	146	8.4	32
12	13	205	145	102	59	358	1960	623	735	141	7.2	31
13	75	1610	145	95	129	297	915	864	640	130	6.3	30
14	72	1470	275	97	1410	316	537	975	729	123	5.8	24
15	63	1590	632	95	3100	227	387	1020	893	111	5.4	20
16	44	1200	385	92	3770	187	340	1160	900	100	5.2	23
17	19	1620	231	91	968	169	347	1170	849	89	4.7	19
18	11	449	410	91	540	152	409	1080	809	76	6.5	22
19	8.4	281	5690	88	456	136	446	1030	1030	67	9.1	27
20	7.1	217	5470	86	526	126	449	1140	741	61	9.3	24
21	5.3	1470	1010	83	564	124	444	1270	695	56	12	19
22	4.7	1440	510	79	669	125	532	1320	605	49	22	17
23	4.0	4760	350	77	511	132	672	1460	539	44	24	29
24	3.5	2920	268	75	358	150	742	1600	490	41	12	54
25	3.3	631	229	80	304	166	693	1650	469	39	8.2	316
26	3.1	390	215	89	266	157	701	1630	446	35	7.2	197
27	4.0	301	318	81	231	147	791	1350	444	31	7.2	79
28	165	238	207	79	216	137	888	1010	400	28	7.1	57
29	54	202	213	72	---	115	798	821	397	26	7.4	52
30	32	179	333	69	---	102	770	758	314	23	7.4	80
31	34	---	228	69	---	94	---	916	---	21	7.2	---
TOTAL	889.4	21589	19255	3095	14830	6048	17235	33434	20491	3680	319.1	1489.8
MEAN	28.7	720	621	99.8	530	195	575	1079	683	119	10.3	49.7
MAX	165	4760	5690	176	3770	685	3280	1650	1030	362	24	316
MIN	3.1	24	145	69	59	94	92	443	314	21	4.7	7.0
AC-FT	1760	42820	38190	6140	29420	12000	34190	66320	40640	7300	633	2960
CAL YR 1981 TOTAL	78043.1			MEAN 214	MAX 5690	MIN 3.1	AC-FT 154800					
WTR YR 1982 TOTAL	142355.3			MEAN 390	MAX 5690	MIN 3.1	AC-FT 282400					

11414090 FORDYCE LAKE NEAR CISCO, CA

LOCATION.--Lat 39°22'43", long 120°29'39", in NE¼SE¼ sec.34, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near left abutment of Fordyce Dam on Fordyce Creek, 5.3 mi (8.5 km) northeast of Cisco.

DRAINAGE AREA.--31.7 mi² (82.1 km²).

PERIOD OF RECORD.--October 1977 to current year. Periodic elevations only for October 1965 to September 1976 and daily contents for water year 1977 are in the files of the Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 6,290.5 ft (1,917.34 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Prior to November 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 (0.91 m) of flashboards. Capacity, 49,903 acre-ft (61.5 hm³) between gage heights 0.85 ft (0.259 m), bottom of outlet valve and 114.6 ft (34.93 m), 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 collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 49,903 acre-ft (61.5 hm³) June 27, July 4, 6, 1982, gage height, 114.60 ft (34.930 m); minimum, 250 acre-ft (0.31 hm³) Oct. 31 to Nov. 7, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 49,903 acre-ft (61.5 hm³) June 27, July 4, 6, gage height, 114.60 ft (34.930 m); minimum, 3,275 acre-ft (4.04 hm³) Sept. 30, gage height, 22.80 ft (6.949 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4	219	40	8,183
5	278	50	11,797
10	774	60	16,174
15	1,570	70	21,196
20	2,608	80	26,770
25	3,827	90	32,820
30	5,170	100	39,342
35	6,628	114.6	49,903

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27173	14813	29193	39770	36155	37252	35768	35414	39934	49826	34129	15142
2	27162	14220	29368	39770	35349	37464	35668	35602	39900	49872	33304	14479
3	27138	13543	29554	39770	34487	37644	35675	35842	39838	49857	32350	13879
4	27103	12942	29759	39770	33621	37743	35575	36096	39607	49903	31438	13289
5	27068	12334	29905	39743	32770	37790	35475	36279	39348	49895	30579	12762
6	27027	11733	30062	39641	31921	37903	35375	36475	39179	49903	29717	12277
7	27050	11180	30238	39559	31081	37976	35275	36843	39145	49864	28828	11765
8	27033	10582	30384	39559	30244	38057	35175	37113	39233	49849	27993	11297
9	27080	9899	30598	39559	29392	38123	33874	37107	39525	49857	27168	10816
10	27197	9259	30720	39443	28607	38190	33775	36725	39525	49872	26311	10320
11	27332	8644	30781	39416	27780	38250	33675	36279	41131	49895	25419	9830
12	27444	8340	30916	39416	26974	38310	34148	35985	41750	49895	25093	9343
13	27326	9917	31020	39416	26386	39044	34148	35985	42466	49656	25065	8869
14	26799	10544	31020	39348	26892	39064	35500	36063	43653	49211	25025	8778
15	26073	12444	31735	39342	29139	39362	39071	36266	45098	48564	24980	7921
16	25361	13726	32008	39321	32263	39262	39125	36639	46360	47800	24527	8785
17	24618	15174	32114	39308	33115	39162	39199	37074	47328	46962	23732	7120
18	23899	15577	32613	39342	33690	39062	39226	37352	48170	46205	22997	6750
19	23179	15815	32613	39342	34097	38602	38909	37610	48708	45382	22240	6379
20	22468	15815	42969	39342	34487	38502	38337	38020	48860	44531	21489	5987
21	21772	15815	41764	39403	34981	37810	37757	38646	49043	43696	21489	5581
22	21011	21510	41013	39362	35524	37557	37312	39281	49288	42841	20065	5179
23	20356	30001	40489	39376	35920	37285	36942	40043	49633	42841	19325	4789
24	19652	27056	40221	39315	35920	37041	36652	40675	49703	41096	18617	4469
25	18959	27821	40023	39294	36442	36790	36351	41062	49803	40166	17895	4623
26	18257	28195	39988	39348	36666	36560	36050	41304	49857	39389	17192	4423
27	17653	28475	39879	39287	36869	36364	35842	41055	49903	38512	16800	4106
28	17285	28714	39824	39274	37008	36168	35744	40647	49818	37670	16843	3788
29	16675	28876	39852	38922	---	36068	35569	40187	49656	36777	16867	3534
30	16060	29050	39818	38023	---	35968	35401	39988	49549	35881	16502	3275
31	15424	---	39804	37087	---	35868	---	39995	---	34994	15815	---
MAX	27444	30001	42969	39770	37008	39362	39226	41304	49903	49903	34129	15142
MIN	15424	8340	29193	37087	26386	35868	33675	35414	39145	34994	15815	3275
a	58.40	83.85	100.68	96.63	96.51	94.77	94.05	100.96	114.14	93.42	59.24	22.80
b	-11726	+13626	+10754	-2717	-79	-1140	-467	+4594	+9554	-14555	-19179	-12540

CAL YR 1981 b +35974

WTR YR 1982 b -23875

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11414100 FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CA

LOCATION.--Lat 39°22'45", long 120°29'52", in NW¼SE¼ sec.34, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 850 ft (259 m) downstream from Fordyce Dam, and 5.3 mi (8.5 km) northeast of Cisco.

DRAINAGE AREA.--31.7 mi² (82.1 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 6,250 ft (1,905 m), from topographic map.

REMARKS.--Flow regulated by Fordyce Lake, usable capacity, 46,662 acre-ft (57.5 hm³). See schematic diagram of Yuba River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 134 ft³/s (3.794 m³/s), 97,080 acre-ft/yr (120 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft³/s (132 m³/s) July 9, 1974, gage height, 7.90 ft (2.408 m) in gage well, 6.82 ft (2.079 m) from high-water marks, from rating curve extended above 1,000 ft³/s (28.3 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft³/s (0.099 m³/s) Jan. 2-9, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,700 ft³/s (48.1 m³/s) Dec. 20, gage height, 5.40 ft (1.646 m); minimum daily, 14 ft³/s (0.40 m³/s) Nov. 18-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	399	21	119	535	26	173	514	661	160	470	388
2	33	391	21	114	529	26	173	514	646	281	463	388
3	43	388	21	110	524	26	173	514	634	299	463	382
4	43	383	21	110	524	26	173	514	560	201	457	376
5	43	377	21	116	523	26	176	521	541	230	450	340
6	43	373	21	110	517	26	176	521	514	230	444	310
7	43	369	21	95	509	26	173	521	514	181	438	304
8	43	363	21	79	499	26	173	527	508	287	438	299
9	31	355	21	69	499	26	170	521	508	218	432	293
10	20	349	21	64	498	29	176	521	502	186	413	293
11	20	342	21	60	492	30	186	521	247	176	407	293
12	20	342	21	57	485	137	173	521	201	176	73	281
13	133	358	21	53	482	179	178	514	203	176	20	281
14	364	225	22	50	490	44	178	521	114	276	20	276
15	473	18	24	48	498	105	176	521	30	407	20	270
16	468	15	23	47	286	178	176	521	32	482	263	270
17	459	18	23	45	25	178	181	527	100	534	438	258
18	458	14	24	45	25	178	181	521	236	534	432	258
19	453	14	40	46	25	178	352	527	276	527	432	253
20	448	14	1250	46	26	178	527	527	560	521	425	247
21	442	21	1230	51	26	178	521	527	668	521	419	242
22	437	17	733	54	26	176	521	534	593	514	419	236
23	431	25	429	50	26	176	521	613	470	514	413	236
24	427	23	268	47	26	178	521	849	376	508	413	230
25	419	21	194	44	26	176	521	1030	463	508	407	230
26	417	21	163	46	26	176	514	1140	476	502	401	225
27	415	21	155	47	26	176	514	1150	476	502	101	222
28	420	21	135	47	26	176	514	985	495	495	17	222
29	422	21	129	299	---	176	514	842	482	495	17	218
30	407	21	130	545	---	176	514	688	456	495	131	215
31	402	---	120	540	---	176	---	661	---	476	394	---
TOTAL	8297	5319	5365	3253	8199	3588	9219	19428	12542	11612	10130	8336
MEAN	268	177	173	105	293	116	307	627	418	375	327	278
MAX	473	399	1250	545	535	179	527	1150	668	534	470	388
MIN	20	14	21	44	25	26	170	514	30	160	17	215
AC-FT	16460	10550	10640	6450	16260	7120	18290	38540	24880	23030	20090	16530
CAL YR 1981 TOTAL	28698.5		MEAN 78.6	MAX 1250	MIN 4.6	AC-FT 56920						
WTR YR 1982 TOTAL	105288.0		MEAN 288	MAX 1250	MIN 14	AC-FT 208800						

11414140 LAKE SPAULDING NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'35", long 120°38'32", in SE¼NE¼ sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near center of Spaulding Dam on South Yuba River, 2.5 mi (4.0 km) northeast of Emigrant Gap.

DRAINAGE AREA.--118 mi² (306 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 4,809.6 ft (1,465.97 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and 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 (92.20 hm³) between gage heights 0.6 ft (0.18 m), bottom of outlet and 205.0 ft (62.48 m), top of radial gates. Released water flows through Spaulding powerhouses Nos. 1 and 2. Flow through powerhouse No. 1 is transported out of Yuba River basin by Drum Canal to Bear River basin. See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 75,100 acre-ft (92.6 hm³) July 13, 1967, gage height, 205.5 ft (62.64 m); minimum, 914 acre-ft (1.13 hm³) Feb. 28, 1976, gage height, 25.5 ft (7.77 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 74,773 acre-ft (92.2 hm³) June 10, 29, gage height, 205.00 ft (62.484 m); minimum, 1,586 acre-ft (1.96 hm³) Oct. 6, gage height, 32.01 ft (9.757 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

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

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1842	19677	57954	61881	38514	60084	51491	65566	72907	74570	71464	51079
2	1750	20017	57022	61398	38319	59991	50971	66659	73010	74452	71288	50748
3	1698	20239	56103	60730	38150	59362	50487	67210	73024	74403	71110	50476
4	1660	20392	55085	60202	37927	58791	49944	68697	73017	74027	70942	50187
5	1598	20519	54117	59540	37704	58021	49313	70692	72997	73729	70726	49882
6	1586	20627	53072	58711	37477	57233	48659	72536	73059	73397	70517	49510
7	1711	20743	52071	57906	37276	56528	48175	73169	73528	73286	70295	50311
8	1711	20814	51096	57094	37020	55810	47599	73868	74508	73079	70087	51399
9	1711	20875	50215	56270	36766	55126	46895	74041	74612	72708	69832	52457
10	1711	20852	49369	55459	36464	55947	47043	73875	74773	72269	69571	53596
11	2077	20893	48458	54653	36162	57748	60543	72653	74361	71838	69297	54629
12	2120	21838	47582	53771	35872	57967	64758	72900	74285	71383	68684	55661
13	2451	29259	46709	52874	36153	57930	64481	73197	74236	71030	67625	56678
14	3431	34127	46578	52042	43185	58113	63566	73335	74480	70895	66535	57675
15	4239	38659	47660	49420	56691	58003	62885	73500	74619	70800	65333	58668
16	6405	41328	47582	48569	65689	57839	62575	73507	74626	70814	64019	59750
17	7764	46490	46944	48622	64160	57578	62392	73190	74480	70827	63190	60481
18	9074	46802	47076	48781	63235	57251	62486	73355	74480	70827	62310	60668
19	10335	46709	67223	47936	62645	56799	62816	73383	74556	70800	61442	60295
20	11470	46125	67322	47120	62543	56324	63120	73653	74689	70787	60574	59861
21	12225	50897	65087	46228	62664	55852	63241	73590	74633	70787	59688	59676
22	12599	55465	63981	45313	62835	55376	63470	73217	74563	70868	58864	58876
23	13046	68312	63165	44331	62588	54954	63815	73466	74689	70976	58027	58302
24	14110	65371	62505	43386	62089	54582	63975	73293	74612	71457	57136	57857
25	15183	63476	62045	42434	61667	54294	63917	73328	74602	71519	56223	58491
26	15727	62486	61818	41654	61292	53965	63885	73341	74668	71546	55376	58558
27	16033	61737	62291	40767	60805	53672	64205	72935	74738	71539	53606	58100
28	17604	60948	61875	39838	60227	53403	64423	72728	74668	71519	53578	57778
29	18244	60010	62328	39146	---	52973	64308	72317	74773	71485	52515	57257
30	18711	58956	62835	38960	---	52504	64423	72536	74703	71376	51732	56787
31	19180	---	62379	38749	---	52031	---	73141	---	71532	51411	---
MAX	19180	68312	67322	61881	65689	60084	64758	74041	74773	74570	71464	60668
MIN	1586	19677	46578	38749	35872	52031	46895	65566	72907	70787	51411	49510
a	99.01	180.83	186.33	144.51	182.89	169.18	189.54	202.65	204.32	200.30	168.10	177.26
b	+17271	+39776	+3423	-23630	+21478	-8196	+12392	+8718	+1562	-3171	-20121	+5376

CAL YR 1981 b +43072

WTR YR 1982 b +54878

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'03", long 120°39'08", in SE¼SW¼ sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, 100 ft (30 m) downstream from tunnel outlet, 1.0 mi (1.6 km) downstream from Spaulding No. 1 powerhouse, and 1.7 mi (2.7 km) 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. Altitude of gage is 4,880 ft (1,487 m), from topographic map. Prior to Oct. 1, 1968, in powerhouse 0.7 mi (1.1 km) upstream at different datum.

REMARKS.--Canal diverts from Spaulding No. 1 powerhouse at Lake Spaulding Dam. Water is used for irrigation and power in the Bear River basin. See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--18 years, 526 ft³/s (14.90 m³/s), 381,100 acre-ft/yr (470 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 858 ft³/s (24.3 m³/s) July 4, 1978; no flow for several days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	402	835	823	825	824	821	767	834	840	719	769
2	0	463	841	824	825	825	819	731	839	840	750	770
3	0	508	842	820	822	821	815	735	839	840	765	771
4	0	519	839	811	832	820	805	736	835	833	764	771
5	0	513	839	815	829	816	804	743	838	827	770	772
6	0	508	835	809	823	816	808	750	834	830	772	769
7	0	498	835	824	817	813	824	774	835	832	767	118
8	0	489	837	823	824	805	824	831	839	834	770	0.50
9	0	486	812	820	822	805	822	817	840	843	770	0
10	0	486	815	817	829	810	818	834	831	845	768	0
11	0	486	823	812	834	820	805	834	838	834	784	0
12	0	680	819	778	834	827	653	836	839	838	790	0
13	0	694	820	804	832	827	397	818	835	846	789	0
14	0	663	819	801	825	803	736	832	815	845	792	0
15	0	776	823	797	779	805	830	823	833	845	791	0
16	0	776	840	793	814	806	833	845	834	843	740	0
17	0	783	840	803	827	813	838	846	842	840	765	7.4
18	0	783	834	816	833	813	841	847	845	838	761	655
19	0	755	815	811	832	818	840	851	832	822	764	682
20	0	771	830	806	832	818	833	848	843	806	767	649
21	254	747	837	800	834	816	836	844	845	771	764	726
22	410	732	838	793	832	815	825	216	843	718	762	808
23	301	767	837	796	825	845	837	640	843	675	760	810
24	9.1	828	839	812	830	799	755	799	842	505	766	808
25	9.1	835	844	813	827	791	718	818	843	704	768	801
26	237	829	841	796	825	803	717	837	846	716	769	808
27	402	826	826	805	822	797	825	828	847	724	771	813
28	404	821	843	800	816	823	825	831	841	724	756	726
29	402	818	822	810	---	821	726	838	835	724	768	832
30	403	826	816	823	---	823	763	838	839	753	770	833
31	405	---	822	820	---	823	---	838	---	595	768	---
TOTAL	3236.2	20068	25758	25075	23101	25261	23593	24425	25144	24330	23780	14698.90
MEAN	104	669	831	809	825	815	786	788	838	785	767	490
MAX	410	835	844	824	834	845	841	851	847	846	792	833
MIN	0	402	812	778	779	791	397	216	815	505	719	0
AC-FT	6420	39800	51090	49740	45820	50110	46800	48450	49870	48260	47170	29160
CAL YR 1981	TOTAL	160809.00	MEAN 441	MAX 844	MIN 0	AC-FT 319000						
WTR YR 1982	TOTAL	258470.10	MEAN 708	MAX 851	MIN 0	AC-FT 512700						

11414190 DRUM CANAL ABOVE DRUM FOREBAY, NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'50", long 120°43'47", in NE¼SW¼ sec.10, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on right bank 1.2 mi (1.9 km) west of Blue Canyon, and 1.5 mi (2.4 km) upstream from Drum Forebay.

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

GAGE.--Water-stage recorder. Altitude of gage is 4,800 ft (1,463 m), from topographic map.

REMARKS.--Flow represents water diverted from South Yuba River through Spaulding No. 1 powerplant plus diversion from North Fork American River basin by way of Lake Valley Canal (station 11426190). Water from Drum Canal enters the Bear River at Drum Afterbay. See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--18 years, 530 ft³/s (15.01 m³/s), 384,000 acre-ft/yr (473 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 856 ft³/s (24.2 m³/s) May 8, 1982; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	431	829	811	804	769	833	854	833	841	766	791
2	13	483	834	808	803	781	831	835	837	839	791	791
3	13	528	832	807	799	800	824	841	836	841	804	792
4	13	539	832	807	800	805	816	843	831	835	804	790
5	13	535	833	804	791	833	813	840	834	840	807	789
6	13	529	832	803	791	830	814	840	831	831	808	777
7	12	518	822	804	793	827	829	845	831	831	806	186
8	13	509	813	805	793	825	830	856	833	831	810	19
9	13	564	794	806	792	821	824	836	834	833	810	11
10	12	565	799	801	796	821	804	838	829	834	808	11
11	12	505	806	800	802	812	844	844	833	833	821	10
12	12	673	806	797	800	817	414	841	834	833	826	3.0
13	11	720	809	792	791	828	74	825	834	838	824	0
14	10	670	802	790	788	812	494	833	816	837	827	0
15	9.7	772	816	791	773	810	807	828	833	835	825	0
16	9.6	765	824	788	748	812	804	843	833	834	781	0
17	9.2	787	820	789	769	818	808	843	839	834	800	0
18	9.2	773	826	795	790	816	811	843	841	835	799	549
19	9.0	750	813	790	803	814	814	843	830	825	798	623
20	8.7	798	779	769	805	815	819	840	837	809	801	640
21	229	803	813	789	800	823	825	839	838	792	800	693
22	412	773	825	789	789	831	832	162	836	767	798	822
23	342	813	839	788	781	834	837	474	835	748	792	826
24	27	798	837	793	782	842	835	830	834	537	796	828
25	27	800	840	794	783	843	824	845	841	753	799	827
26	233	799	841	782	787	831	830	837	841	762	799	825
27	421	815	836	787	788	806	818	832	841	772	799	829
28	432	817	840	785	783	830	840	829	839	771	796	757
29	425	818	825	793	---	827	845	835	837	770	794	834
30	426	824	789	804	---	828	853	835	837	806	794	842
31	433	---	789	806	---	830	---	837	---	645	793	---
TOTAL	3636.4	20354	25395	24687	22124	25391	23086	24976	25038	24782	24876	14865.0
MEAN	117	678	819	796	790	819	770	806	835	799	802	496
MAX	433	824	841	811	805	843	853	856	841	841	827	842
MIN	8.7	431	779	782	748	769	74	162	816	537	766	0
AC-FT	7210	40370	50370	48970	43880	50360	45790	49540	49660	49160	49340	29480
CAL YR 1981 TOTAL	162964.4		MEAN 446	MAX 841	MIN 8.7	AC-FT 323200						
WTR YR 1982 TOTAL	259210.4		MEAN 710	MAX 856	MIN 0	AC-FT 514100						

SACRAMENTO RIVER BASIN

11414200 SOUTH YUBA CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°18'45", long 120°39'45", in SE¼NE¼ sec.30, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank of concrete flume 400 ft (122 m) downstream from Bowman Lake Road, and 2.5 mi (4.0 km) northeast of Emigrant Gap.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,640 ft (1,414 m), from topographic map.

REMARKS.--Canal diverts from Spaulding No. 2 powerhouse at Lake Spaulding Dam. Downstream from the gage some flow is diverted to Boardman Canal (station 11421720) via the Bear River. The remainder of the water enters Deer Creek at Deer Creek powerhouse. See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--18 years, 94.9 ft³/s (2.688 m³/s), 68,760 acre-ft/yr (84.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 165 ft³/s (4.67 m³/s) Aug. 3, 1965; no flow Apr. 20-22, 1966 and Apr. 6-11, 1971.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	89	139	138	139	137	139	136	138	140	82	84
2	93	91	141	140	139	137	139	137	138	139	82	84
3	90	90	141	140	139	139	138	137	138	139	82	84
4	90	91	141	127	139	139	138	137	138	139	82	84
5	89	91	141	143	139	139	137	138	139	139	82	83
6	90	91	141	138	139	139	137	139	138	102	84	83
7	90	91	141	137	139	138	137	139	139	77	85	82
8	88	94	141	136	138	138	137	139	139	80	85	84
9	86	93	141	136	138	138	137	133	140	81	85	83
10	85	93	141	137	139	139	139	139	140	77	83	83
11	86	90	141	137	140	139	131	138	139	77	83	83
12	84	96	141	137	140	138	123	138	139	77	83	84
13	84	66	141	137	142	139	123	18	140	76	82	90
14	83	65	141	136	137	141	122	18	140	76	81	94
15	81	72	141	135	129	140	123	138	141	75	82	89
16	80	68	143	135	123	140	130	139	140	76	83	86
17	76	70	143	133	138	140	140	140	140	77	82	87
18	79	127	142	133	140	140	141	139	140	76	82	84
19	80	142	128	134	139	140	141	138	140	77	82	82
20	82	147	119	135	139	140	140	138	140	77	82	83
21	84	135	131	135	139	139	138	138	140	77	82	79
22	85	149	142	134	139	140	140	140	140	75	81	75
23	89	138	127	136	138	140	141	133	140	78	81	73
24	80	138	142	139	139	140	138	140	140	82	82	72
25	94	136	141	140	138	140	136	139	140	82	83	73
26	95	135	142	139	139	140	136	139	140	85	84	72
27	96	134	140	139	140	141	137	138	139	84	84	59
28	84	136	140	139	139	140	137	138	140	83	83	50
29	83	136	141	141	---	140	137	138	140	82	84	44
30	84	136	136	142	---	141	112	138	140	81	84	40
31	89	---	134	139	---	139	---	138	---	81	84	---
TOTAL	2670	3232	4304	4247	3866	4320	4044	4037	4185	2767	2566	2333
MEAN	86.1	108	139	137	138	139	135	130	140	89.3	82.8	77.8
MAX	96	149	143	143	142	141	141	140	141	140	85	94
MIN	76	65	119	127	123	137	112	18	138	75	81	40
AC-FT	5300	6410	8540	8420	7670	8570	8020	8010	8300	5490	5090	4630
CAL YR 1981 TOTAL	28528.2	MEAN	78.2	MAX	149	MIN	2.3	AC-FT	56590			
WTH YR 1982 TOTAL	42571.0	MEAN	117	MAX	149	MIN	18	AC-FT	84440			

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'07", long 120°39'27", in SW¼SW¼ sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank 150 ft (46 m) downstream from road bridge, 0.8 mi (1.3 km) downstream from Spaulding Nos. 1 and 2 powerplants, and 1.6 mi (2.6 km) northeast of Emigrant Gap.

DRAINAGE AREA.--120 mi² (311 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 4,432.44 ft (1,351.008 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Lake Spaulding (station 11414140). See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years (water years 1967-82), 86.2 ft³/s (2.441 m³/s), 62,450 acre-ft/yr (77.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft³/s (558 m³/s) Jan. 13, 1980, gage height, 19.6 ft (5.97 m), from floodmarks; minimum daily, 2.1 ft³/s (0.060 m³/s) on several days during July and September 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,100 ft³/s (456 m³/s) Dec. 20, gage height, 17.85 ft (5.441 m); minimum daily, 4.9 ft³/s (0.14 m³/s) Oct. 8, 18, Aug. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	9.2	10	179	26	75	43	992	1280	284	6.0	6.6
2	7.3	7.4	9.8	75	27	94	41	1350	994	99	6.2	6.3
3	7.1	6.6	9.0	50	28	58	43	1770	1080	92	6.0	5.9
4	6.5	6.2	9.2	44	28	47	41	1130	857	90	5.7	5.9
5	6.4	5.8	9.6	44	26	46	39	571	603	43	5.7	5.9
6	5.1	5.6	9.4	44	26	44	37	645	446	7.0	6.0	5.9
7	6.9	5.3	8.8	46	26	43	37	1660	363	6.5	5.9	5.6
8	4.9	5.3	8.6	45	26	44	36	1340	260	6.3	6.0	5.6
9	5.9	6.0	10	45	26	44	37	1250	838	6.0	5.9	5.7
10	11	6.6	14	44	24	70	79	808	951	5.9	5.7	5.6
11	11	6.6	12	42	22	100	275	1150	1040	5.6	5.6	5.6
12	7.8	24	12	41	22	64	973	505	616	5.7	5.6	5.4
13	7.3	71	18	41	39	55	1860	1280	416	5.6	5.4	5.6
14	5.9	56	17	41	164	71	1170	1520	160	5.6	5.7	5.7
15	5.5	48	19	41	300	60	584	1480	517	6.0	5.7	5.9
16	5.5	31	15	41	2720	51	332	1910	712	5.7	4.9	6.2
17	5.8	72	12	41	2080	50	257	1820	916	5.6	4.9	5.4
18	4.9	27	19	41	859	51	273	1440	723	5.6	5.7	11
19	5.2	18	722	40	384	48	339	1450	1480	5.6	5.7	12
20	11	14	12200	38	316	44	533	1520	958	6.0	5.7	8.8
21	6.8	61	3760	38	349	42	629	1940	945	6.0	5.9	6.3
22	6.3	57	1550	38	439	41	744	2920	642	5.9	5.7	5.6
23	5.2	821	797	36	408	41	968	2350	334	5.9	5.7	5.4
24	11	7820	380	31	240	41	1230	2780	458	6.0	5.7	6.6
25	6.0	2420	196	30	125	40	1220	2900	337	5.9	5.6	14
26	5.9	448	99	33	65	42	1170	2980	364	6.0	5.6	10
27	5.7	164	212	33	56	49	1240	2710	308	6.0	5.6	7.5
28	30	77	171	33	56	51	1560	1910	361	5.7	6.2	6.8
29	19	65	165	27	---	48	1550	1570	323	5.4	6.5	6.2
30	14	46	438	24	---	45	1260	879	290	5.4	6.5	5.7
31	12	---	322	26	---	44	---	852	---	5.7	6.3	---
TOTAL	259.6	12410.6	21234.4	1372	8907	1643	18600	49382	19572	760.6	179.3	204.7
MEAN	8.37	414	685	44.3	318	53.0	620	1593	652	24.5	5.78	6.82
MAX	30	7820	12200	179	2720	100	1860	2980	1480	284	6.5	14
MIN	4.9	5.3	8.6	24	22	40	36	505	160	5.4	4.9	5.4
AC-FT	515	24620	42120	2720	17670	3260	36890	97950	38820	1510	356	406
CAL YR 1981 TOTAL	36109.2			MEAN 98.9	MAX 12200	MIN 2.7	AC-FT 71620					
WTR YR 1982 TOTAL	134525.2			MEAN 369	MAX 12200	MIN 4.9	AC-FT 266800					

SACRAMENTO RIVER BASIN

11415500 BOWMAN LAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'01", long 120°39'10", in SE¼SW¼ 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, 4.5 mi (7.2 km) east of Graniteville, and 8 mi (13 km) south of Sierra City.

DRAINAGE AREA.--27.1 mi² (70.2 km²).

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, 68,200 acre-ft (84.1 hm³) between elevations, 5,400 ft (1,645.9 m), bottom of outlet tunnel and 5,563 ft (1,695.6 m), crest of concrete-arch dam. Flashboards are occasionally added, increasing elevation to 5,565.8 ft (1,696.46 m) and capacity to 70,400 acre-ft (86.8 hm³), all of which is available for release. Lake receives water from Middle Yuba River through Milton-Bowman tunnel (station 11408000), and releases it through Bowman-Spaulding Canal (station 11416000) which conveys it to reservoirs of Pacific Gas and Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. See schematic diagram of Yuba River basin. Lake completely drained for inspection and repair Nov. 25 to Dec. 9, 1949, Oct. 1-20, 1966, Oct. 4-29, 1972, Sept. 21-30, 1981.

COOPERATION.--Fifty-three gage-height readings furnished by Nevada Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,000 acre-ft (87.5 hm³) May 30, 1965, elevation, 5,566.5 ft (1,696.67 m); minimum observed under normal operating conditions since reservoir first filled, 1,000 acre-ft (1.23 hm³) Mar. 4, 1931, elevation, 5,430.1 ft (1,655.09 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 69,000 acre-ft (85.1 hm³) several days in June and July, elevation, 5,564.0 ft (1,695.91 m); minimum, 200 acre-ft (0.25 hm³) Oct. 1.

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

5,419.6	0	5,460	6,900
5,425	500	5,470	10,200
5,430	900	5,480	14,200
5,435	1,400	5,510	30,000
5,440	2,100	5,540	49,800
5,450	4,100	5,570	73,800

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	13400	50400	64200	56500	64600	63500	65500	65600	69000	59500	49200
2	800	13800	50400	64100	56200	64600	63500	65700	65600	68900	59100	49000
3	1310	14200	50200	64000	55800	64600	63600	65900	65800	68800	58600	48800
4	1640	14600	50100	64000	55400	64400	63600	66000	66100	68800	58200	48500
5	2220	14900	50000	64000	55200	64400	63400	66000	66400	68700	57700	48300
6	2820	15300	49800	64000	54900	64200	63200	66100	66500	68500	57200	48000
7	3420	15800	49700	63900	54600	64100	63200	66300	66900	68400	56600	47800
8	4100	16200	49700	63600	54300	64000	63000	66300	67600	68300	56000	47700
9	4750	16600	49600	63400	53900	64000	62800	66100	68100	68000	55400	47600
10	5460	17200	49500	63200	53600	64300	63000	65800	68500	67800	54800	47600
11	6180	17600	49400	62800	53200	64800	66500	65600	68800	67500	54200	47600
12	6660	18600	49400	62600	52800	64800	66300	65500	68800	67200	53600	47600
13	6960	22000	49400	62400	52900	64600	65600	65600	68800	66900	53200	47500
14	7020	24100	49400	62000	55200	64500	65200	65600	68800	66600	52500	47400
15	7050	26600	50000	61700	60500	64400	64900	65700	68900	66200	52400	47400
16	7080	28400	50300	61300	65600	64300	64800	65900	68900	65800	52400	47400
17	7170	31100	50300	61000	65600	64200	64700	65900	68900	65400	52400	47500
18	7380	31900	50900	60800	65300	64100	64700	65900	69000	65000	52400	47600
19	7710	32500	58900	60400	65100	64000	64600	65900	69000	64600	52400	47600
20	7950	32900	64800	60300	65000	64000	64600	65900	69000	64100	52400	47600
21	8190	36100	65600	60000	65100	63900	64700	66000	69000	63700	52500	47700
22	8490	39000	65000	59700	65100	63800	64800	66100	68900	63300	52500	47700
23	8820	45500	64700	59400	65000	63700	64800	66400	68800	63000	52500	47700
24	9240	48800	64500	59100	64800	63600	64900	66600	68800	62600	52500	47800
25	9640	49400	64500	58800	64700	63500	65000	66900	68900	62300	52500	48000
26	10100	49900	64400	58500	64600	63400	65000	67200	68900	61900	52400	48000
27	10600	50100	64400	58200	64500	63300	65100	67000	68900	61500	51900	48100
28	11500	50300	64400	57900	64400	63300	65100	66500	68900	61200	51200	48100
29	12000	50400	64500	57500	---	63200	65200	66100	69000	60800	50600	48100
30	12500	50500	64400	57200	---	63300	65300	65900	69000	60400	50000	48200
31	12900	---	64300	56800	---	63500	---	65700	---	60000	49500	---
MAX	12900	50500	65600	64200	65600	64800	66500	67200	69000	69000	59500	49200
MIN	200	13400	49400	56800	52800	63200	62800	65500	65600	60000	49500	47400
a	5476.8	5540.9	5558.1	5548.8	5558.3	5557.1	5559.4	5559.9	5564.0	5552.6	5539.6	5537.7
b	+12900	+37600	+13800	-7500	+7600	-900	+1800	+400	+3300	-9000	-10500	-1300
CAL YR 1981	b	+27800										
WTR YR 1982	b	+48200										

a Elevation, in feet NGVD, 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°39'30", in NW¼SW¼ sec.8, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 0.6 mi (1.0 km) downstream from Bowman Dam, 4.5 mi (7.2 km) east of Graniteville, and 8.5 mi (13.7 km) south of Sierra City.

PERIOD OF RECORD.--October 1927 to current year. Prior to October 1970, published as Bowman-Spauldning Canal at intake or Bowman-Spauldning Canal intake, near Sierra City.

REVISED RECORDS.--WSP 1395: 1935-36, 1940.

GAGE.--Water-stage recorder. Datum of gage is 5,390.39 ft (1,642.991 m) National Geodetic Vertical Datum of 1929. Prior to July 1965 at site 0.3 mi (0.5 km) upstream at different datum.

REMARKS.--Records good. Canal diverts from left bank of Canyon Creek at diversion dam 500 ft (152 m) downstream from Bowman Dam. Water is diverted to Lake Spaulding and after passing through several powerhouses is used for irrigation by Nevada Irrigation District. See diagram of Yuba River basin.

AVERAGE DISCHARGE.--55 years, 159 ft³/s (4.503 m³/s), 115,200 acre-ft/yr (142 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 339 ft³/s (9.60 m³/s) July 24, 1973; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	230	129	118	227	174	238	175	127	260	297	289
2	4.2	231	134	118	226	173	238	176	150	259	295	294
3	4.2	233	133	118	226	173	238	169	166	259	284	298
4	4.2	229	133	118	227	181	238	166	166	260	276	297
5	4.2	222	133	118	235	209	238	110	166	261	282	296
6	4.2	224	133	151	241	238	238	64	169	270	280	295
7	4.2	220	134	207	241	236	238	55	170	270	278	294
8	21	215	134	207	241	236	238	56	198	275	276	294
9	54	216	134	207	245	236	238	57	230	281	276	294
10	55	176	136	206	251	239	242	58	223	280	278	298
11	55	222	135	206	254	149	228	51	215	279	282	304
12	89	217	135	206	253	205	148	113	215	278	280	306
13	167	175	137	213	252	238	148	216	216	283	278	306
14	247	83	138	220	163	238	145	168	216	290	276	306
15	276	150	139	220	79	237	170	167	216	289	82	306
16	291	150	138	220	29	237	187	167	216	286	.10	306
17	291	158	138	220	28	237	185	166	214	291	.10	304
18	293	180	142	221	99	237	184	166	216	301	.10	299
19	251	195	64	221	139	237	183	166	216	300	.10	294
20	220	195	41	222	139	237	182	165	216	299	.10	294
21	221	133	66	223	139	237	181	165	216	297	.10	293
22	215	8.8	119	223	140	237	176	165	227	296	.10	293
23	212	25	117	223	139	237	175	165	237	293	.10	292
24	213	21	152	224	139	237	175	164	241	291	.10	293
25	214	14	177	224	161	237	175	164	245	291	.10	283
26	216	51	178	225	174	237	175	142	251	290	54	250
27	224	66	180	225	172	238	175	128	258	287	277	257
28	229	63	177	225	171	238	175	130	259	292	319	275
29	226	64	164	226	---	238	175	128	258	302	284	282
30	229	84	125	226	---	238	175	127	259	300	293	282
31	229	---	118	226	---	238	---	127	---	298	291	---
TOTAL	4767.4	4450.8	4113	6207	5030	6959	5901	4183	6372	8808	5539.00	8774
MEAN	154	148	133	200	180	224	197	135	212	284	179	292
MAX	293	233	180	226	254	239	242	176	259	302	319	306
MIN	4.2	8.8	41	118	28	149	145	51	127	259	.10	250
AC-FT	9460	8830	8160	12310	9980	13800	11700	8300	12640	17470	10990	17400
CAL YR 1981 TOTAL	55905.80			MEAN 153	MAX 316	MIN 4.2	AC-FT 110900					
WTR YR 1982 TOTAL	71104.20			MEAN 195	MAX 319	MIN .10	AC-FT 141000					

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°20'32", long 120°38'26", in SW¼NW¼ sec.16, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, at outlet of Jordan Creek siphon 0.6 mi (1.0 km) downstream from Fuller Lake, and 3.5 mi (5.6 km) northeast of Emigrant Gap.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,440 ft (1,658 m), from topographic map.

REMARKS.--Records show water diverted from Bowman Lake (station 11415500) plus numerous small tributaries before it enters Lake Spaulding (station 11414140). See schematic diagram of Yuba River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--18 years, 223 ft³/s (6.315 m³/s), 161,600 acre-ft/yr (199 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 331 ft³/s (9.37 m³/s) Dec. 30, 1981; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	237	180	312	272	288	216	324	304	319	298	306
2	0	240	193	289	272	317	205	321	299	316	297	304
3	0	239	191	259	274	306	206	314	311	311	299	304
4	0	239	186	250	274	283	191	318	312	307	296	305
5	0	232	182	252	271	280	181	323	304	304	297	305
6	0	230	180	236	279	303	179	319	296	300	299	305
7	0	224	181	278	281	311	182	322	287	303	300	304
8	0	217	182	295	281	312	180	322	287	303	300	303
9	39	218	174	298	281	312	177	315	308	302	298	301
10	91	183	187	297	285	317	177	298	316	303	296	302
11	91	226	189	294	288	325	162	258	317	304	297	303
12	91	219	184	289	289	313	200	247	320	301	297	303
13	164	292	193	285	294	319	215	304	318	300	295	302
14	178	257	172	294	322	323	251	320	315	301	296	300
15	293	248	170	297	323	318	210	319	314	302	221	300
16	292	283	253	296	310	318	292	322	315	304	43	302
17	294	303	220	294	310	320	310	321	316	301	43	304
18	293	291	203	295	263	322	318	321	318	303	43	306
19	266	271	313	298	281	314	319	322	319	304	7.9	310
20	223	256	302	298	311	316	319	322	318	304	0	309
21	228	273	272	300	320	313	319	322	313	303	0	306
22	231	298	301	298	322	310	319	322	306	302	0	305
23	226	305	302	289	317	309	320	322	306	301	0	305
24	218	301	292	286	299	308	318	322	305	299	0	310
25	216	260	308	284	283	308	320	322	306	299	0	317
26	216	227	312	288	294	308	320	322	307	297	17	313
27	220	218	326	292	292	310	319	321	309	297	176	294
28	261	188	322	290	285	316	320	317	311	296	292	294
29	268	161	326	285	---	317	319	319	314	299	291	302
30	245	151	331	279	---	317	322	313	316	302	307	304
31	236	---	317	276	---	276	---	308	---	299	307	---
TOTAL	4880	7287	7444	8873	8173	9609	7686	9742	9287	9386	5912.9	9128
MEAN	157	243	240	286	292	310	256	314	310	303	191	304
MAX	294	305	331	312	323	325	322	324	320	319	307	317
MIN	0	151	170	236	263	276	162	247	287	296	0	294
AC-FT	9680	14450	14770	17600	16210	19060	15250	19320	18420	18620	11730	18110
CAL YR 1981 TOTAL	68882.00			MEAN 189	MAX 331	MIN 0	AC-FT 136600					
WTR YR 1982 TOTAL	97407.90			MEAN 267	MAX 331	MIN 0	AC-FT 193200					

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA

LOCATION.--Lat 39°26'23", long 120°39'39", in NE¼SE¼ sec.7, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank 1 mi (2 km) downstream from Bowman Dam, 3 mi (5 km) upstream from Texas Creek, and 9 mi (14 km) south of Sierra City.

DRAINAGE AREA.--28.3 mi² (73.3 km²).

PERIOD OF RECORD.--January 1927 to current year.

REVISED RECORDS.--WSP 1315-A: 1930(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder and concrete control. Concrete control covered with rocks Jan. 22, 1970. Altitude of gage is 5,100 ft (1,554 m), from topographic map.

REMARKS.--Records good. Flow regulated by French Lake, usable capacity, 13,840 acre-ft (17.1 hm³), Bowman Lake (station 11415500), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (station 11416000). See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--55 years, 35.5 ft³/s (1.005 m³/s), 25,720 acre-ft/yr (31.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,740 ft³/s (106 m³/s) Jan. 22, 1970, gage height, 9.42 ft (2.871 m) in gage well, 10.32 ft (3.416 m) from floodmarks, from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of slope-area measurement of maximum flow; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,340 ft³/s (37.9 m³/s) Apr. 12, gage height, 7.08 ft (2.158 m); minimum daily, 2.0 ft³/s (0.057 m³/s) Oct. 3, Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	4.4	2.5	160	2.9	121	2.9	291	316	94	3.3	4.0
2	3.0	4.0	2.6	128	3.0	167	3.0	347	224	67	3.2	3.9
3	2.0	3.6	2.5	86	3.1	142	3.7	399	79	33	3.2	3.6
4	2.7	2.4	2.5	99	3.0	105	3.7	434	2.9	15	3.9	3.6
5	3.8	2.3	2.2	104	2.9	77	2.4	457	3.6	7.4	3.8	3.5
6	3.4	2.2	2.1	65	2.9	27	2.5	472	5.1	4.7	3.8	3.5
7	7.1	2.2	2.2	16	2.9	8.6	2.7	503	5.0	4.7	3.9	3.5
8	5.7	2.1	2.1	6.8	2.8	4.1	2.8	541	4.8	4.9	3.8	3.5
9	2.5	2.1	2.3	5.0	2.7	3.8	3.0	525	4.4	5.2	3.6	3.5
10	3.3	2.0	3.7	4.7	2.6	13	12	455	4.3	5.1	3.5	3.6
11	4.4	2.1	2.6	4.5	2.6	195	642	384	4.2	5.1	3.4	3.6
12	3.6	9.5	2.7	4.5	2.6	261	1150	336	30	5.1	3.3	3.3
13	3.4	24	4.6	4.4	11	172	735	315	87	5.0	3.3	3.3
14	3.5	9.4	6.2	4.2	29	148	466	334	76	5.1	3.4	3.2
15	3.5	11	7.2	4.2	62	105	315	353	116	5.2	3.2	3.3
16	3.5	6.0	3.6	4.0	206	65	210	389	175	5.4	5.1	3.4
17	3.3	15	2.8	4.0	643	38	164	430	183	6.1	5.8	3.1
18	3.3	3.9	8.3	3.9	548	20	142	431	201	5.8	5.3	3.0
19	3.2	3.3	61	3.7	385	8.5	140	409	175	5.8	5.6	2.6
20	3.2	2.9	43	3.4	323	4.6	146	405	158	5.8	5.7	2.5
21	3.1	26	428	3.0	303	2.8	129	440	128	5.8	5.6	2.5
22	3.1	7.8	456	2.7	338	2.7	140	463	93	5.8	5.5	2.7
23	3.1	52	282	2.7	318	2.7	181	491	47	5.7	5.5	3.1
24	3.1	19	166	2.8	258	2.8	232	525	23	5.7	5.5	3.3
25	3.0	9.4	70	2.9	200	2.8	255	494	38	5.7	5.4	5.8
26	3.1	3.6	30	3.4	157	2.9	255	505	53	5.5	5.1	3.7
27	3.9	3.1	83	2.9	133	3.9	262	636	56	6.0	4.5	3.1
28	11	2.9	53	2.9	106	3.6	300	602	55	6.3	4.2	3.0
29	4.9	2.8	73	2.9	---	2.9	256	474	69	3.1	4.0	3.0
30	4.4	2.6	182	2.9	---	2.8	247	382	81	3.4	4.0	3.0
31	4.7	---	176	2.9	---	2.8	---	335	---	3.6	4.0	---
TOTAL	120.0	243.6	2165.7	747.3	4054.0	1718.3	6405.7	13557	2497.3	352.0	133.4	100.7
MEAN	3.87	8.12	69.9	24.1	145	55.4	214	437	83.2	11.4	4.30	3.36
MAX	11	52	456	160	643	261	1150	636	316	94	5.8	5.8
MIN	2.0	2.0	2.1	2.7	2.6	2.7	2.4	291	2.9	3.1	3.2	2.5
AC-FT	238	483	4300	1480	8040	3410	12710	26890	4950	698	265	200
CAL YR 1981 TOTAL	3476.9			MEAN 9.53	MAX 456	MIN 1.9	AC-FT 6900					
WTR YR 1982 TOTAL	32095.0			MEAN 87.9	MAX 1150	MIN 2.0	AC-FT 63660					

SACRAMENTO RIVER BASIN

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 (30 m) upstream from Rush Creek, 0.9 mi (1.4 km) downstream from bridge on State Highway 49, and 5 mi (8 km) northwest of Grass Valley.

DRAINAGE AREA.--308 mi² (789 km²).

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.

REVISED RECORDS.--WSP 1315-A: 1942-43(M), drainage area at former site. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,060 ft (323 m), from river-profile map. Oct. 1, 1940, to Sept. 30, 1948, at site 150 ft (46 m) upstream at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good. Flow regulated by Lake Spaulding, Fordyce Lake, Bowman Lake (stations 11414040, 11414090, 11415500), and many smaller reservoirs. Diversions into and out of basin for several powerhouses and for irrigation of about 20,000 acres (81 km²) by the Nevada Irrigation District. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--31 years, 457 ft³/s (12.94 m³/s), 331,100 acre-ft/yr (408 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,600 ft³/s (1,520 m³/s) Dec. 22, 1964, gage height, 25.0 ft (7.62 m) from floodmarks, from rating curve extended above 23,000 ft³/s (651 m³/s) on basis of slope-area measurement of maximum flow; minimum, 1.0 ft³/s (0.028 m³/s) Sept. 10-13, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 30.7 ft (9.36 m) from floodmarks, present datum, at site 100 ft (30 m) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,900 ft³/s (535 m³/s) Dec. 20, gage height, 16.86 ft (5.139 m); minimum daily, 39 ft³/s (1.10 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	94	346	2700	558	1150	1360	2150	1800	591	67	53
2	39	129	301	1740	537	2020	1460	2500	1480	432	67	52
3	40	76	273	1290	537	1330	3880	2890	1400	281	67	52
4	44	65	255	1560	512	1050	2320	2670	1190	239	67	52
5	43	63	234	2160	476	908	1600	2040	906	211	67	53
6	42	60	220	1390	453	785	1380	1810	841	170	67	52
7	68	58	209	1050	436	703	1140	2620	750	141	66	52
8	80	55	206	873	423	660	1030	2750	457	134	72	51
9	54	53	214	809	407	626	1010	2430	796	128	70	50
10	50	51	350	766	395	862	1750	1830	1220	123	65	51
11	92	52	271	739	374	1910	9700	2170	1160	120	62	51
12	117	132	250	698	361	1610	7610	1490	733	116	62	51
13	70	1160	401	638	451	1240	6020	1810	647	114	61	50
14	58	1390	490	607	2730	1440	4900	2260	578	109	60	50
15	52	676	518	585	7140	1300	3600	2240	632	105	60	51
16	48	741	512	565	10100	1120	2670	2440	865	104	60	57
17	47	1680	401	548	5850	1010	2240	2960	980	99	62	68
18	46	636	468	567	3540	967	2010	2280	1110	98	67	77
19	45	378	6250	573	2320	883	1990	2240	1330	95	67	92
20	45	280	16200	573	1890	795	2090	2250	1340	92	65	76
21	44	1590	7570	555	1760	737	2080	2670	1150	91	65	65
22	44	1660	4010	498	1750	697	2120	3520	851	88	64	62
23	43	3790	2480	483	1680	665	2300	3270	575	86	62	58
24	42	11300	1650	486	1370	642	2570	3730	515	85	61	69
25	48	3100	1110	514	1070	629	2560	3800	501	82	58	112
26	46	1520	859	1020	899	629	2450	3850	522	80	58	238
27	48	912	1840	941	836	656	2420	3980	487	79	62	101
28	336	639	1240	823	759	821	2740	2970	532	77	57	80
29	319	485	2320	703	---	801	2690	2520	502	78	65	72
30	164	413	3590	624	---	1100	2440	1720	575	72	56	68
31	110	---	2670	583	---	2640	---	1440	---	70	54	---
TOTAL	2368	33238	57708	27661	49614	32386	84130	79300	26425	4390	1963	2066
MEAN	76.4	1108	1862	892	1772	1045	2804	2558	881	142	63.3	68.9
MAX	336	11300	16200	2700	10100	2640	9700	3980	1800	591	72	238
MIN	39	51	206	483	361	626	1010	1440	457	70	54	50
AC-FT	4700	65930	114500	54870	98410	64240	166900	157300	52410	8710	3890	4100
CAL YR 1981	TOTAL	138135	MEAN	378	MAX	16200	MIN	28	AC-FT	274000		
WTR YR 1982	TOTAL	401249	MEAN	1099	MAX	16200	MIN	39	AC-FT	795900		

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 (610 m) downstream from Englebright Dam, 0.5 mi (0.8 km) upstream from Deer Creek, and 2.3 mi (3.7 km) northeast of Smartville.

DRAINAGE AREA.--1,108 mi² (2,870 km²).

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 and crest-stage gages. Datum of gage is 278.68 ft (84.942 m) National Geodetic Vertical Datum of 1929 (levels by International Engineering Co.). Prior to Sept. 19, 1958, at site 2,000 ft (610 m) upstream at datum 248.31 ft (75.685 m) higher and Sept. 19, 1958, to Sept. 30, 1969, at datum 278.68 ft (84.942 m) lower. Supplementary gage 2,000 ft (610 m) upstream since Oct. 1, 1969, at Englebright Dam at datum 248.31 ft (75.685 m) higher.

REMARKS.--Records good. Diversions out of basin for power and irrigation above station up to 1,800 ft³/s (51.0 m³/s), see stations 11413250, 11414190, 11414200. Flow regulation by Lake Spaulding (station 11414140), Jackson Meadows and New Bullards Bar Reservoirs (stations 11407800, 11413515), Englebright Reservoir beginning in 1941, capacity, 70,000 acre-ft (86.3 hm³), Bowman and Fordyce Lakes (stations 11415500, 11414090), and many smaller reservoirs. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--41 years, 2,514 ft³/s (71.20 m³/s), 1,821,000 acre-ft/yr (2.25 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 171,000 ft³/s (4,840 m³/s) Dec. 22, 1964, gage height, 546.14 ft (166.463 m) site and datum then in use; no flow through powerplant, from rating curve extended above 25,000 ft³/s (708 m³/s) on basis of computation of peak flow over spillway of dam at gage heights 544.72 ft (166.031 m) and 546.14 ft (166.463 m); no flow at times in 1942, 1949, 1956, 1958-61, 1968-69.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 50,000 ft³/s (1,420 m³/s) Dec. 20, gage height, 24.85 ft (7.574 m); minimum daily, 510 ft³/s (14.4 m³/s) Oct. 1-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	510	595	2920	21900	4180	6400	6830	7250	5420	3200	3160	2850
2	510	595	2740	18200	4080	8050	6570	6580	5050	3100	2980	2760
3	510	624	2740	12400	4120	6980	12800	7710	4940	3100	2850	1980
4	510	639	2750	10200	4110	6300	9520	7350	4760	2800	2820	2830
5	556	639	2700	11500	4100	5980	7380	7400	4510	2220	2840	2860
6	590	639	2670	7800	4100	5750	6690	6910	4370	2770	2840	2850
7	1280	639	2660	5850	4100	5620	5650	7560	4200	3120	2840	2860
8	1640	639	2640	4790	4090	5400	5060	8210	4080	3170	2830	2860
9	604	639	2640	4540	4080	4420	4950	7530	2350	3150	2820	2860
10	586	639	2650	4440	4080	4370	5400	7120	2540	2340	2820	2850
11	587	639	2680	4380	4070	6680	26300	6920	3410	2360	2860	2860
12	592	639	2700	4320	4070	6540	29800	6250	4040	2940	2860	2850
13	595	839	2710	4260	4060	5540	27100	5960	3660	3130	2840	2850
14	595	3900	2950	4200	6000	5680	26100	5990	3750	3120	2840	2850
15	595	2630	3200	4190	21200	5860	24200	6010	4010	3190	2840	2850
16	593	1640	3190	4130	32500	5460	20200	6010	3840	2940	2840	2850
17	586	2470	3190	4110	22200	5200	16400	7260	4040	2360	2830	2840
18	586	1580	3230	4110	16600	5090	15100	7910	4040	2380	2860	2860
19	586	1510	14300	4110	14100	5080	12200	8380	4030	2860	2840	2920
20	586	1430	42400	4110	12900	4830	8420	8320	4030	3100	2830	1210
21	586	1430	19700	4270	12200	4670	8260	8720	4020	3110	2840	690
22	586	3400	11400	4200	12000	4560	8480	9410	4010	3150	2850	677
23	586	5810	8320	4120	11500	4480	8490	9760	4010	3150	2850	676
24	584	20900	6370	4110	10600	4420	8210	10400	3490	3140	2850	1330
25	590	5950	5520	4110	9950	4370	8240	10800	2970	3140	2850	3040
26	590	3970	5070	4340	8430	4350	8070	11200	3230	3160	2850	3100
27	598	3830	6570	4830	6560	4350	8000	10300	3240	3180	2850	3610
28	600	3260	6170	4640	6350	4560	8310	8860	3180	3180	2850	3760
29	599	3260	12000	4570	---	4550	8270	6790	3120	3170	2840	3690
30	595	3270	19400	4360	---	4210	7530	6340	3130	3140	2830	3560
31	595	---	20100	4250	---	9070	---	5030	---	3130	2850	---
TOTAL	19706	78644	228280	191340	256330	168820	358530	240240	115470	92000	88550	78633
MEAN	636	2621	7364	6172	9155	5446	11950	7750	3849	2968	2856	2621
MAX	1640	20900	42400	21900	32500	9070	29800	11200	5420	3200	3160	3760
MIN	510	595	2640	4110	4060	4210	4950	5030	2350	2220	2820	676
AC-FT	39090	156000	452800	379500	508400	334900	711100	476500	229000	182500	175600	156000
CAL YR 1981 TOTAL	548351	MEAN	1502	MAX	42400	MIN	480	AC-FT	1088000			
WTR YR 1982 TOTAL	1916543	MEAN	5251	MAX	42400	MIN	510	AC-FT	3801000			

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 (122 m) upstream from county road bridge, 0.9 mi (1.4 km) upstream from mouth, and 2 mi (3 km) northeast of Smartville.

DRAINAGE AREA.--84.6 mi² (219.1 km²).

PERIOD OF RECORD.--June 1935 to current year.

REVISED RECORDS.--WSP 1395: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 630 ft (192 m), from river-profile map. June 21, 1935, to Nov. 30, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good. Natural flow of stream is affected by Scotts Flat Reservoir beginning in 1949, usable capacity, 26,300 acre-ft (32.4 hm³), increased to 49,000 acre-ft (60.4 hm³) in July 1964, Deer Creek Reservoir, capacity, 1,400 acre-ft (1.73 hm³), Lake Wildwood, capacity, 3,840 acre-ft (4.73 hm³) 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.

AVERAGE DISCHARGE.--47 years, 129 ft³/s (3.653 m³/s), 93,460 acre-ft/yr (115 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s (329 m³/s) Oct. 13, 1962, gage height, 13.77 ft (4.197 m), from rating curve extended above 5,200 ft³/s (147 m³/s); minimum daily, 0.06 ft³/s (0.002 m³/s) Aug. 5, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1928 reached a stage of 14.5 ft (4.42 m) from floodmarks, discharge, 14,000 ft³/s (396 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,640 ft³/s (216 m³/s) Dec. 19, gage height, 11.43 ft (3.484 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	15	69	1430	250	480	1070	215	52	19	3.2	2.8
2	2.2	14	58	979	253	874	1360	200	50	19	2.5	3.0
3	1.7	15	50	658	255	578	3570	188	47	16	2.0	3.0
4	1.9	14	44	1990	208	455	1190	168	43	13	2.1	4.6
5	1.6	13	37	2000	183	393	737	148	46	9.9	2.2	4.6
6	1.2	13	34	703	180	351	647	136	44	6.3	2.4	3.8
7	8.2	10	33	491	175	329	502	121	41	5.7	3.2	2.8
8	3.7	9.7	30	403	168	320	436	101	35	4.3	5.1	4.6
9	2.3	8.6	48	353	161	294	397	94	28	4.1	3.9	2.2
10	3.3	89	189	324	157	360	660	91	23	3.7	3.3	2.3
11	14	133	73	303	150	833	3340	80	22	3.7	3.2	3.6
12	13	163	67	287	145	575	2250	71	26	3.1	3.5	3.0
13	7.4	640	114	271	350	445	1480	65	26	2.7	3.7	2.9
14	4.9	589	94	259	1150	592	1300	57	22	2.5	4.4	2.2
15	4.6	113	108	247	3090	647	1070	49	20	2.2	4.3	2.6
16	2.9	128	101	236	3300	587	847	42	18	3.0	3.4	4.4
17	1.7	887	70	228	1650	549	704	39	16	3.5	3.8	5.6
18	1.7	162	303	224	982	664	607	36	15	4.6	3.6	18
19	1.9	94	3220	238	800	667	543	31	15	4.0	3.5	28
20	3.3	67	3810	336	662	443	491	29	15	3.3	3.9	15
21	4.0	1600	596	469	570	374	449	28	14	3.1	5.3	12
22	3.2	550	309	283	480	353	413	71	15	3.1	5.2	9.5
23	3.2	1010	213	225	437	325	389	81	13	2.8	3.1	7.8
24	3.0	1280	157	220	400	299	369	73	10	3.1	3.0	14
25	2.8	226	135	217	369	292	348	71	11	3.5	2.5	29
26	2.8	280	121	620	352	306	332	61	16	2.9	2.7	42
27	6.3	235	145	542	331	301	319	58	11	2.4	3.1	22
28	154	268	116	542	279	396	294	57	8.1	2.3	3.8	14
29	171	117	997	406	---	567	270	54	17	2.5	4.1	10
30	36	82	745	309	---	975	241	53	21	2.5	3.1	4.8
31	20	---	946	270	---	3540	---	51	---	3.0	2.9	---
TOTAL	490.5	8825.3	13032	16063	17487	18164	26625	2619	740.1	164.8	106.0	281.7
MEAN	15.8	294	420	518	625	586	888	84.5	24.7	5.32	3.42	9.39
MAX	171	1600	3810	2000	3300	3540	3570	215	52	19	5.3	42
MIN	1.2	8.6	30	217	145	292	241	28	8.1	2.2	2.0	2.2
AC-FT	973	17500	25850	31860	34690	36030	52810	5190	1470	327	210	559
a	25440	32938	49090	48808	48764	48808	48764	48453	47170	43768	39207	35789

CAL YR 1981 TOTAL 32990.65 MEAN 90.4 MAX 3810 MIN .95 AC-FT 65440
WTR YR 1982 TOTAL 104598.40 MEAN 287 MAX 3810 MIN 1.2 AC-FT 207500

a Contents, in acre-feet, at end of month for Scotts Flat Reservoir, furnished by Nevada Irrigation District.
NOTE.--No gage-height record Feb. 2-22.

11421000 YUBA RIVER NEAR MARYSVILLE, CA

LOCATION.--39°10'33", long 121°31'26", in New Helvetia Grant, Yuba County, Hydrologic Unit 18020107, on left bank 4.2 mi (6.8 km) northeast of Marysville, and 5 mi (8 km) downstream from Dry Creek.

DRAINAGE AREA.--1,339 mi² (3,468 km²).

PERIOD OF RECORD.--October 1940 to September 1943 (low-water periods only), October 1943 to current year. Published as "at Marysville" October 1940 to September 1957. 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. Datum of gage is 2.95 ft (0.899 m) below National Goodetic 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 (6.8 km) downstream at same datum. Sept. 3, 1963, to Sept. 23, 1968, auxiliary water-stage recorder at Simpson Lane Bridge in Marysville 4.2 mi (6.8 km) downstream at same datum.

REMARKS.--Records good. Flow regulated by several reservoirs above station. Many diversions above station for power. Diversions for irrigation of about 13,000 acres (53 km²) between stations below Englebright Dam and near Marysville. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--39 years (water years 1944-82), 2,535 ft³/s (71.79 m³/s), 1,837,000 acre-ft/yr (2.27 km³/yr).

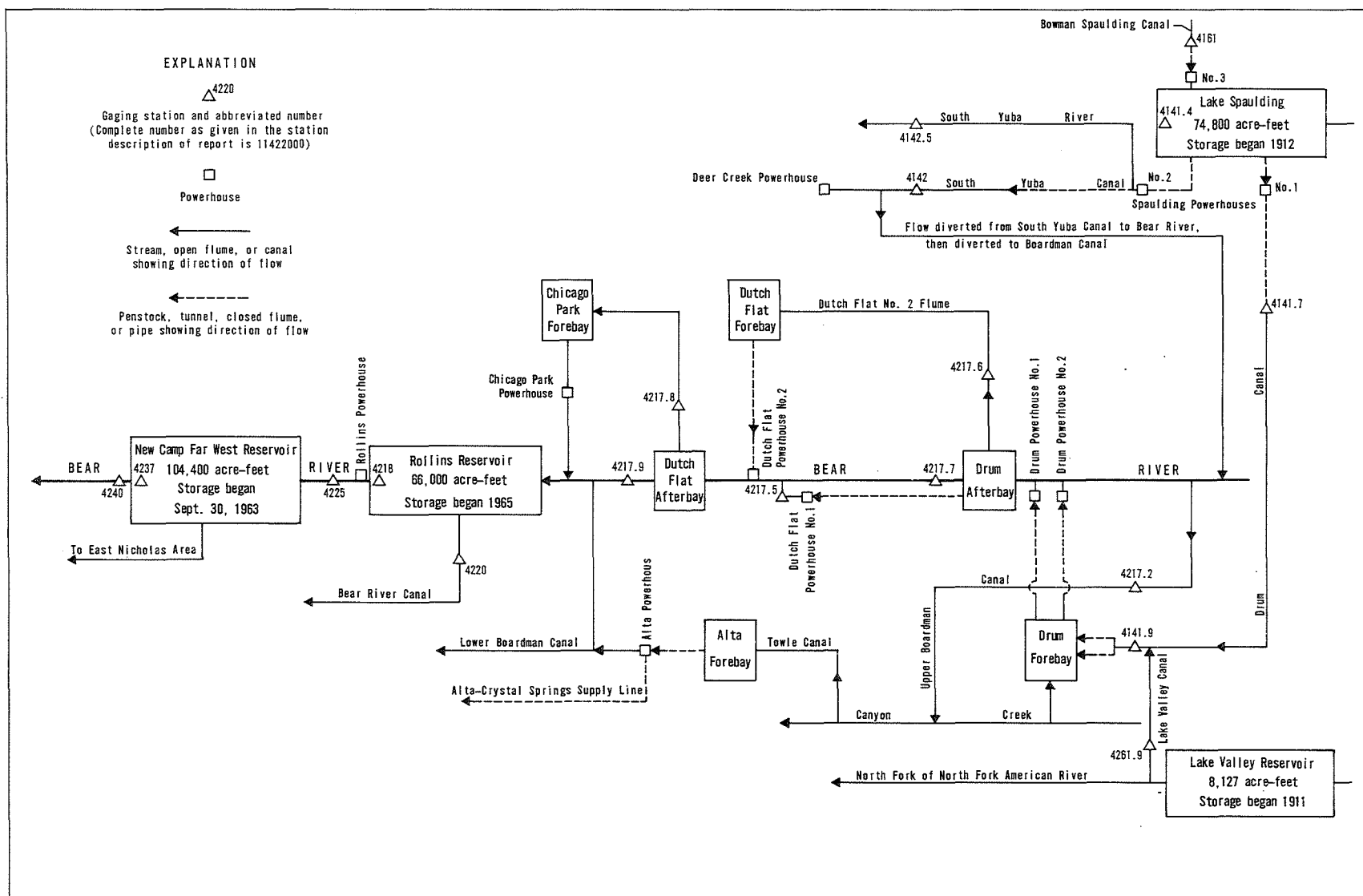
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944, 1947-82), 180,000 ft³/s (5,100 m³/s) Dec. 22, 1964, gage height, 90.15 ft (27.478 m) from floodmarks, from rating curve extended above 91,000 ft³/s (2,580 m³/s) on basis of Corps of Engineers flood routing study; minimum recorded, 10 ft³/s (0.28 m³/s) July 2, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64,900 ft³/s (1,840 m³/s) Dec. 20, gage height, 78.45 ft (23.912 m); minimum daily, 369 ft³/s (10.5 m³/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	492	394	3280	24200	4890	8000	11000	7320	5000	2910	2860	2740
2	441	382	2960	20400	4760	10300	9340	6530	4810	2840	2780	2740
3	438	396	2930	14700	4760	9250	20000	7230	4590	2850	2570	1890
4	437	439	2920	13900	4760	8130	13900	7080	4460	2730	2540	2710
5	450	441	2870	16800	4680	7670	9860	7040	4230	2070	2540	2820
6	460	441	2810	10300	4630	7290	8840	6590	4040	2290	2550	2800
7	781	438	2810	7600	4610	7050	7460	6880	3860	2840	2530	2800
8	1560	436	2770	6100	4590	6910	6560	7550	3750	2910	2540	2790
9	773	436	2780	5580	4560	5800	6190	6960	2430	2920	2530	2800
10	448	479	2940	5330	4550	5580	6690	6750	2210	2270	2550	2850
11	425	542	2860	5180	4530	8860	29500	6360	2780	2130	2580	2880
12	432	617	2880	5080	4500	9050	35500	5930	3510	2490	2600	2900
13	412	950	2960	4910	4530	7420	32000	5540	3370	2840	2570	2890
14	403	4400	3080	4820	6250	7370	30600	5540	3180	2830	2570	2890
15	403	3190	3390	4760	23400	7840	28500	5550	3570	2870	2590	2890
16	399	1850	3400	4750	43800	7390	24500	5720	3430	2780	2600	2890
17	390	3190	3360	4760	28000	7120	19000	6170	3590	2080	2600	2900
18	390	2040	3660	4750	20400	7030	17300	7100	3600	2050	2600	2940
19	390	1620	13100	4790	17000	7440	14500	7700	3600	2310	2590	3010
20	391	1540	53900	5070	15200	6560	9970	7640	3610	2610	2610	1980
21	391	2900	27700	5610	14100	6130	9460	7920	3600	2560	2630	816
22	390	4570	14600	5150	13700	5880	9320	8380	3610	2630	2640	742
23	389	4580	9760	4880	13100	5690	9280	9260	3590	2660	2640	714
24	389	22100	7200	4810	12100	5550	8800	9460	3310	2680	2670	823
25	395	7800	6060	4790	11400	5430	8810	9920	2650	2640	2670	2900
26	376	4750	5420	5500	10300	5390	8580	10400	2890	2760	2680	3100
27	369	4560	6470	6340	8260	5370	8350	9570	2880	2800	2680	3500
28	524	3980	6260	5980	7880	5650	8470	8560	2820	2830	2700	3760
29	617	3650	11400	5850	---	6090	8450	6520	2740	2970	2710	3760
30	465	3570	21300	5270	---	6150	7670	6300	2780	2900	2710	3640
31	413	---	20600	5030	---	16600	---	4770	---	2860	2710	---
TOTAL	15033	86681	258430	232990	305240	225990	428400	224240	104490	81910	81340	78865
MEAN	485	2889	8336	7516	10900	7290	14280	7234	3483	2642	2624	2629
MAX	1560	22100	53900	24200	43800	16600	35500	10400	5000	2970	2860	3760
MIN	369	382	2770	4750	4500	5370	6190	4770	2210	2050	2530	714
AC-FT	29820	171900	512600	462100	605400	448300	849700	444800	207300	162500	161300	156400

CAL YR 1981 TOTAL 533587 MEAN 1462 MAX 53900 MIN 165 AC-FT 1058000
WTR YR 1982 TOTAL 2123609 MEAN 5818 MAX 53900 MIN 369 AC-FT 4212000



LOCATION.--Lat 39°17'49", long 120°42'08", in SE¼NE¼ sec.35, T.17 N., R.11 E., Placer County, Hydrologic Unit 18020126, on right bank 0.4 mi (0.6 km) downstream from Boardman diversion dam, and 1.8 mi (2.9 km) west of Emigrant Gap.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,490 ft (1,370 m), from topographic map. Prior to June 14, 1967, water-stage recorder 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Water is diverted from Bear River to be used for power development and irrigation in the Bear River basin. See schematic diagram of Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft³/s (1.22 m³/s) Dec. 21, 1964; no flow for several days in most years.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	27	10	14	13	.39	5.5	.14	23	25	22	25
2	24	27	10	13	13	.17	6.3	.14	23	24	22	25
3	21	27	10	13	13	.08	12	.14	24	24	22	24
4	21	28	11	13	13	.06	19	.14	24	25	22	25
5	20	28	11	13	8.1	.06	15	.10	24	25	23	25
6	19	28	11	13	.11	.06	7.7	.10	24	23	24	25
7	20	28	12	13	.10	.06	1.8	.10	24	19	24	24
8	18	28	12	13	.10	.06	.10	.10	24	20	24	24
9	18	28	12	13	.10	.04	.09	.10	24	20	24	23
10	19	28	12	13	.10	.45	12	.10	24	20	23	24
11	19	28	12	13	.10	.59	30	.10	24	20	23	25
12	19	22	12	13	.10	.10	1.7	.08	24	20	23	25
13	18	17	12	13	.18	.08	.24	.06	24	20	23	25
14	17	4.9	12	13	1.1	.20	.30	.06	24	20	23	25
15	16	3.2	12	13	1.2	.10	.24	.06	23	20	24	25
16	16	2.7	12	13	.27	.11	.20	.06	22	20	23	25
17	17	5.1	12	13	.07	.10	.21	.06	22	20	23	24
18	17	3.5	12	13	.06	.11	.22	.04	22	20	23	24
19	17	4.9	7.6	13	.06	.09	.22	.03	22	20	23	25
20	17	8.5	1.1	13	.06	.06	.21	.03	20	21	23	25
21	16	7.2	11	13	.06	.06	.19	.03	21	21	23	24
22	19	5.1	10	13	.06	.06	.20	.03	24	21	24	25
23	24	4.1	9.9	13	.06	.06	.21	.03	24	21	24	25
24	24	4.5	9.9	13	.06	.06	.19	.03	24	20	24	26
25	24	11	9.9	13	.05	.06	.19	.03	25	21	23	27
26	26	11	10	13	.03	.06	.19	13	25	22	24	26
27	28	11	10	13	.03	.29	.19	23	25	22	24	10
28	23	10	9.9	13	.03	.19	.19	23	25	23	24	.06
29	25	10	11	13	---	.23	.15	23	25	22	25	.06
30	29	10	10	13	---	.78	.14	22	25	22	25	.06
31	28	---	11	13	---	1.3	---	23	---	22	25	---
TOTAL	645	460.8	328.3	404	64.19	6.12	114.87	128.89	708	663	726	655.18
MEAN	20.8	15.4	10.6	13.0	2.29	.20	3.83	4.16	23.6	21.4	23.4	21.8
MAX	29	28	12	14	13	1.3	30	23	25	25	25	27
MIN	16	2.7	1.1	13	.03	.04	.09	.03	20	19	22	.06
AC-FT	1280	914	651	801	127	12	228	256	1400	1320	1440	1300
CAL YR 1981	TOTAL	5902.97	MEAN 16.2	MAX 31	MIN 0	AC-FT	11710					
WTR YR 1982	TOTAL	4904.35	MEAN 13.4	MAX 30	MIN .03	AC-FT	9730					

SACRAMENTO RIVER BASIN

11421750 DUTCH FLAT NO. 1 POWERPLANT NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°13'02", long 120°50'04", in SW¼SE¼ sec.27, T.16 N., R.10 E., Placer County, Hydrologic Unit 18020126, at powerplant 0.8 mi (1.3 km) north of Dutch Flat.

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

GAGR.--Recorded powerplant output.

REMARKS.--Water is diverted from Drum Afterbay through a tunnel to Dutch Flat No. 1 powerplant and returned to Dutch Flat Afterbay. See schematic diagram showing diversion and storage in Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--18 years, 243 ft³/s (6.882 m³/s), 176,100 acre-ft/yr (217 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 571 ft³/s (16.2 m³/s) Apr. 13, May 9, 1982; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	205	448	529	543	408	487	557	418	418	253	212
2	0	212	487	543	543	428	448	543	438	408	270	278
3	0	189	428	529	359	543	368	543	398	438	303	212
4	0	236	418	438	398	428	388	557	320	428	220	245
5	0	150	388	428	418	487	408	529	388	398	245	312
6	0	150	461	438	408	529	418	515	448	418	349	228
7	0	119	461	408	428	557	461	529	448	349	228	36
8	0	158	428	438	378	543	448	543	428	359	236	0
9	0	142	448	461	428	529	487	571	408	339	245	0
10	0	166	398	428	438	543	501	557	428	270	220	0
11	0	111	461	388	428	543	529	543	388	339	339	0
12	0	330	474	398	461	543	529	543	388	408	378	0
13	0	205	487	368	448	543	571	557	448	320	330	0
14	0	487	448	408	543	448	543	515	378	359	398	0
15	0	448	339	349	543	378	557	543	388	330	339	0
16	9.9	388	438	349	529	388	557	557	428	312	330	0
17	0	378	501	349	529	408	557	543	438	286	278	0
18	0	438	448	368	515	388	515	543	448	388	236	418
19	0	320	529	398	501	461	529	557	461	320	270	253
20	0	378	529	408	388	398	529	557	428	320	245	197
21	181	501	529	359	428	330	543	529	448	270	245	228
22	349	474	529	398	418	388	529	63	448	236	278	189
23	228	529	501	312	448	378	557	349	428	205	212	212
24	9.9	529	529	378	398	448	543	339	474	103	228	189
25	55	529	448	330	418	448	501	398	398	270	228	245
26	220	474	428	418	398	398	543	408	428	270	253	205
27	428	438	529	487	515	474	543	408	398	261	253	205
28	349	461	515	330	529	408	557	408	408	220	228	228
29	303	461	543	349	---	438	543	398	388	270	205	220
30	228	461	529	349	---	368	529	448	359	303	245	205
31	303	---	543	408	---	359	---	398	---	205	205	---
TOTAL	2663.8	10067	14642	12541	12778	13930	15218	15048	12492	9820	8292	4517
MEAN	85.9	336	472	405	456	449	507	485	416	317	267	151
MAX	428	529	543	543	543	557	571	571	474	438	398	418
MIN	0	111	339	312	359	330	368	63	320	103	205	0
AC-FT	5280	19970	29040	24880	25350	27630	30180	29850	24780	19480	16450	8960

CAL YR 1981 TOTAL 71714.40 MEAN 196 MAX 543 MIN 0 AC-FT 142200
WTR YR 1982 TOTAL 132008.80 MEAN 362 MAX 571 MIN 0 AC-FT 261800

LOCATION.--Lat 39°15'16", long 120°46'28", in SE¼NE¼ sec.18, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on left bank 600 ft (183 m) downstream from Drum Afterbay, and 3.6 mi (5.8 km) west of Blue Canyon.

GAGE.--Water-stage recorder. Datum of gage is 3,348.09 ft (1,020.498 m) National Geodetic Vertical Datum of 1929 (levels by Nevada Irrigation District).

AVERAGE DISCHARGE.--16 years, 341 ft³/s (9.657 m³/s), 247,100 acre-ft/yr (305 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 610 ft³/s (17.3 m³/s) Mar. 1, 1968; no flow at times in most years.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	154	459	527	2.2	492	520	0	454	471	440	525
2	.50	268	482	534	145	306	533	0	455	437	459	521
3	.50	308	481	532	485	5.3	532	0	466	426	407	456
4	.50	282	488	531	489	380	525	0	520	418	510	455
5	5.0	316	490	532	485	109	530	0	451	390	520	408
6	5.0	349	491	531	492	2.2	501	0	409	406	371	402
7	5.0	352	429	531	492	2.2	527	0	448	399	516	32
8	5.0	332	488	531	496	2.2	536	0	431	405	516	3.6
9	.50	289	492	534	499	2.2	532	0	275	438	524	3.6
10	.50	321	501	533	489	2.2	257	0	599	493	519	2.5
11	.50	350	407	530	489	2.2	151	0	446	432	410	2.4
12	.50	379	438	534	482	2.1	135	0	444	423	437	2.4
13	.50	486	444	532	487	13	34	0	443	425	379	2.4
14	.50	381	508	539	477	527	.84	0	459	420	381	2.4
15	.50	435	500	538	480	538	.75	0	455	433	433	2.4
16	.50	446	425	538	485	546	.28	0	452	449	391	2.2
17	.50	435	513	538	498	542	0	1.2	470	431	485	3.4
18	.50	477	511	531	491	537	0	2.4	430	436	471	404
19	.50	471	522	525	494	454	0	5.9	457	436	492	570
20	.50	476	526	530	493	522	0	61	445	430	481	306
21	.50	458	533	506	492	528	0	85	456	430	498	482
22	.50	486	538	531	491	518	0	52	447	433	490	572
23	.50	422	534	529	489	498	0	527	457	467	504	574
24	.50	471	533	534	489	496	0	535	462	520	497	574
25	.50	488	535	535	472	507	0	451	462	430	511	574
26	.50	428	534	527	501	514	0	438	467	424	510	572
27	.50	385	534	528	502	530	0	436	464	432	514	573
28	103	452	541	532	502	523	0	433	460	464	506	572
29	128	476	536	531	---	527	0	461	458	453	540	570
30	169	412	535	529	---	526	0	432	461	458	495	577
31	115	---	526	142	---	466	---	461	---	405	516	---
TOTAL	546.50	11785	15474	16075	12888.2	10619.6	5314.87	4381.5	13603	13514	14723	9746.3
MEAN	17.6	393	499	519	460	343	177	141	453	436	475	325
MAX	169	488	541	539	502	546	536	535	599	520	540	577
MIN	.50	154	407	142	2.2	2.1	0	0	275	390	371	2.2
AC-FT	1080	23380	30690	31880	25560	21060	10540	8690	26980	26810	29200	19330
CAL YR 1981	TOTAL	91845.00	MEAN	252	MAX	588	MIN	.50	AC-FT	182200		
WTR YR 1982	TOTAL	128670.97	MEAN	353	MAX	599	MIN	0	AC-FT	255200		

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'26", in SW¼NW¼ sec.17, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on left bank 60 ft (18 m) downstream from Drum Afterbay Dam, and 3.5 mi (5.6 km) west of Blue Canyon.

DRAINAGE AREA.--12.3 mi² (31.9 km²).

PERIOD OF RECORD.--April 1966 to current year, low flows only April to September 1966.

GAGE.--Water-stage recorder and 4-ft (1.2 m) steel Cipolletti weir set in a concrete broad-crested weir. Altitude of gage is 3,300 ft (1,006 m), 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 (305 m) downstream at different datum.

REMARKS.--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 collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 18.3 ft³/s (0.518 m³/s), 13,260 acre-ft/yr (16.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,530 ft³/s (213 m³/s) Apr. 11, 1982, gage height, 4.64 ft (1.414 m), from rating curve extended above 900 ft³/s (25.5 m³/s); minimum daily, 1.0 ft³/s (0.028 m³/s) Dec. 9, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,530 ft³/s (213 m³/s) Apr. 11; minimum daily, 4.5 ft³/s (0.13 m³/s) Feb. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	5.2	5.1	4.9	323	114	16	462	10	10	10	10
2	4.9	5.1	5.2	5.3	127	284	11	457	10	11	10	10
3	4.9	5.3	5.2	5.1	5.1	419	54	463	10	10	10	10
4	4.8	4.9	5.2	5.2	5.1	178	84	451	10	10	10	10
5	4.8	5.1	5.1	5.2	5.3	412	10	476	10	10	10	10
6	4.9	5.0	5.2	5.2	5.2	469	10	490	10	10	10	10
7	5.1	5.0	5.2	5.2	5.2	438	10	481	10	10	10	10
8	5.1	5.1	5.2	5.3	5.1	318	10	478	10	10	10	10
9	5.1	5.2	5.0	5.3	5.2	371	10	430	10	10	10	10
10	5.1	4.8	5.0	5.2	5.2	478	684	456	10	10	10	11
11	5.1	4.8	5.2	5.2	5.2	705	1750	466	11	10	10	9.3
12	5.2	5.0	5.1	5.2	5.2	499	534	463	10	10	10	8.2
13	5.1	5.0	5.1	5.3	5.2	414	213	433	10	11	10	9.6
14	5.1	5.1	5.1	5.2	369	54	728	483	10	10	10	11
15	5.1	5.5	5.1	5.3	915	10	498	450	10	10	10	10
16	5.0	5.3	5.2	5.3	911	10	451	451	10	10	10	10
17	4.8	5.1	5.1	5.2	122	10	448	465	10	10	10	9.9
18	4.6	5.1	5.3	5.2	97	10	452	465	11	10	10	10
19	5.0	5.1	1100	5.2	90	10	497	451	10	10	10	10
20	5.3	5.2	152	5.2	89	10	486	448	10	10	10	10
21	5.0	60	75	5.1	81	10	491	476	10	10	10	11
22	5.2	5.1	5.2	5.4	63	10	483	127	10	10	10	29
23	5.4	517	5.2	5.2	22	10	504	11	10	10	10	49
24	5.2	57	5.3	5.4	62	10	481	11	10	10	10	32
25	5.1	110	5.4	5.2	4.5	10	493	11	10	10	10	10
26	4.8	52	5.1	5.1	5.2	10	524	11	10	10	10	10
27	5.1	16	5.2	5.0	5.3	10	488	11	10	10	10	10
28	5.0	5.4	5.2	5.4	5.3	10	476	11	11	10	10	10
29	5.2	5.3	167	5.2	---	10	484	10	11	10	10	10
30	5.2	5.2	72	5.2	---	10	503	10	10	10	10	10
31	5.3	---	33	92	---	92	---	10	---	10	10	---
TOTAL	156.5	934.9	1775.9	248.4	3348.3	5405	11883	9918	304	312	310	380.0
MEAN	5.05	31.2	57.3	8.01	120	174	396	320	10.1	10.1	10.0	12.7
MAX	5.4	517	1100	92	915	705	1750	490	11	11	10	49
MIN	4.6	4.8	5.0	4.9	4.5	10	10	10	10	10	10	8.2
AC-FT	310	1850	3520	493	6640	10720	23570	19670	603	619	615	754

CAL YR 1981 TOTAL 5284.2 MEAN 14.5 MAX 1100 MIN 4.6 AC-FT 10480
WTR YR 1982 TOTAL 34976.0 MEAN 95.8 MAX 1750 MIN 4.5 AC-FT 69370

NOTE.--No gage-height record Apr. 11 to May 26.

LOCATION.--Lat 39°12'55", long 120°50'23", in NW¼NE¼ sec.34, T.16 N., R.10 E., Nevada County, Hydrologic Unit 18020126, on left bank 670 ft (204 m) downstream from Dutch Flat Afterbay, and 0.6 mi (1.0 km) north of Dutch Flat.

GAGE.--Water-stage recorder. Altitude of gage is 2,600 ft (792 m), from topographic map. Prior to Sept. 8, 1968, at site 420 ft (128 m) upstream at same datum.

AVERAGE DISCHARGE.--16 years, 617 ft³/s (17.47 m³/s), 447,000 acre-ft/yr (551 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,110 ft³/s (31.4 m³/s) Jan. 15, 21, 1980; no flow for several days in most years.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	393	872	1080	1050	1040	1060	1070	1000	962	749	817
2	20	504	1010	1080	996	1020	1060	1070	992	962	862	838
3	20	565	1020	1080	797	1030	1060	1070	802	888	807	840
4	20	536	1030	1080	1060	1030	1060	1080	814	841	762	839
5	25	520	1030	1080	1060	1030	1060	1070	1070	901	729	839
6	10	528	1030	1080	1060	1030	1060	1080	944	904	817	909
7	1.0	557	1030	1080	1050	1030	1060	1080	887	893	817	270
8	1.0	556	1030	1080	983	1030	1060	1080	887	808	818	5.0
9	1.0	556	1030	1080	968	1030	1050	1080	888	784	816	5.0
10	1.0	524	1030	1080	982	1030	1050	1080	1070	828	820	18
11	1.0	521	1030	1080	977	1010	1040	1080	1010	957	851	5.0
12	1.0	727	1020	1080	1020	1030	1040	1080	904	797	856	5.0
13	1.0	1010	1030	1080	988	1030	1040	1080	903	785	856	5.0
14	1.0	1040	1020	1080	993	1030	1040	1000	905	933	847	5.0
15	1.0	777	1020	1070	1050	1040	1040	1000	922	870	848	5.0
16	1.0	921	1020	1070	1050	1040	1040	1030	1070	709	848	5.0
17	1.0	1090	1030	1060	1050	1040	1040	1050	983	836	790	5.0
18	1.0	1010	1080	873	1050	1040	1040	1070	945	840	794	188
19	1.0	920	1090	1020	1050	1050	1040	1050	944	816	796	777
20	41	923	1080	1060	1050	1070	1040	848	945	817	797	736
21	20	994	1060	1050	1050	1060	1040	945	946	778	826	570
22	243	1090	1080	1050	1050	1070	1070	185	1050	726	873	834
23	294	1090	1080	1050	1050	1070	1070	964	1010	711	871	836
24	20	1090	1070	1040	1040	1070	1070	1010	912	713	779	832
25	20	1090	1080	1020	1040	1020	1070	818	960	712	805	780
26	222	1090	1080	1050	1040	969	1060	931	962	712	839	852
27	517	1080	1080	1050	1040	1050	1070	1070	962	727	839	851
28	674	1090	1080	1050	1040	1060	1080	932	844	764	813	839
29	472	1090	1080	1050	---	1060	1080	991	962	786	818	740
30	434	1050	1080	1050	---	1060	1070	839	962	811	819	742
31	380	---	1080	1000	---	1060	---	909	---	695	818	---
TOTAL	3465.0	24932	32382	32733	28634	32229	31640	30642	28455	25266	25380	14992.0
MEAN	112	831	1045	1056	1023	1040	1055	988	949	815	819	500
MAX	674	1090	1090	1080	1060	1070	1080	1080	1070	962	873	909
MIN	1.0	393	872	873	797	969	1040	185	802	695	729	5.0
AC-FT	6870	49450	64230	64930	56800	63930	62760	60780</				

SACRAMENTO RIVER BASIN

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NE¼NW¼ sec.34, T.16 N., R.10 E., Placer County, Hydrologic Unit 18020126, at the left bank downstream end of spillway on Dutch Flat Afterbay Dam, 0.6 mi (1.0 km) north of Dutch Flat.

DRAINAGE AREA.--21.5 mi² (55.7 km²).

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

REVISED RECORDS.--WRD CA-82-4: 1978, 1979(M), 1980.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,600 ft (790 m), from topographic map.

REMARKS.--Records excellent except flows above 13 ft³/s (0.37 m³/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 above station to Chicago Park powerplant. Records include spill over Dutch Flat Afterbay Dam. This station measures flow from Dutch Flat Afterbay in connection with a Federal Energy Regulatory Commission Project. See schematic diagram of Bear River basin.

COOPERATION.--Records of elevations for Dutch Flat Afterbay furnished by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--16 years, 29.8 ft³/s (0.844 m³/s), 21,590 acre-ft/yr (26.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,220 ft³/s (91.2 m³/s) Feb. 16, 1982; minimum daily, 0.08 ft³/s (0.002 m³/s) Mar. 8-19, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,220 ft³/s (91.2 m³/s) Feb. 16; minimum daily, 6.5 ft³/s (0.18 m³/s) several days during November and December.

REVISIONS.--The maximum discharge for the water year 1979 has been revised to 200 ft³/s (5.66 m³/s) Jan. 11, superseding figure published in the report for 1979. Revised figures of discharge for water years 1978 and 1980, superseding those published in the reports for 1978 and 1980 are given herein.

EXTREMES FOR 1978 WATER YEAR.--Maximum discharge, 871 ft³/s (24.7 m³/s) Mar. 5; minimum daily, 4.6 ft³/s (0.13 m³/s) several days during October.

EXTREMES FOR 1980 WATER YEAR.--Maximum discharge, 2,870 ft³/s (81.3 m³/s) Jan. 13; minimum daily, 4.3 ft³/s (0.12 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	5.0	5.0	4.8	4.8	5.2	5.2	133	11	11	10	10
2	5.0	5.0	5.0	4.8	4.8	4.4	5.2	22	11	11	10	11
3	5.0	5.0	5.0	4.8	4.8	238	69	11	11	11	11	11
4	5.0	5.0	5.0	4.8	4.8	235	19	11	11	11	11	11
5	4.8	5.0	5.0	71	4.8	692	5.2	10	11	11	11	10
6	4.6	5.0	5.0	5.0	5.0	349	5.2	10	11	10	11	27
7	4.6	5.0	5.0	4.8	5.0	33	40	10	11	10	11	98
8	4.6	5.0	5.0	4.8	5.0	5.2	43	10	11	10	11	50
9	4.6	5.0	5.0	4.8	5.0	5.2	84	10	11	10	10	29
10	4.6	5.0	5.0	4.8	43	5.0	105	10	11	10	11	52
11	4.6	5.0	5.0	4.8	14	5.0	98	10	11	10	11	13
12	4.6	5.0	5.0	4.8	4.8	5.0	59	10	11	10	11	13
13	4.6	5.0	5.0	4.8	4.8	5.0	64	10	11	10	11	13
14	4.6	5.0	5.0	4.8	4.8	5.0	134	10	11	10	11	13
15	4.6	5.0	5.0	4.8	4.8	5.0	17	10	11	10	10	13
16	4.6	5.0	5.0	56	4.8	5.0	5.2	10	11	10	10	13
17	4.6	5.0	5.0	544	4.8	5.0	5.2	10	11	10	11	13
18	4.6	5.0	4.8	161	4.8	5.0	5.3	10	11	10	11	13
19	4.8	5.0	4.8	138	4.8	5.0	18	10	11	10	11	13
20	4.8	5.0	4.8	53	5.0	5.0	136	10	11	10	10	11
21	5.0	5.0	4.8	5.0	5.0	5.0	59	10	11	10	11	11
22	5.0	5.0	4.8	4.8	5.0	5.0	34	10	11	10	11	11
23	5.0	5.0	4.8	4.8	5.0	5.2	35	10	11	10	11	11
24	5.0	5.0	4.8	4.8	5.0	5.2	9.4	10	10	11	10	11
25	5.0	5.0	4.8	4.8	5.0	5.2	230	10	10	11	11	11
26	5.0	5.0	4.8	4.8	5.0	5.2	172	10	10	10	11	11
27	5.0	5.0	4.8	4.8	5.0	5.2	92	10	11	10	11	11
28	5.0	5.0	4.8	4.8	5.2	5.2	74	10	11	10	11	11
29	5.0	5.0	4.8	4.8	---	5.2	74	10	11	10	11	11
30	5.0	5.0	4.8	4.8	---	5.2	85	11	11	10	10	11
31	5.0	---	4.8	4.8	---	5.2	---	11	---	10	11	---
TOTAL	149.2	150.0	152.2	1143.4	184.6	1718.4	1786.9	449	327	317	333	547
MEAN	4.81	5.00	4.91	36.9	6.59	55.4	59.6	14.5	10.9	10.2	10.7	18.2
MAX	5.0	5.0	5.0	544	43	692	230	133	11	11	11	98
MIN	4.6	5.0	4.8	4.8	4.8	5.0	5.2	10	10	10	10	10
AC-FT	296	298	302	2270	366	3410	3540	891	649	629	661	1080
CAL YR 1977 TOTAL	1859.1			MEAN 5.09	MAX	5.3	MIN 4.6	AC-FT 3690				
WTR YR 1978 TOTAL	7257.7			MEAN 19.9	MAX	692	MIN 4.6	AC-FT 14400				

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERDAY, NEAR DUTCH FLAT, CA--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	6.9	5.0	4.4	4.4	167	5.5	6.7	9.7	10	11	11
2	10	5.0	5.0	4.4	4.4	37	5.5	9.9	9.9	10	11	11
3	10	5.0	5.0	4.4	4.4	130	5.5	9.9	9.9	10	11	11
4	10	5.2	5.0	4.4	4.4	129	5.5	9.9	9.9	10	11	11
5	9.9	5.0	5.0	4.4	4.4	261	5.7	9.9	9.9	10	11	11
6	9.9	5.0	5.0	4.4	4.4	101	5.7	9.9	9.9	10	11	11
7	9.9	5.0	5.0	4.4	4.4	179	5.7	10	9.9	10	11	11
8	9.9	5.0	5.0	4.4	4.4	8.8	5.7	10	9.9	10	11	11
9	9.9	5.0	5.0	4.4	4.4	94	5.7	10	9.9	10	11	11
10	9.9	5.0	5.0	4.4	4.4	76	5.7	10	9.9	10	11	11
11	9.9	5.0	5.0	4.3	4.4	38	5.7	10	9.9	10	11	11
12	9.9	5.0	4.4	1140	4.4	51	5.7	9.9	9.9	10	11	11
13	9.9	5.0	4.4	1530	4.4	8.0	5.7	9.9	9.9	10	11	11
14	9.9	5.0	4.4	879	4.6	12	5.7	9.9	10	10	11	11
15	9.9	5.0	4.6	572	195	51	60	9.9	10	10	11	11
16	9.9	5.0	4.6	703	212	62	42	9.9	10	10	11	11
17	9.9	5.0	4.6	306	562	8.9	121	9.9	10	10	11	11
18	9.9	5.0	4.6	195	1220	5.2	24	9.9	10	10	11	11
19	9.9	5.0	4.6	215	1350	5.7	5.5	9.9	10	10	11	11
20	9.9	5.0	4.6	52	756	5.7	5.5	9.9	9.9	10	11	11
21	9.9	5.0	4.4	155	616	5.7	5.5	9.9	9.9	10	11	11
22	9.9	5.0	4.4	153	429	5.7	5.5	9.9	9.9	10	11	11
23	9.9	5.2	4.6	33	275	5.7	5.5	9.9	9.9	10	11	11
24	9.9	5.2	4.6	4.4	177	5.7	5.5	9.9	9.9	10	11	11
25	9.9	5.2	4.6	45	147	5.5	5.5	9.9	9.9	10	11	11
26	9.9	5.2	4.4	4.4	112	5.5	5.5	9.9	9.9	10	11	11
27	9.9	5.0	4.4	4.4	30	5.5	5.5	9.7	9.9	10	11	11
28	9.7	5.0	4.4	4.4	231	5.5	5.5	9.9	9.9	10	11	11
29	9.7	5.0	4.4	4.4	204	5.5	5.5	9.9	9.9	10	11	11
30	9.7	5.0	4.4	4.4	---	5.5	5.5	9.9	9.9	10	11	11
31	9.7	---	4.4	4.5	---	5.5	---	9.9	---	10	11	---
TOTAL	306.5	152.9	144.8	6057.2	6577.8	1491.6	392.0	304.0	297.4	310	341	330
MEAN	9.89	5.10	4.67	195	227	48.1	13.1	9.81	9.91	10.0	11.0	11.0
MAX	10	6.9	5.0	1530	1350	261	121	10	10	10	11	11
MIN	9.7	5.0	4.4	4.3	4.4	5.2	5.5	6.7	9.7	10	11	11
AC-FT	608	303	287	12010	13050	2960	778	603	590	615	676	655

CAL YR 1979 TOTAL 2981.1 MEAN 8.17 MAX 78 MIN 4.4 AC-FT 5910
WTR YR 1980 TOTAL 16705.2 MEAN 45.6 MAX 1530 MIN 4.3 AC-FT 33130

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	6.5	330	7.1	127	178	81	12	12	12	12
2	11	8.5	6.7	206	7.1	300	48	23	12	12	12	12
3	11	6.7	6.7	165	51	117	215	14	12	12	12	12
4	11	6.7	6.7	89	7.1	105	241	12	72	12	12	12
5	11	6.7	6.7	183	7.1	126	103	12	12	12	12	12
6	11	6.7	6.7	125	7.1	32	43	12	12	12	12	12
7	11	6.7	6.7	72	7.1	13	74	12	12	12	12	12
8	29	6.7	6.7	26	7.1	9.0	92	12	12	12	12	12
9	50	6.7	6.7	27	7.1	6.9	110	12	12	12	12	12
10	38	6.5	6.7	25	7.1	20	457	53	12	12	12	22
11	21	6.5	6.7	8.5	7.1	397	2220	50	12	12	12	32
12	21	6.7	6.7	6.9	7.1	172	1010	14	12	12	12	42
13	14	6.7	6.7	6.9	7.1	89	153	16	12	12	12	45
14	10	6.5	6.7	7.1	807	224	408	12	12	12	12	22
15	10	6.5	6.7	7.1	1760	96	474	12	12	12	12	11
16	10	6.7	6.7	7.1	1400	73	331	12	12	12	12	11
17	10	6.7	6.9	6.9	366	74	308	12	12	12	12	11
18	10	6.7	7.1	6.9	238	76	315	12	12	12	12	11
19	10	6.7	1410	7.1	193	79	310	12	12	12	12	12
20	10	6.5	1620	7.1	148	76	293	12	12	12	12	12
21	10	81	501	7.1	152	32	259	12	12	12	12	12
22	11	85	276	7.1	69	10	265	12	12	12	12	12
23	11	184	176	7.1	55	15	272	12	12	12	12	12
24	11	788	140	6.9	39	13	255	12	12	12	12	12
25	11	222	50	6.9	21	81	235	12	12	12	12	12
26	11	117	36	7.1	6.9	113	224	12	12	12	12	12
27	11	15	188	7.1	6.9	82	149	12	12	12	12	12
28	11	6.7	155	7.1	36	65	87	12	12	12	12	12
29	10	6.5	482	7.1	---	70	20	12	12	12	12	12
30	10	6.5	595	7.1	---	61	25	12	12	12	12	12
31	10	---	367	7.1	---	112	---	12	---	12	12	---
TOTAL	437	1650.8	6117.0	1397.3	5434.0	2865.9	9174	539	420	372	372	460
MEAN	14.1	55.0	197	45.1	194	92.4	306	17.4	14.0	12.0	12.0	15.3
MAX	50	788	1620	330	1760	397	2220	81	72	12	12	45
MIN	10	6.5	6.5	6.9	6.9	6.9	20	12	12	12	12	11
AC-FT	867	3270	12130	2770	10780	5680	18200	1070	833	738	738	912

CAL YR 1981 TOTAL 10529.6 MEAN 28.8 MAX 1620 MIN 5.3 AC-FT 20890
WTR YR 1982 TOTAL 29239.0 MEAN 80.1 MAX 2220 MIN 6.5 AC-FT 58000

SACRAMENTO RIVER BASIN

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.--Lat 39°08'05", long 120°56'54", in NE 1/4 SE 1/4 sec.22, T.15 N., R.9 E., Placer County, Hydrologic Unit 18020126, on left bank just upstream from Rollins Dam on Bear River, 2.3 mi (3.7 km) north of Colfax.

DRAINAGE AREA.--104 mi² (269 km²).

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 earthfill dam. Storage began Dec. 15, 1964. Usable capacity, 66,000 acre-ft (81.4 hm³) between elevations 1,970.0 ft (600.46 m), invert of outlet tunnel and 2,171.0 ft (661.72 m), spillway crest. Dead storage, 270 acre-ft (333,000 m³). Several diversions into and out of basin upstream for power development and irrigation. Stored water is released into Bear River, part of which is diverted to Pacific Gas and Electric's Bear River Canal for power development. Water is later used for irrigation. See schematic diagram of Bear River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 70,200 acre-ft (86.6 hm³) Feb. 15, 1982, elevation, 2,176.0 ft (663.24 m); minimum since reservoir first filled, 4,250 acre-ft (5.24 hm³) Oct. 10, 1977, elevation, 2,022.5 ft (616.46 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 70,200 acre-ft (86.6 hm³) Feb. 15, elevation, 2,176.0 ft (663.24 m); minimum, 31,100 acre-ft (38.3 hm³) Oct. 25, elevation 2,116.6 ft (645.14 m).

Capacity table (elevations, in feet NGVD, and contents, in acre-feet)

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	2,176	70,200
2,080	16,800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45900	37000	66400	67400	66700	67100	67200	66800	66500	66500	64500	63900
2	45400	38000	66500	67100	66700	67200	67200	66800	66500	66500	64600	63900
3	44900	39100	66500	67000	66700	67000	68000	66800	66300	66400	64500	63900
4	44400	40200	66500	67400	66700	66800	67400	66800	66400	66300	64400	63900
5	43900	41300	66500	67200	66700	66800	67200	66800	66600	66400	64300	63800
6	43500	42100	66500	66900	66700	66700	67100	66800	66500	66400	64300	63800
7	43100	42800	66500	66900	66700	66700	67100	66700	66400	66400	64300	63100
8	42700	43500	66500	66800	66600	66700	67000	66700	66400	66300	64300	61400
9	42400	44200	66600	66700	66600	66700	67000	66700	66400	66200	64300	59800
10	42300	44600	66600	66700	66600	66800	68000	66700	66600	66200	64300	58100
11	42000	44900	66500	66700	66600	67300	68900	66700	66500	66400	64300	56400
12	41700	45600	66600	66700	66600	67100	68000	66700	66400	66300	64300	54900
13	41000	47900	66600	66700	66900	66900	67500	66700	66400	66200	64400	53300
14	40000	49700	66600	66700	68300	67100	67700	66700	66400	66300	64500	51700
15	39100	50800	66600	66700	70200	66900	67600	66700	66500	66300	64500	50100
16	38100	51800	66600	66700	68300	66900	67400	66700	66600	66200	64600	48600
17	37200	53900	66600	66700	67600	66900	67300	66700	66500	66200	64500	47000
18	36200	54800	67000	66600	67300	66900	67300	66700	66500	66200	64400	45800
19	35200	55400	69900	66700	67200	66800	67200	66700	66500	66200	64300	45900
20	34200	55900	68400	66800	67100	66800	67200	66500	66500	66200	64300	46100
21	33300	58700	67500	66700	67000	66800	67200	66500	66500	66200	64300	45600
22	32700	60800	67200	66700	66900	66700	67200	65400	66600	66000	64300	45900
23	32400	64200	67000	66700	66800	66700	67200	65800	66600	65800	64300	46100
24	31500	67400	66800	66700	66800	66700	67100	66400	66500	65600	64300	46400
25	31100	67000	66700	66700	66700	66700	67100	66500	66500	65400	64200	46700
26	31300	66800	67000	67100	66700	66700	67100	66500	66500	65200	64200	47100
27	32200	66700	67000	66900	66700	66700	67000	66600	66500	65000	64100	47300
28	33700	66700	66900	66800	66700	66800	66900	66500	66300	64900	64100	47600
29	34700	66600	68300	66700	---	66800	66800	66500	66500	64800	64000	47700
30	35400	66500	67600	66700	---	67200	66800	66400	66500	64800	63900	47700
31	36200	---	67900	66700	---	67500	---	66400	---	64700	63900	---
MAX	45900	67400	69900	67400	70200	67500	68900	66800	66600	66500	64600	63900
MIN	31100	37000	66400	66600	66600	66700	66800	65400	66300	64700	63900	45600
a	2126.7	2171.6	2173.3	2171.8	2171.9	2172.8	2172.0	2171.5	2171.6	2169.4	2168.5	2146.2
b	-10200	+30300	+1400	-1200	0	+800	-700	-400	+100	-1800	-800	-16200

CAL YR 1981 b +33500

WTR YR 1982 b +1300

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

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 600 ft (183 m) downstream from canal inlet, 0.2 mi (0.3 km) below Rollins Dam, and 2.2 mi (3.5 km) north of Colfax.

GAGE.--Water-stage recorder. Altitude of gage is 1,980 ft (604 m), from topographic map. Prior to Mar. 25, 1946, water-stage recorder at site 1.5 mi (2.4 km) downstream at different datum.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 531 ft³/s (15.0 m³/s) Oct. 5, 6, 1980; no flow at times in most years.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	183	7.5	488	417	480	451	374	192	475	483	470	478
2	177	7.4	488	445	479	451	422	192	474	489	470	471
3	169	7.4	488	438	479	451	395	240	474	489	470	454
4	169	7.4	488	313	479	477	372	257	473	486	472	476
5	157	7.4	489	372	479	494	372	240	472	484	474	476
6	146	94	489	442	479	494	372	342	472	481	470	477
7	146	199	488	474	479	494	372	444	470	480	466	477
8	138	209	488	474	479	495	371	480	470	477	467	477
9	116	201	465	474	478	495	371	486	470	475	468	478
10	102	255	448	474	478	493	221	487	470	473	469	477
11	105	382	494	473	478	468	8.0	486	475	471	470	476
12	104	470	479	474	478	477	20	485	485	468	470	472
13	244	451	451	479	465	492	23	484	485	466	471	472
14	402	411	484	483	449	490	23	484	487	464	472	472
15	400	413	485	482	429	477	25	483	492	472	473	473
16	398	454	479	482	404	452	25	482	492	487	474	473
17	401	478	486	483	453	447	25	482	491	485	474	473
18	401	478	485	468	482	448	25	481	491	485	476	474
19	398	478	429	444	483	459	25	480	491	484	477	474
20	398	477	367	399	489	486	39	480	491	482	478	474
21	395	465	448	444	492	490	104	479	491	481	479	475
22	392	448	463	467	492	490	100	478	489	481	475	475
23	399	438	486	481	492	491	135	479	488	479	482	476
24	402	415	486	481	465	491	151	478	488	478	483	476
25	158	447	486	480	470	491	150	477	489	477	483	475
26	16	425	486	480	488	491	164	476	489	476	480	473
27	23	428	486	480	488	492	248	476	489	475	477	473
28	27	450	485	480	474	492	241	475	489	474	477	473
29	27	450	422	480	---	456	199	475	490	471	478	474
30	40	466	234	480	---	443	194	475	484	469	477	474
31	24	---	396	480	---	363	---	475	---	470	477	---
TOTAL	6657	9919.1	14336	14223	13260	14681	5566.0	13430	14486	14812	14705	14218
MEAN	215	331	462	459	474	474	186	433	483	478	474	474
MAX	402	478	494	483	492	495	422	487	492	489	483	478
MIN	16	7.4	234	313	404	363	8.0	192	470	464	466	454
AC-FT	13200	19670	28440	28210	26300	29120	11040	26640	28730	29380	29170	28200
CAL YR 1981	TOTAL	143035.1	MEAN	392	MAX	496	MIN	7.4	AC-FT	283700		
WTR YR 1982	TOTAL	150293.1	MEAN	412								

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 65 ft (20 m) downstream from highway bridge, 0.5 mi (0.8 km) downstream from Rollins Dam, and 2.2 mi (3.5 km) north of Colfax.

DRAINAGE AREA.--105 mi² (272 km²).

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 (587.475 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 8, 1915, nonrecording gages at several sites above diversion dam 0.3 mi (0.5 km) upstream at different datums. Aug. 8, 1915, to June 30, 1917, nonrecording gage 0.7 mi (1.1 km) downstream at different datum. Nov. 1, 1949, to Sept. 30, 1953, at site 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Records good. Flow regulated by Rollins Reservoir (station 11421800) beginning Dec. 15, 1964. Bear River Canal (station 11422000) diverts above station. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE (unadjusted).--23 years (water years 1913, 1916, 1951-53, 1965-82), 384 ft³/s (10.87 m³/s), 278,200 acre-ft/yr (343 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (prior to construction of Rollins Dam in 1964), 9,620 ft³/s (272 m³/s) Nov. 20, 1950, gage height, 21.40 ft (6.523 m) site and datum then in use, from rating curve extended above 3,600 ft³/s (102 m³/s) on basis of slope-area measurement of maximum flow; no flow at times in 1912, 1952. Maximum discharge since construction of Rollins Dam, 15,400 ft³/s (436 m³/s) Feb. 16, 1982, gage height, 12.95 ft (3.947 m), from rating curve extended above 6,000 ft³/s (170 m³/s); minimum daily, 0.5 ft³/s (0.014 m³/s) Nov. 17, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,400 ft³/s (436 m³/s) Feb. 16, gage height, 12.95 ft (3.947 m); minimum daily, 18 ft³/s (0.51 m³/s) Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	19	629	3240	965	1130	2110	1330	613	556	346	329
2	72	19	595	2150	943	1930	1720	1340	634	547	344	335
3	72	19	641	1710	736	1600	3480	1250	564	517	342	351
4	72	19	643	1850	917	1300	3070	1200	413	453	337	331
5	72	20	632	2750	918	1150	2200	1190	631	448	333	332
6	72	20	625	1920	900	1070	1960	1070	636	468	335	331
7	72	21	622	1460	877	991	1680	970	535	464	337	330
8	72	19	615	1290	818	947	1620	921	509	435	336	327
9	72	18	657	1160	793	909	1550	905	505	389	334	324
10	72	20	791	1140	780	1010	2230	888	587	373	333	320
11	72	22	675	1090	743	1670	9230	899	653	439	332	317
12	72	23	677	1060	768	1640	5870	877	543	447	331	317
13	75	29	783	1010	855	1300	3580	843	507	394	330	313
14	78	20	783	983	2670	1410	3270	777	500	411	330	308
15	78	19	799	963	7270	1410	3220	736	493	443	329	303
16	78	132	805	946	8980	1300	2720	755	587	375	329	298
17	78	259	740	921	3370	1270	2470	772	614	355	327	293
18	78	255	811	834	2280	1300	2350	794	542	363	326	288
19	78	257	5970	903	1850	1260	2250	775	527	371	326	286
20	78	258	9450	985	1560	1190	2160	657	522	367	326	286
21	78	296	3710	1050	1430	1120	1990	600	523	363	326	284
22	78	302	2310	904	1300	1030	1950	428	571	358	325	284
23	78	330	1640	869	1190	1000	1850	353	609	357	325	284
24	78	1950	1370	877	1120	968	1800	368	531	357	325	284
25	77	1620	1180	883	1080	941	1780	439	532	357	325	288
26	78	1280	1080	1290	1010	963	1650	556	535	356	328	290
27	78	1100	1770	1430	977	1000	1520	679	534	356	330	290
28	81	973	1410	1240	953	1090	1450	612	492	355	330	291
29	79	872	2630	1110	---	1140	1400	618	508	353	330	290
30	78	780	4030	1040	---	1290	1340	555	548	351	329	291
31	39	---	2630	969	---	2790	---	511	---	347	329	---
TOTAL	2307	10971	51703	40027	48053	39119	75470	24668	16498	12525	10265	9195
MEAN	74.4	366	1668	1291	1716	1262	2516	796	550	404	331	307
MAX	81	1950	9450	3240	8980	2790	9230	1340	653	556	346	351
MIN	39	18	595	834	736	909	1340	353	413	347	325	284
AC-FT	4580	21760	102600	79390	95310	77590	149700	48930	32720	24840	20360	18240
CAL YR 1981 TOTAL	80898			MEAN 222	MAX 9450	MIN 15	AC-FT 160500					
WTR YR 1982 TOTAL	340801			MEAN 934	MAX 9450	MIN 18	AC-FT 676000					

11423700 NEW CAMP FAR WEST RESERVOIR NEAR WHEATLAND, CA

LOCATION.--Lat 39°03'01", long 121°18'53", in NE 1/4 SW 1/4 sec.21, T.14 N., R.6 E., on Yuba-Placer County line, Hydrologic Unit 18020126, in center of New Camp Far West Dam on the Bear River, 6.4 mi (10.3 km) east of Wheatland, and 11.8 mi (19.0 km) northeast of Sheridan.

DRAINAGE AREA.--283 mi² (733 km²).

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by South Sutter Water District).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Sept. 30, 1963. Usable capacity, 102,200 acre-ft (126 hm³) between elevations 175.0 ft (53.34 m) bottom of lowest river outlet, and 300.0 ft (91.44 m) crest of spillway. Dead storage, 2,200 acre-ft (2.71 hm³). See schematic diagram of Bear River basin.

COOPERATION.--Records furnished by South Sutter Water District and California Department of Water Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 120,200 acre-ft (148 hm³) Jan. 21, 1970, elevation, 307.3 ft (93.66 m); minimum, 2,200 acre-ft (2.71 hm³) Oct. 11, 1968, elevation, 175.0 ft (53.34 m), may have been lower during periods of no record Oct. 12-16, 1968, and during the 1977 water year.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 117,900 acre-ft (145 hm³) Feb. 15, elevation, 306.15 ft (93.315 m); minimum observed, 4,600 acre-ft (5.67 hm³) several days during October, elevation, 189.0 ft (57.61 m).

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

170	1,400	250	34,200
180	3,000	260	44,000
190	4,800	270	55,500
200	7,000	280	69,500
210	9,800	290	85,600
220	14,000	300	104,400
230	19,400	320	151,000
240	25,800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4600	5900	71300	110300	107000	107400	111500	107400	105700	105700	95400	79300
2	4600	5900	73200	109200	106800	108700	111500	107400	105700	105700	94800	78800
3	4600	6000	75000	108300	106600	108100	114400	107200	105900	105700	94400	78500
4	4600	6100	76900	112900	106600	107700	111800	107200	105700	105500	93900	78200
5	4600	---	---	111800	106600	107400	110700	107200	105700	105500	93500	77900
6	---	---	---	109200	106600	107200	110000	106600	105900	105500	92900	77600
7	---	---	81700	108300	106600	107200	109600	106600	105900	105100	92400	77200
8	---	---	---	107700	106600	107000	109400	106600	105900	105100	91800	76900
9	4700	---	85100	107400	106400	107000	110000	106600	105900	104800	91400	76700
10	---	6300	88200	107400	106400	107200	116600	106600	105700	104400	90900	76600
11	---	---	89900	107200	106400	106800	113300	106600	105900	104000	90300	76600
12	---	---	91800	107000	106400	108500	111100	106600	105700	103800	89700	76600
13	4800	7300	94200	107000	106600	107900	110900	106600	105900	103600	89200	76400
14	---	9800	96500	107000	109000	108300	110500	106400	105900	103300	88600	76600
15	4800	11100	98900	107000	117900	108100	110000	106400	105700	102900	88000	76600
16	---	11900	102500	106800	114400	108100	109600	106600	105700	102700	87500	76700
17	---	---	104400	106800	110500	108300	109400	106400	105900	102100	86900	77100
18	---	---	106600	106800	109200	109000	109200	106400	105900	101800	96200	77600
19	---	18600	117000	106800	108500	108700	109000	106400	105900	101400	85600	77900
20	---	19600	116100	107200	108100	108300	108700	106400	105700	101000	85100	78000
21	---	---	110900	107700	107900	107900	108500	106100	105700	100600	84600	78500
22	4600	30000	109200	107400	107700	107900	108500	105900	105700	100100	84200	78800
23	---	33500	108100	107000	107400	107700	108300	105700	105900	99700	83700	79300
24	---	41100	107700	107000	107200	107700	108300	105300	105700	99100	83200	79600
25	---	49800	107200	107000	107200	107400	108100	105100	105700	98800	82700	80400
26	---	---	107000	108100	107000	107700	107900	104800	105700	98200	82200	81300
27	4700	---	107700	107900	107000	107400	107400	105100	105700	97800	81700	81700
28	5200	---	107400	107900	107000	107900	107700	105300	105700	97400	81300	82200
29	5700	66700	110900	107700	---	108700	107400	105500	105700	96900	80800	82700
30	5800	69500	110900	107200	---	110000	107400	105700	105700	96500	80300	83000
31	5800	---	109600	107000	---	112900	---	105700	---	95900	79800	---
MAX	---	---	---	112900	117900	112900	116600	107400	105900	105700	96200	83000
MIN	---	---	---	106800	106400	106800	107400	104800	105700	95900	79800	76400
a	194.5	280.0	302.4	301.2	301.2	303.9	301.4	300.6	300.6	295.5	286.4	288.4
b	+1200	+63700	+40100	-2600	0	+5900	-5500	-1700	0	-9800	-16100	+3200
CAL YR 1981	b	+22900										
WTR YR 1982	b	+78400										

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

b Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11424000 BEAR RIVER NEAR WHEATLAND, CA

LOCATION.--Lat 39°00'01", long 121°24'21", in SE 1/4 SW 1/4 sec.3, T.13 N., R.5 E., Placer County, Hydrologic Unit 18020108, on right bank 100 ft (30 m) downstream from bridge on U.S. Highway 99E, 1 mi (2 km) southeast of Wheatland, and 6.5 mi (10.5 km) downstream from Rock Creek.

DRAINAGE AREA.--292 mi² (756 km²).

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 (21.921 m) National Geodetic Vertical Datum of 1929. See WSP 2131 for history of changes prior to May 28, 1970.

REMARKS.--Records fair. Natural flow of stream affected by inflow from Yuba River and American River basins. Flow regulated by Lake Combie, usable capacity, 7,840 acre-ft (9.67 hm³), Rollins Reservoir (station 11421800) since December 1964, and New Camp Far West Reservoir (station 11423700) since October 1963. Many diversions for irrigation and power. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE (adjusted for diversions and change in contents in New Camp Far West Reservoir since 1966).--53 years, 470 ft³/s (13.31 m³/s), 340,500 acre-ft/yr (420 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s (935 m³/s) Dec. 22, 1955, gage height, 19.30 ft (5.883 m) site and datum then in use; maximum gage height, 20.83 ft (6.349 m) Nov. 21, 1950, site and datum then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,200 ft³/s (799 m³/s) Dec. 20, gage height, 19.82 ft (6.041 m); minimum daily, 0.74 ft³/s (0.021 m³/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1.4	5.0	4.4	4740	1360	1360	7000	1350	21	37	17	17		
2	1.5	4.6	4.3	3900	1250	2170	4280	1310	21	60	17	17		
3	4.1	4.3	3.8	2800	1220	2450	8570	1290	54	61	17	17		
4	4.2	3.8	3.4	4190	1050	1960	7460	1170	75	51	17	17		
5	4.1	4.6	3.2	8910	1070	1650	4700	1090	27	30	17	17		
6	4.2	4.2	2.6	4750	1070	1490	3720	1000	21	24	17	17		
7	5.6	4.6	2.5	2690	1050	1370	3280	1060	49	22	17	17		
8	3.4	4.8	2.5	2050	1030	1290	2760	548	49	21	17	17		
9	2.3	4.8	2.3	1760	978	1220	2580	466	28	20	17	17		
10	2.8	5.4	2.3	1600	936	1220	2680	478	23	19	17	17		
11	2.5	7.9	2.8	1500	897	2050	8930	482	25	19	17	17		
12	1.9	12	7.6	1420	862	2640	9990	476	75	19	17	17		
13	1.7	21	11	1350	901	2060	6170	456	66	18	17	17		
14	2.4	28	11	1280	1550	1890	4400	430	38	17	17	17		
15	2.2	13	11	1260	7860	2050	4230	382	27	17	17	17		
16	2.1	11	16	1180	16700	1890	3600	343	25	17	17	17		
17	2.0	14	21	1150	7000	1920	3080	423	28	18	17	17		
18	1.3	8.8	284	1160	3950	2080	2780	376	47	18	17	17		
19	.90	4.9	6550	1130	2880	2650	2600	333	43	17	17	17		
20	.74	3.3	23100	1260	2360	2130	2440	319	30	17	17	17		
21	4.4	21	9410	1680	2040	1770	2290	231	24	17	17	16		
22	6.8	35	4610	1590	1850	1550	2150	153	23	17	17	15		
23	13	16	3170	1370	1690	1400	2070	87	28	17	17	12		
24	11	34	2210	1290	1560	1310	1970	60	63	17	17	14		
25	7.0	14	1880	1270	1480	1240	1900	40	46	17	17	16		
26	6.7	13	1680	1510	1420	1200	1830	26	26	17	17	18		
27	8.4	14	1720	2160	1370	1200	1750	25	22	17	17	15		
28	12	16	1920	2040	1310	1290	1650	25	21	17	17	16		
29	9.0	8.4	2540	1900	---	1540	1560	23	21	17	17	20		
30	6.6	5.5	5700	1600	---	1980	1450	22	22	17	17	46		
31	5.1	---	4070	1440	---	8240	---	22	---	17	17	---		
TOTAL	141.34	346.9	68955.7	67930	68694	60260	113870	14496	1068	709	527	528		
MEAN	4.56	11.6	2224	2191	2453	1944	3796	468	35.6	22.9	17.0	17.6		
MAX	13	35	23100	8910	16700	8240	9990	1350	75	61	17	46		
MIN	.74	3.3	2.3	1130	862	1200	1450	22	21	17	17	12		
AC-FT	280	688	136800	134700	136300	119500	225900	28750	2120	1410	1050	1050		
a	1463	266	0	0	0	0	218	24107	27089	28284	28428	10872		
CAL YR 1981 TOTAL	90064.82		MEAN	247	MAX	23100	MIN	.74	AC-FT	178600	b MEAN	412	b AC-FT	298300
WTR YR 1982 TOTAL	397525.94		MEAN	1089	MAX	23100	MIN	.74	AC-FT	788500	b MEAN	1364	b AC-FT	987600

a Diversion, in acre-feet, to Camp Far West North and South Canals and South Conveyance Canal, furnished by South Sutter Water Agency.

b Adjusted for diversion and change in contents in New Camp Far West Reservoir.

11425000 FEATHER RIVER NEAR NICOLAUS, CA

LOCATION.--Lat 38°53'26", long 121°36'12", in SE 1/4 NE 1/4 sec.14, T.12 N., R.3 E., Sutter County, Hydrologic Unit 18020106, on left bank 1.7 mi (2.7 km) southwest of Nicolaus, 4.2 mi (6.8 km) downstream from Bear River, and at mile 8.1 (13.0 km).

DRAINAGE AREA.--5,921 mi² (15,335 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1921 to December 1942 (low-water periods only), April 1943 to current year. Prior to October 1974, published as "at Nicolaus."

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3.30 ft (1.006 m) below National Geodetic Vertical Datum of 1929. Prior to November 1931, on middle fender pier of bridge 1.6 mi (2.6 km) upstream at same datum. November 1931 to September 1974, at highway bridge 1.3 mi (2.1 km) upstream at same datum.

REMARKS.--Records fair. Flow partly regulated by many reservoirs, total capacity, 6,868,000 acre-ft (8.47 km³), the largest of which are Lake Oroville (station 11406800) completed in 1968, Lake Almanor (station 11399000) completed in 1913, and New Bullards Bar Reservoir (station 11413515) completed in 1969. Diversions for irrigation of about 87,000 acres (352 km²) between stations at Oroville and near Nicolaus.

AVERAGE DISCHARGE.--39 years (water years 1944-82), 8,169 ft³/s (231.4 m³/s), 5,918,000 acre-ft/yr (7.30 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944-82), 357,000 ft³/s (10,100 m³/s) Dec. 23, 1955, gage height, 51.60 ft (15.728 m) Dec. 23, 1955; no flow on several days in 1924 and 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 148,000 ft³/s (4,190 m³/s) Dec. 20, gage height, 43.90 ft (13.381 m); minimum daily, 1,770 ft³/s (50.1 m³/s) Oct. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1830	1910	20600	67400	14800	28200	39100	22300	12700	6510	7790	8850
2	1850	1840	20100	56400	14400	32100	41600	21000	12600	6480	7800	8900
3	2360	1810	20000	37500	14400	29700	76300	21700	10500	6430	7520	8380
4	2580	1840	20100	49500	13900	26500	51600	21100	9230	6430	7450	8430
5	2660	1850	20000	58200	13800	24300	37700	20600	8050	5940	7450	8950
6	2800	1850	20000	37000	13800	23600	32900	20000	6990	5610	7470	9000
7	3210	1840	17900	30400	13700	23100	30100	20400	7230	6190	7500	9010
8	3940	1820	17000	27100	13500	22100	28300	20000	8950	6310	7540	8990
9	4020	1810	17100	25300	13200	20800	27400	19000	8660	6320	7510	9000
10	3320	1810	17800	23300	12300	21100	28600	18800	7710	6070	7500	9110
11	3230	1850	14800	22800	12000	27300	95600	18100	7990	5610	7510	9090
12	2800	2040	11700	22300	11800	26600	102000	17600	8960	5640	7570	9040
13	2520	2870	11600	21800	13200	24200	102000	15300	9250	6160	7590	9030
14	2250	7980	11500	20600	19900	24900	91000	13000	8710	6200	7660	8960
15	1940	5410	11300	17000	74300	26800	82700	12100	9140	6250	8150	8940
16	1870	5600	11000	16800	107000	25500	71900	11300	9070	6260	8570	9010
17	1860	10800	10700	16700	93700	25300	60700	11100	8960	5860	8640	9080
18	1820	3840	13900	16600	76400	25700	49700	12300	8970	5680	8610	9210
19	1770	3090	61600	15100	56100	26500	37900	12800	8650	6290	8580	9390
20	1780	3450	148000	15900	40800	24500	31500	12900	8620	7040	8580	9130
21	1780	13100	95500	17400	34800	23300	28800	12800	8580	7110	8670	7470
22	1790	10900	68200	16000	33400	22600	27200	13000	8360	7140	8680	7170
23	1790	28700	57100	15400	32200	20000	27000	14300	8010	7170	8680	7130
24	1780	67600	45500	15300	30900	17800	25900	13600	7930	7160	8650	7100
25	1780	49200	35400	15200	29700	17300	25700	15000	7240	7210	8680	8370
26	1780	41700	26600	18500	28800	16700	25300	17600	7160	7620	8640	9440
27	1790	37500	25900	19900	26700	14500	24900	17800	7240	7660	8660	9670
28	1950	31100	25500	20700	26200	13400	24800	17300	7200	7700	8730	10100
29	2380	22400	44600	18500	---	14400	24600	15200	7190	7860	8780	10100
30	2720	21000	59700	16000	---	19700	23400	14500	6780	7840	8790	10000
31	2130	---	62500	15200	---	62800	---	13100	---	7790	8810	---
TOTAL	72080	388510	1043200	785800	885700	751300	1376200	505600	256630	205540	252760	266050
MEAN	2325	12950	33650	25350	31630	24240	45870	16310	8554	6630	8154	8868
MAX	4020	67600	148000	67400	107000	62800	102000	22300	12700	7860	8810	10100
MIN	1770	1810	10700	15100	11800	13400	23400	11100	6780	5610	7450	7100
AC-FT	143000	770600	2069000	1559000	1757000	1490000	2730000	1003000	509000	407700	501300	527700
CAL YR 1981 TOTAL	2549170	MEAN	6984	MAX	148000	MIN	1460	AC-FT	5056000			
WTR YR 1982 TOTAL	6789370	MEAN	18600	MAX	148000	MIN	1770	AC-FT	13470000			

SACRAMENTO RIVER BASIN

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: Water years 1951-66, 1980-81. Published as "at Nicolaus" 1951-66.

WATER TEMPERATURES: Water years 1951-58, 1960 to current year. Published as station 11425100 1964-74.

SEDIMENT RECORDS: Water years 1979 to May 1980.

PERIOD OF DAILY RECORD.--

CHEMICAL ANALYSES: October 1951 to September 1958, November 1959 to September 1962.

SPECIFIC CONDUCTANCE: March 1951 to September 1958, October 1960 to June 1966.

WATER TEMPERATURES: March 1951 to September 1958, November 1959 to current year.

SEDIMENT RECORDS: November 1978 to May 1980 (storm season only).

INSTRUMENTATION.--Temperature recorder since November 1961.

REMARKS.--Prior to 1964 water year, thermograph located at gaging station "at Nicolaus", 1.3 mi (2.1 km) upstream. Temperature records from October 1964 to September 1974 were obtained 2.5 mi (4.0 km) downstream and are considered equivalent. Recorded temperatures may be affected by backwater from the Sacramento River during the following periods: Nov. 16-24, Nov. 28 to Dec. 19, Dec. 22-30, Jan. 3-20, Jan. 22 to Feb. 7, Feb. 19 to Mar. 5, Mar. 27, 28, Apr. 2-11, Apr. 17 to May 7.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 34.5°C July 21, 1961; minimum recorded, 0.0°C Jan. 36, 1961.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 334 mg/L Jan. 13, 1980; minimum daily mean, 9 mg/L Dec. 14, 15, 1979.

SEDIMENT DISCHARGE: Maximum daily, 89,000 tons (80,700 metric tons) Jan. 17, 1980; minimum daily, 98 tons (89 metric tons) May 8, 1980.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.0°C July 11; minimum recorded, 5.5°C Feb. 4.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.5	16.5	16.5	13.0	10.0	9.5	9.5	9.0	8.0	7.5	10.0	9.5
2	19.0	17.5	17.0	13.5	9.5	9.5	9.0	8.5	8.0	7.5	10.5	9.5
3	20.5	17.5	17.0	13.5	9.5	9.5	8.5	8.0	8.5	7.5	10.5	10.0
4	20.5	16.0	17.0	14.0	9.5	9.5	8.0	7.5	8.0	5.5	10.5	9.5
5	20.5	16.0	15.5	14.0	9.5	9.5	8.0	7.5	7.5	6.5	10.5	9.5
6	20.0	16.0	16.5	14.5	10.0	9.5	7.5	7.0	7.5	6.5	10.5	9.5
7	19.5	17.0	17.0	14.0	10.0	10.0	7.0	6.5	7.5	6.5	10.5	10.0
8	19.5	16.5	17.0	14.0	10.0	10.0	7.0	7.0	8.0	7.5	11.0	10.0
9	19.0	15.5	16.5	14.0	10.0	10.0	7.5	7.0	8.0	7.5	10.5	10.5
10	19.0	16.0	16.0	14.5	10.0	9.5	8.0	7.5	8.0	7.5	11.0	10.5
11	19.0	15.5	16.5	14.5	10.0	9.5	8.0	7.5	8.0	7.0	11.5	11.0
12	18.5	14.5	16.0	14.5	9.5	9.5	8.0	8.0	8.0	7.5	12.0	11.5
13	16.5	14.0	15.0	14.5	10.0	9.5	8.0	7.5	8.5	8.0	12.0	11.5
14	17.5	13.5	14.5	14.0	10.5	10.0	8.0	8.0	9.0	8.5	12.0	11.0
15	17.5	13.0	14.5	14.0	11.0	10.5	8.0	8.0	9.0	9.0	11.5	11.0
16	17.5	13.5	15.0	14.5	11.0	10.5	8.0	8.0	9.5	9.0	11.0	10.5
17	18.0	14.0	15.0	14.0	10.5	10.0	8.0	7.5	10.0	9.5	10.5	10.0
18	18.5	14.0	14.0	13.0	10.0	10.0	8.0	7.5	10.0	9.0	10.5	10.0
19	19.0	14.5	13.5	12.5	11.5	10.0	8.0	7.5	9.5	9.0	11.0	10.0
20	19.5	15.0	14.0	13.0	11.5	11.0	7.5	7.5	10.0	9.5	11.0	10.5
21	19.5	15.5	13.5	13.0	11.0	11.0	8.0	7.5	10.0	10.0	11.5	10.5
22	19.5	15.5	14.0	13.5	11.0	10.0	7.5	7.0	10.0	9.5	11.5	11.0
23	19.5	15.5	14.0	14.0	10.0	10.0	8.0	7.5	9.5	8.5	12.0	11.0
24	18.5	15.5	14.0	12.0	10.0	9.5	8.0	7.5	9.0	8.5	12.5	11.5
25	18.5	15.0	12.0	11.5	9.5	9.5	8.0	8.0	9.0	8.5	13.0	12.0
26	16.5	14.5	11.5	11.0	9.5	9.5	8.5	8.0	9.5	9.0	12.5	12.0
27	16.0	15.0	11.0	10.5	9.5	9.5	8.0	7.5	9.5	9.0	12.5	12.0
28	17.0	14.5	10.5	10.5	9.5	9.0	8.0	7.5	9.5	9.5	12.0	11.5
29	17.0	13.5	10.5	10.0	9.0	9.0	8.0	7.0	---	---	11.5	10.5
30	16.0	13.0	10.0	10.0	9.5	9.0	8.0	7.0	---	---	10.5	10.0
31	16.5	12.5	---	---	9.5	9.5	8.0	7.0	---	---	10.5	10.0
MONTH	21.5	12.5	17.0	10.0	11.5	9.0	9.5	6.5	10.0	5.5	13.0	9.5

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	9.5	14.5	13.0	16.5	15.5	19.5	18.0	22.5	21.5	20.0	19.0
2	9.5	9.5	15.0	13.5	17.0	15.5	20.0	18.0	22.0	21.0	20.0	18.5
3	10.5	9.5	15.0	14.0	17.0	16.0	19.5	18.5	21.5	20.5	19.0	18.5
4	11.5	10.0	15.0	13.5	17.0	16.0	20.0	18.5	21.5	20.0	19.0	17.5
5	11.0	10.5	15.0	13.5	17.5	16.0	21.5	19.0	22.0	20.0	19.0	17.5
6	11.0	10.0	15.5	14.0	17.5	16.5	22.5	19.5	22.0	20.5	18.5	17.5
7	11.0	10.0	16.0	12.0	18.0	16.5	21.5	19.5	21.5	20.5	18.5	17.5
8	11.5	10.5	15.5	14.5	18.5	17.0	21.5	19.5	22.0	20.0	18.5	17.5
9	12.0	10.5	15.5	14.5	19.5	17.5	22.0	19.5	22.0	20.5	18.5	17.5
10	12.0	11.0	14.5	14.0	20.0	18.5	22.5	20.0	21.5	20.5	18.5	17.0
11	12.5	11.5	14.5	13.5	18.5	17.5	24.0	21.0	21.5	20.0	18.0	16.5
12	12.5	11.5	15.0	14.0	18.0	17.0	23.5	21.5	21.5	20.0	18.0	16.5
13	12.0	11.0	15.5	14.5	18.0	17.0	23.0	21.0	21.5	20.0	18.0	16.5
14	11.5	11.0	15.5	14.5	19.5	17.5	23.5	21.5	21.5	20.0	18.0	16.5
15	11.5	10.5	16.5	15.0	20.0	18.5	23.5	22.0	21.0	19.5	17.0	16.5
16	12.0	10.5	16.5	15.5	20.5	19.0	22.5	21.0	21.5	19.5	17.0	16.0
17	12.5	11.0	16.5	15.5	20.5	19.5	23.0	20.5	21.5	20.0	17.0	16.0
18	12.5	11.5	15.5	14.5	20.0	19.0	23.5	20.5	21.5	20.0	16.0	15.5
19	12.5	11.5	15.5	14.5	20.0	19.0	23.0	21.0	21.0	20.0	16.5	15.0
20	13.0	12.0	16.0	15.0	20.5	19.0	22.5	20.5	21.0	19.5	17.0	15.5
21	13.5	12.0	16.0	15.0	20.5	19.5	22.0	20.5	21.0	19.5	18.0	15.5
22	14.0	12.5	16.0	15.0	21.0	19.5	22.0	20.5	21.5	20.0	18.0	15.5
23	14.0	13.0	16.5	15.0	21.0	19.5	22.5	20.5	21.5	20.5	17.5	16.0
24	14.0	13.0	17.0	16.0	20.0	19.5	22.5	20.5	22.0	20.5	18.0	16.5
25	14.0	13.0	17.5	15.5	20.5	19.0	22.0	20.5	21.5	20.5	17.0	16.0
26	14.0	13.0	17.0	16.0	21.0	19.5	22.5	20.5	21.0	19.5	17.0	15.5
27	14.0	13.0	16.5	15.5	21.5	20.0	21.0	21.0	20.0	19.0	16.5	15.5
28	14.0	13.0	16.5	15.5	20.0	19.0	22.5	21.5	19.5	18.5	16.5	15.5
29	13.5	12.5	16.5	15.5	19.5	18.5	22.5	21.0	20.0	18.5	15.5	14.5
30	14.0	12.5	16.5	15.5	19.0	18.5	23.0	21.5	20.0	18.5	15.5	14.5
31	---	---	17.0	16.0	---	---	23.0	22.0	20.0	18.5	---	---
MONTH	14.0	9.5	17.5	12.0	21.5	15.5	24.0	18.0	22.5	18.5	20.0	14.5

11425500 SACRAMENTO RIVER AT VERONA, CA

LOCATION.--Lat 38°46'51", long 121°36'12", in SW 1/4 SE 1/4 sec.23, T.11 N., R.3 E., Sutter County, Hydrologic Unit 18020109, on left bank 0.8 mi (1.3 km) southeast of Verona, 1 mi (2 km) downstream from Feather River, 6.2 mi (10.0 km) east of Knights Landing, and at mile 19.6 (31.5 km) upstream from Sacramento.

DRAINAGE AREA.--21,251 mi² (55,040 km²).

PERIOD OF RECORD.--May 1926 to September 1929 (low-water periods only), October 1929 to current year.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3.00 ft (0.914 m) below National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. 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 (1,560 m³/s) flow begins over Fremont weir (just upstream) into Yolo Bypass (station 11453000). Gage height of crest of Fremont weir is 33.5 ft (10.21 m).

AVERAGE DISCHARGE.--53 years (water years 1930-82), 19,020 ft³/s (538.6 m³/s), 13,780,000 acre-ft/yr (17.0 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,900 ft³/s (2,290 m³/s) Feb. 22, 1980, gage height, 38.12 ft (11.619 m); maximum gage height, 41.20 ft (12.558 m) May 1, 1940; minimum daily discharge, 304 ft³/s (8.61 m³/s) July 23, 24, 1931; maximum reverse flow, 16,800 ft³/s (476 m³/s) Dec. 4, 1950, backwater from American River. Maximum combined discharge of Sacramento River at Verona and Fremont weir, about 322,000 ft³/s (9,120 m³/s) Dec. 25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72,200 ft³/s (2,040 m³/s) Dec. 21, gage height, 36.72 ft (11.192 m); minimum daily, 6,660 ft³/s (189 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8640	9260	57500	67500	47600	60700	55300	49600	27600	16800	15800	19600
2	8400	8410	54700	68100	45100	61100	63100	48600	27500	17000	16700	20000
3	8210	7900	51500	67300	42300	61700	65100	47700	25900	16700	16600	20000
4	8060	7660	48400	66200	40000	61800	67400	47100	23400	16700	16400	19900
5	8030	7570	45800	68600	37700	61200	66700	45700	21200	16800	15900	20800
6	7940	7410	43900	69200	35400	60300	65200	44300	19700	15800	15600	21300
7	8190	7290	42500	67300	33500	59400	63500	43100	19000	15300	15600	21500
8	8660	7220	40400	65700	32200	58600	62200	41600	19900	15100	15800	21600
9	9140	7160	39300	63900	31200	57600	61000	39200	20400	14500	16100	21500
10	8880	7200	38700	62400	29800	56500	59900	36900	18900	14000	16200	20900
11	8560	7350	38800	61100	28700	56100	62000	35000	18500	13100	16100	20800
12	8600	7640	38400	59900	27300	58000	68000	33400	18600	13000	16100	20900
13	8850	8500	36000	58800	25900	58300	69800	30900	18800	12900	16200	21000
14	8520	13700	35100	57600	25600	57200	70300	27600	18700	12800	16300	20800
15	7860	22900	36800	55100	35300	56300	69800	25200	18900	12700	16700	20700
16	7440	24700	38800	50500	58900	56400	69600	23300	19200	12600	17200	20400
17	7290	29300	39800	45700	68800	57100	69100	22300	18700	12500	17300	20500
18	7100	35400	40000	41200	69500	57300	68500	22700	18300	12200	17400	21000
19	7020	36900	42600	38200	69200	57900	67400	23300	17700	13200	17300	21900
20	6870	37600	58800	36100	68400	57500	65600	24800	17100	14100	17400	22800
21	6830	34000	71400	36700	67200	56100	64000	25100	17000	14500	17600	22100
22	6730	35200	71800	40200	66600	54500	62400	24700	16800	14500	17800	21700
23	6660	38000	71100	42100	66300	52600	60300	25000	16500	14600	18200	21400
24	6720	44300	70100	42100	66000	49600	57900	25300	16200	14600	18000	20700
25	6870	58100	68800	41600	65600	46000	55300	25700	15500	14600	18000	20300
26	6850	63900	67000	41000	64600	42200	52800	27800	14800	15100	18000	21100
27	6800	64200	65500	42600	63000	38500	50500	29700	14800	15100	18100	21100
28	7160	63300	64900	45300	61800	35400	49900	30600	15000	15000	18300	21000
29	7800	62200	64100	47300	---	33400	50900	30300	15000	15200	18600	20700
30	9520	60000	65800	48900	---	32900	50800	29300	15500	15200	19000	20000
31	10400	---	66800	49100	---	36900	---	28400	---	15200	19200	---
TOTAL	244600	824270	1615300	1647300	1373500	1649100	1864300	1014200	565100	451400	529500	628000
MEAN	7890	27480	52110	53140	49050	53200	62140	32720	18840	14560	17080	20930
MAX	10400	64200	71800	69200	69500	61800	70300	49600	27600	17000	19200	22800
MIN	6660	7160	35100	36100	25600	32900	49900	22300	14800	12200	15600	19600
AC-FT	485200	1635000	3204000	3267000	2724000	3271000	3698000	2012000	1121000	895400	1050000	1246000
CAL YR 1981 TOTAL	6774690	MEAN	18560	MAX	71800	MIN	6050	AC-FT	13440000			
WTR YR 1982 TOTAL	12406570	MEAN	33990	MAX	71800	MIN	6660	AC-FT	24610000			

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, two gages on right bank, one 100 ft (30 m) upstream from weir and one 100 ft (30 m) downstream from weir, 3.2 mi (5.1 km) upstream from American River, 4 mi (6 km) northwest of Sacramento, and at mile 4.2 (6.8 km) 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 recorders and concrete weir crest. Datum of gage is 3.00 ft (0.914 m) 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 at Sacramento River opposite center of weir. Since February 1963, water-stage recorders on right bank 100 ft (30 m) upstream and 100 ft (30 m) downstream from ends of weir.

REMARKS.--Crest of weir is at gage height 22.0 ft (6.71 m) and top of moveable gates at 28.0 ft (8.53 m). Weir consists of 48 gates each 38.1 ft (11.61 m) long. Flow over weir enters Yolo Bypass by way of Sacramento Bypass. Flow regulated by weir gates. Since February 1963, stage is obtained by averaging the stage obtained at sites above and below the weir.

COOPERATION.--Records furnished by California Department of Water Resources.

AVERAGE DISCHARGE.--43 years, 209 ft³/s (5.919 m³/s) 151,400 acre-ft/yr (187 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 118,000 ft³/s (3,340 m³/s) Mar. 26, 1928; maximum gage height, 33.01 ft (10.061 m) Dec. 23, 1955; no flow all or most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 45,000 ft³/s (1,270 m³/s) Feb. 17; no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	5.4	397	0	106	154					
2		0	0	506	0	124	402					
3		0	0	530	0	136	460					
4		0	0	525	0	130	518					
5		0	0	603	0	119	499					
6		0	0	567	0	92	455					
7		0	0	489	0	65	322					
8		0	0	420	0	44	247					
9		0	0	237	0	13	160					
10		0	0	164	0	0	108					
11		0	0	117	0	0	221					
12		0	0	79	0	15	14800					
13		0	0	41	0	29	21000					
14		0	0	5.2	0	5.4	14800					
15		0	0	0	23	0	4280					
16		0	0	0	14200	0	454					
17		0	0	0	45000	0	440					
18		0	0	0	32300	0	423					
19		0	0	0	15800	0	401					
20		0	156	0	3560	0	357					
21		0	3230	0	378	0	309					
22		0	4630	0	355	0	238					
23		0	3920	0	345	0	136					
24		0	3120	0	335	0	62					
25		94	1080	0	320	0	3.1					
26		253	372	0	247	0	0					
27		278	253	0	169	0	0					
28		202	219	0	130	0	0					
29		135	217	0	---	0	0					
30		77	339	0	---	0	0					
31		---	378	0	---	0	---					
TOTAL	0	1039	17919.4	4680.2	113162	878.4	61249.1	0	0	0	0	0
MEAN	0	34.6	578	151	4042	28.3	2042	0	0	0	0	0
MAX	0	278	4630	603	45000	136	21000	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	2060	35540	9280	224500	1740	121500	0	0	0	0	0
WTR YR 1982	TOTAL	198928.1	MEAN	545	MAX	45000	MIN	0	AC-FT	394600		

SACRAMENTO RIVER BASIN

11426190 LAKE VALLEY CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'56", long 120°38'31", in SE¼NE¼ sec.32, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, on right bank 0.8 mi (1.3 km) upstream from inlet to Carpenter Flat siphon and 1.5 mi (2.4 km) east of Emigrant Gap.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,410 ft (1,649 m), from topographic map. Prior to Oct. 1, 1979, on right bank 0.7 mi (1.1 km) downstream at different datum.

REMARKS.--Canal diverts from right bank of the North Fork of North Fork American River, 2.0 mi (3.2 km) downstream from Lake Valley Reservoir to the Drum Canal in the Bear River basin. See schematic diagram of Bear River and Yuba River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--18 years, 15.2 ft³/s (0.430 m³/s), 11,010 acre-ft/yr (13.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 75 ft³/s (2.124 m³/s) Jan. 13, 1980; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	28	38	33	38	38	39	38	40	6.4	31	40
2	0	28	38	34	38	38	39	39	40	5.8	31	39
3	0	28	37	38	38	38	38	39	40	4.9	30	44
4	0	28	40	36	38	38	37	40	39	4.5	30	38
5	0	27	41	36	38	38	37	36	39	4.5	30	35
6	0	26	41	36	38	38	37	36	38	4.0	30	34
7	0	24	41	37	38	38	37	36	38	3.8	30	33
8	0	23	37	35	38	36	36	36	38	3.7	30	34
9	0	22	37	35	38	36	36	35	38	3.5	30	33
10	0	22	38	36	38	42	42	37	39	3.4	30	30
11	0	22	38	35	38	35	57	37	41	3.1	30	34
12	0	21	39	35	38	31	46	36	41	2.8	29	35
13	0	30	40	36	38	31	40	36	40	2.0	29	35
14	0	34	36	41	38	31	39	37	40	1.7	29	36
15	0	32	33	41	38	30	32	38	42	1.7	29	36
16	0	33	29	41	38	30	22	39	42	1.6	29	34
17	0	31	35	41	38	30	22	39	41	1.6	4.8	33
18	0	41	41	41	38	30	22	38	39	18	0	34
19	0	33	13	41	38	30	22	39	42	32	0	37
20	0	39	15	41	38	29	27	39	42	33	0	37
21	0	29	33	41	38	35	38	33	41	33	0	35
22	0	32	37	41	38	37	42	39	40	34	0	38
23	0	24	36	41	38	37	42	38	37	33	0	37
24	14	27	35	41	38	37	42	38	33	33	0	40
25	14	30	35	41	38	37	42	35	28	32	0	45
26	14	30	41	41	38	37	41	37	27	32	0	39
27	14	29	37	41	38	37	40	37	22	32	0	39
28	18	33	38	41	38	37	38	36	10	32	19	34
29	23	38	34	41	---	38	37	36	8.0	32	41	34
30	20	38	30	41	---	40	37	40	7.3	32	39	32
31	26	---	34	41	---	38	---	41	---	32	37	---
TOTAL	143	882	1097	1200	1064	1097	1106	1160	1052.3	499.0	617.8	1084
MEAN	4.61	29.4	35.4	38.7	38.0	35.4	36.9	37.4	35.1	16.1	19.9	36.1
MAX	26	41	41	41	38	42	57	41	42	34	41	45
MIN	0	21	13	33	38	29	22	33	7.3	1.6	0	30
AC-FT	284	1750	2180	2380	2110	2180	2190	2300	2090	990	1230	2150

CAL YR 1981 TOTAL 4378.24 MEAN 12.0 MAX 41 MIN 0 AC-FT 8680
WTR YR 1982 TOTAL 11002.10 MEAN 30.1 MAX 57 MIN 0 AC-FT 21820

11426200 NORTH FORK FORBES CREEK NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°08'37", long 120°45'30", in NW 1/4 SE 1/4 sec.17, T.15 N., R.11 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 0.2 mi (0.3 km) downstream from Big Reservoir, and 6.0 mi (9.7 km) southeast of Dutch Flat.

DRAINAGE AREA.--1.68 mi² (4.35 km²).

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,980 ft (1,213 m), from topographic map.

REMARKS.--Flow regulated by Big Reservoir, capacity, 2,200 acre-ft (2.71 hm³). Some diversions above station for mining.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

AVERAGE DISCHARGE.--26 years, 4.54 ft³/s (0.129 m³/s), 3,290 acre-ft/yr (4.06 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 377 ft³/s (10.7 m³/s) Jan. 22, 1970, gage height, 4.76 ft (1.451 m); no flow many days in 1964-66, 1977, 1981, 1982.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 6.40 ft (1.951 m) probably Dec. 23, 1955, from Flood-marks, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35 ft³/s (0.991 m³/s) Feb. 15, gage height, 2.94 ft (0.896 m); no flow Oct. 1-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.11	4.6	32	7.3	27	9.2	27	1.2	.71	.04	.01
2	0	.44	4.8	33	7.3	27	9.2	25	1.2	.66	.09	.01
3	0	.26	3.6	33	7.3	26	14	24	1.3	.51	.06	.01
4	0	.11	3.1	33	7.3	25	15	23	1.1	.46	.04	.01
5	0	.06	2.8	32	6.6	25	14	22	1.2	.34	.05	.01
6	0	.11	2.3	32	6.4	24	14	20	1.1	.34	.04	.03
7	.01	.11	2.0	31	6.2	24	12	18	1.0	.31	.05	.03
8	.01	.08	1.8	30	6.2	22	11	13	.95	.25	.04	.03
9	.01	.08	1.8	30	6.0	22	11	5.5	.89	.23	.04	.04
10	.01	.06	3.1	28	5.7	21	14	4.6	.83	.23	.04	.05
11	.02	.06	2.2	28	5.7	21	28	4.2	.83	.20	.04	.04
12	.02	.67	2.8	27	5.5	20	30	3.6	.76	.20	.04	.04
13	.11	5.4	3.8	26	8.0	18	32	3.3	.76	.20	.04	.04
14	.14	3.3	3.6	25	18	18	32	3.1	.76	.18	.04	.03
15	.14	1.6	3.9	24	27	17	33	2.8	.66	.18	.04	.03
16	.14	1.1	3.9	23	33	16	33	2.7	.56	.13	.04	.04
17	.11	8.3	3.6	21	33	15	33	2.4	.56	.13	.04	.03
18	.06	4.8	4.8	19	34	14	33	2.3	.60	.11	.03	.03
19	.02	2.3	17	18	34	12	33	2.0	.71	.11	.04	.04
20	.02	1.3	28	14	34	11	32	1.9	.60	.09	.04	.04
21	.02	6.9	29	8.7	34	10	32	1.8	.51	.07	.04	.04
22	.02	12	24	7.3	33	9.8	32	1.7	.46	.07	.04	.05
23	.02	12	22	6.8	32	9.8	32	1.6	.38	.06	.04	.05
24	.06	15	22	6.6	31	8.7	31	1.5	.38	.07	.02	.05
25	.06	15	22	6.4	30	8.4	30	1.4	.38	.06	.02	.13
26	.06	15	22	9.2	30	8.4	30	1.4	.34	.06	.02	.11
27	.11	14	23	9.2	28	9.8	30	1.5	.34	.06	.02	.05
28	.46	12	22	8.4	27	10	30	1.5	.38	.07	.02	.06
29	1.1	8.7	25	8.0	---	10	29	1.3	.82	.04	.02	.05
30	.26	5.7	32	7.7	---	10	28	1.2	.76	.05	.01	.06
31	.14	---	32	7.5	---	10	---	1.2	---	.04	.01	---
TOTAL	3.13	146.55	378.5	624.8	543.5	509.9	746.4	226.5	22.32	6.22	1.14	1.24
MEAN	1.0	4.89	12.2	20.2	19.4	16.4	24.9	7.31	.74	.20	.037	.041
MAX	1.1	15	32	33	34	27	33	27	1.3	.71	.09	.13
MIN	0	.06	1.8	6.4	5.5	8.4	9.2	1.2	.34	.04	.01	.01
AC-FT	6.2	291	751	1240	1080	1010	1480	449	44	12	2.3	2.5
CAL YR 1981	TOTAL	1264.29	MEAN 3.46	MAX 32	MIN 0	AC-FT 2510						
WTR YR 1982	TOTAL	3210.20	MEAN 8.80	MAX 34	MIN 0	AC-FT 6370						

11426400 NORTH SHIRTTAIL CREEK NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°07'40", long 120°48'01", in SE 1/4 SW 1/4 sec.24, T.15 N., R.10 E., Flacer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank by spillway terminal structure downstream from Sugar Pine Dam, and 5.6 mi (9.01 km) southeast of Dutch Flat. Prior to Nov. 4, 1981, at site 2,000 ft (610 m) upstream.

DRAINAGE AREA.--9.10 mi² (23.57 km²).

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,371.09 ft (1,027.508 m), National Geodetic Vertical Datum of 1929 (levels by Gordon Ball Contractors, Division of Dillingham Corporation). Prior to Nov. 4, 1981, at site 2,000 ft (610 m) upstream at different datum.

REMARKS.--Flow slightly regulated by Big Reservoir, capacity, 2,200 acre-ft (2.71 hm³). Since November 1981, regulated by Sugar Pine Reservoir, capacity, 6,700 acre-ft (8.26 hm³). Foresthill Public Utility District diverts up to 2,800 acre-ft (3.45 hm³) annually since construction of Sugar Pine Dam.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

AVERAGE DISCHARGE.--25 years (water years 1957-81) 19.6 ft³/s (0.555 m³/s), 14,200 acre-ft/yr (17.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,370 ft³/s (95.4 m³/s) Jan. 13, 1980, gage height, 12.32 ft (3.755 m) site and datum then in use, from rating curve extended above 590 ft³/s (16.7 m³/s) on basis of slope-area measurement of peak flow; no flow many days in 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 7.30 ft (2.225 m) from floodmarks, discharge, 1,650 ft³/s (46.7 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 372 ft³/s (10.5 m³/s) Apr. 12, gage height, 29.22 ft (8.906 m); minimum daily, 0.03 ft³/s (0.001 m³/s) Oct. 1-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	4.1	29	156	27	14	58	50	.45	1.7	1.2	1.0
2	.03	5.5	32	156	27	145	57	49	.48	1.7	1.2	1.0
3	.03	4.2	44	154	28	92	58	41	.45	1.7	1.2	.82
4	.03	3.2	62	152	29	73	58	34	.20	1.7	1.2	.82
5	.03	2.5	62	152	25	70	58	33	.25	1.7	1.2	.82
6	.03	1.7	62	149	22	59	57	31	.56	1.7	1.2	.82
7	.04	1.7	62	145	21	48	56	24	.16	1.7	1.2	.82
8	.04	1.7	62	136	28	48	56	16	3.1	1.6	1.2	.82
9	.04	1.7	61	123	32	48	56	7.9	3.5	1.6	1.2	.82
10	.05	1.6	61	70	57	55	57	2.6	3.5	1.6	1.2	.82
11	.05	1.5	61	65	29	77	206	6.8	2.9	1.6	1.2	.82
12	.05	1.5	61	62	15	73	358	13	2.5	1.6	1.2	.82
13	.05	7.6	61	56	28	64	344	13	2.2	1.6	1.2	1.1
14	.06	4.5	61	51	68	64	326	13	1.9	1.6	1.2	1.4
15	.06	2.7	60	48	154	64	324	13	1.9	1.5	1.2	1.5
16	.07	2.0	56	45	262	64	326	13	2.0	1.2	1.2	1.5
17	.07	16	60	43	256	49	317	13	2.1	1.2	1.2	1.4
18	.07	7.4	83	41	271	39	313	11	1.8	1.2	1.1	1.1
19	.07	4.3	143	39	251	42	193	9.6	1.8	1.2	1.0	1.1
20	.07	1.3	183	36	251	35	134	9.8	1.8	1.2	1.0	1.1
21	.07	9.7	206	29	245	35	126	11	1.8	1.2	1.0	1.2
22	.07	74	206	22	109	35	109	12	1.8	1.2	1.0	1.2
23	.07	101	198	20	26	35	98	12	1.8	1.2	1.0	1.2
24	.07	107	165	20	3.6	34	98	11	1.8	1.2	1.0	1.2
25	.07	74	156	20	5.1	32	81	8.4	1.8	1.2	1.0	1.5
26	.07	145	147	40	4.9	29	60	3.2	1.8	1.2	1.0	1.3
27	.07	84	147	45	4.9	29	73	.35	1.8	1.2	1.0	1.3
28	4.2	26	143	38	4.9	43	73	.35	1.8	1.2	1.0	1.2
29	6.4	23	143	32	---	58	63	.33	2.0	1.2	1.0	1.2
30	6.8	26	152	30	---	56	50	.33	1.7	1.2	1.0	1.2
31	3.7	---	154	28	---	57	---	.35	---	1.2	1.0	---
TOTAL	22.56	746.4	3183	2203	2284.4	1666	4243	463.01	51.65	43.8	34.5	32.90
MEAN	.73	24.9	103	71.1	81.6	53.7	141	14.9	1.72	1.41	1.11	1.10
MAX	6.8	145	206	156	271	145	358	50	3.5	1.7	1.2	1.5
MIN	.03	1.3	29	20	3.6	14	50	.33	.16	1.2	1.0	.82
AC-FT	45	1480	6310	4370	4530	3300	8420	918	102	87	68	65
CAL YR 1981	TOTAL	6105.45	MEAN	16.7	MAX	206	MIN	.01	AC-FT	12110		
WTR YR 1982	TOTAL	14974.22	MEAN	41.0	MAX	358	MIN	.03	AC-FT	29700		

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 13020128, on left bank 50 ft (15 m) upstream from spillway at North Fork Dam, 2 mi (3 km) upstream from Middle Fork, and 4 mi (6 km) northeast of Auburn.

DRAINAGE AREA.--342 mi² (886 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 715.0 ft (217.93 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good. Minor regulation by Lake Clementine, usable capacity, 12,800 acre-ft (15.8 hm³) formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir, combined capacity, 10,300 acre-ft (12.7 hm³) above station. Lake Valley Canal (station 11426190) diverts from North Fork of North Fork American River into Bear River basin for power development in powerhouses of Pacific Gas and Electric Co. Combined storage and diversion have small effect on natural flow.

AVERAGE DISCHARGE.--41 years, 824 ft³/s (23.34 m³/s), 597,000 acre-ft/yr (736 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,400 ft³/s (1,850 m³/s) Dec. 23, 1964, gage height, 11.87 ft (3.618 m), from rating curve extended above 24,000 ft³/s (680 m³/s) on basis of computed flow over spillway of dam at gage height 10.22 ft (3.115 m); 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 above base of 4,300 ft³/s (122 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 14	0130	11,000 312	5.12 1.561	Feb. 16	0330	43,000 1,220	9.52 2.902
Nov. 24	0630	20,800 589	6.72 2.048	Mar. 2	1400	4,650 132	3.62 1.103
Dec. 20	0230	35,400 1,000	8.62 2.627	Mar. 11	0900	4,750 135	3.66 1.116
Dec. 30	0630	8,760 248	4.65 1.417	Mar. 31	1230	7,920 224	4.46 1.359
Jan. 5	0700	8,010 227	4.48 1.366	Apr. 11	1130	30,200 855	7.98 2.432

Minimum daily, 29 ft³/s (0.82 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	136	687	5420	1040	1750	3560	2920	1660	670	158	81
2	29	145	797	3660	988	3930	3040	3120	1560	600	150	80
3	31	135	720	2820	936	3170	5720	3180	1530	535	142	80
4	34	122	659	3870	913	2430	4560	3230	1440	488	138	79
5	35	106	613	6380	857	2090	3130	3210	1310	447	134	78
6	33	99	570	3480	802	1830	2670	2900	1180	418	132	78
7	42	97	532	2500	768	1680	2270	3010	1160	409	130	78
8	52	98	522	2050	738	1560	2030	3140	1190	402	132	77
9	52	91	531	1810	694	1490	1920	2810	1240	384	132	75
10	53	86	737	1650	668	1810	2380	2240	1340	358	126	73
11	66	82	668	1550	697	4170	21500	1880	1420	346	122	71
12	89	135	610	1440	627	3320	13700	1800	1310	338	118	71
13	75	2370	914	1320	669	2590	7840	1970	1170	333	115	71
14	58	5400	1160	1240	5430	2930	6090	2200	1060	321	113	70
15	51	2460	1570	1180	17500	2700	5230	2250	1220	308	111	68
16	47	2970	1660	1120	25800	2410	4420	2460	1320	292	109	77
17	46	4530	1120	1070	8450	2260	3920	2630	1300	280	107	92
18	46	2120	971	1050	5280	2270	3730	2490	1300	264	105	97
19	45	1210	16100	1090	4090	2410	3510	2270	1640	246	101	110
20	45	837	27900	1080	3790	2100	3290	2290	1290	235	100	101
21	45	3300	9910	1160	3610	1870	3080	2530	1130	226	98	91
22	45	6720	5240	1040	3480	1690	3010	2650	991	217	96	84
23	44	8160	3440	964	2970	1560	3100	2790	884	207	94	84
24	44	13600	2650	960	2390	1510	3260	2990	807	200	93	97
25	45	4140	2170	1000	2050	1480	3080	3020	735	199	91	164
26	44	2580	1890	1420	1820	1460	2910	2940	714	196	89	823
27	48	1990	3500	1630	1680	1480	2890	2940	668	191	88	272
28	226	1600	2450	1480	1550	1720	3120	2290	642	186	88	170
29	505	1520	3700	1340	---	1820	3010	1930	684	182	88	135
30	241	1050	7180	1200	---	2250	2730	1620	649	175	86	114
31	154	---	4630	1100	---	5870	---	1680	---	169	86	---
TOTAL	2401	67869	106001	59074	100287	71610	134700	79380	34544	9822	3472	3641
MEAN	77.5	2263	3419	1906	3582	2310	4490	2561	1151	317	112	121
MAX	505	13600	27900	6380	25800	5870	21500	3230	1660	670	158	823
MIN	29	82	522	960	627	1460	1920	1620	642	169	86	68
AC-FT	4760	134700	210300	117200	198900	142000	267200	157500	68520	19480	6890	7220
CAL YR 1981	TOTAL	280861	MEAN	769	MAX	27900	MIN	21	AC-FT	557100		
WTR YR 1982	TOTAL	672821	MEAN	1843	MAX	27900	MIN	29	AC-FT	1335000		

SACRAMENTO RIVER BASIN

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

CHEMICAL ANALYSES: Water years 1977, 1979-80.

BIOLOGICAL DATA: Water years 1979-80.

WATER TEMPERATURES: Water years 1960 to current year.

SEDIMENT RECORDS: Water years 1979-80.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1959 to current year.

INSTRUMENTATION.--Temperature recorder since November 1959.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 29.0°C Aug. 8, 9, 1978; minimum recorded, 3.5°C Dec. 31, 1978, Jan. 1, 2, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 27.0°C July 29, 30; minimum recorded, 7.0°C Dec. 1-5.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	8.5			---	---	18.0	16.5	26.0	21.0	24.0	18.5
2	9.0	8.5			---	---	18.5	16.5	25.5	20.0	24.0	19.5
3	9.5	9.0			---	---	18.5	16.5	24.5	19.5	23.5	20.5
4	10.5	9.5			---	---	19.0	17.0	24.5	19.0	24.0	18.0
5	10.5	10.0			---	---	19.5	17.5	25.0	19.5	24.0	18.5
6	10.5	9.5			---	---	20.5	18.0	25.0	20.0	24.0	20.0
7	10.5	9.5			---	---	21.0	18.0	23.5	22.5	25.0	19.0
8	10.5	9.5			---	---	21.5	19.0	25.5	21.0	25.0	21.0
9	11.0	9.5			---	---	22.0	19.5	25.0	20.0	24.5	21.0
10	12.0	10.5			---	---	22.5	20.0	24.5	19.0	24.5	20.0
11	---	---			---	---	23.0	20.5	24.5	20.0	23.5	19.0
12	---	---			---	---	23.5	21.0	24.5	19.5	23.0	19.0
13	---	---			---	---	---	---	25.0	20.0	23.5	19.0
14	---	---			---	---	---	---	24.0	19.0	23.5	18.5
15	---	---			---	---	---	---	23.5	18.0	21.5	19.5
16	---	---			---	---	---	---	24.5	19.0	22.0	19.0
17	---	---			---	---	---	---	24.5	19.5	22.0	20.0
18	---	---			---	---	---	---	25.0	20.5	21.5	20.0
19	---	---			---	---	---	---	24.5	20.0	22.0	20.0
20	---	---			---	---	---	---	25.5	21.0	22.0	19.0
21	---	---			---	---	---	---	25.5	21.0	22.0	19.0
22	---	---			---	---	---	---	26.0	21.5	---	---
23	---	---			---	---	---	---	26.0	21.5	---	---
24	---	---			---	---	---	---	26.0	21.0	---	---
25	---	---			---	---	---	---	25.5	21.0	---	---
26	---	---			---	---	---	---	25.0	19.5	---	---
27	---	---			---	---	26.0	20.0	23.5	18.5	---	---
28	---	---			---	---	26.5	22.5	24.5	20.0	---	---
29	---	---			---	---	27.0	22.5	25.0	20.5	---	---
30	---	---			18.5	17.0	27.0	23.0	24.0	17.5	---	---
31	---	---			---	---	26.5	22.0	23.5	17.5	---	---
MONTH	---	---			---	---	---	---	26.0	17.5	---	---

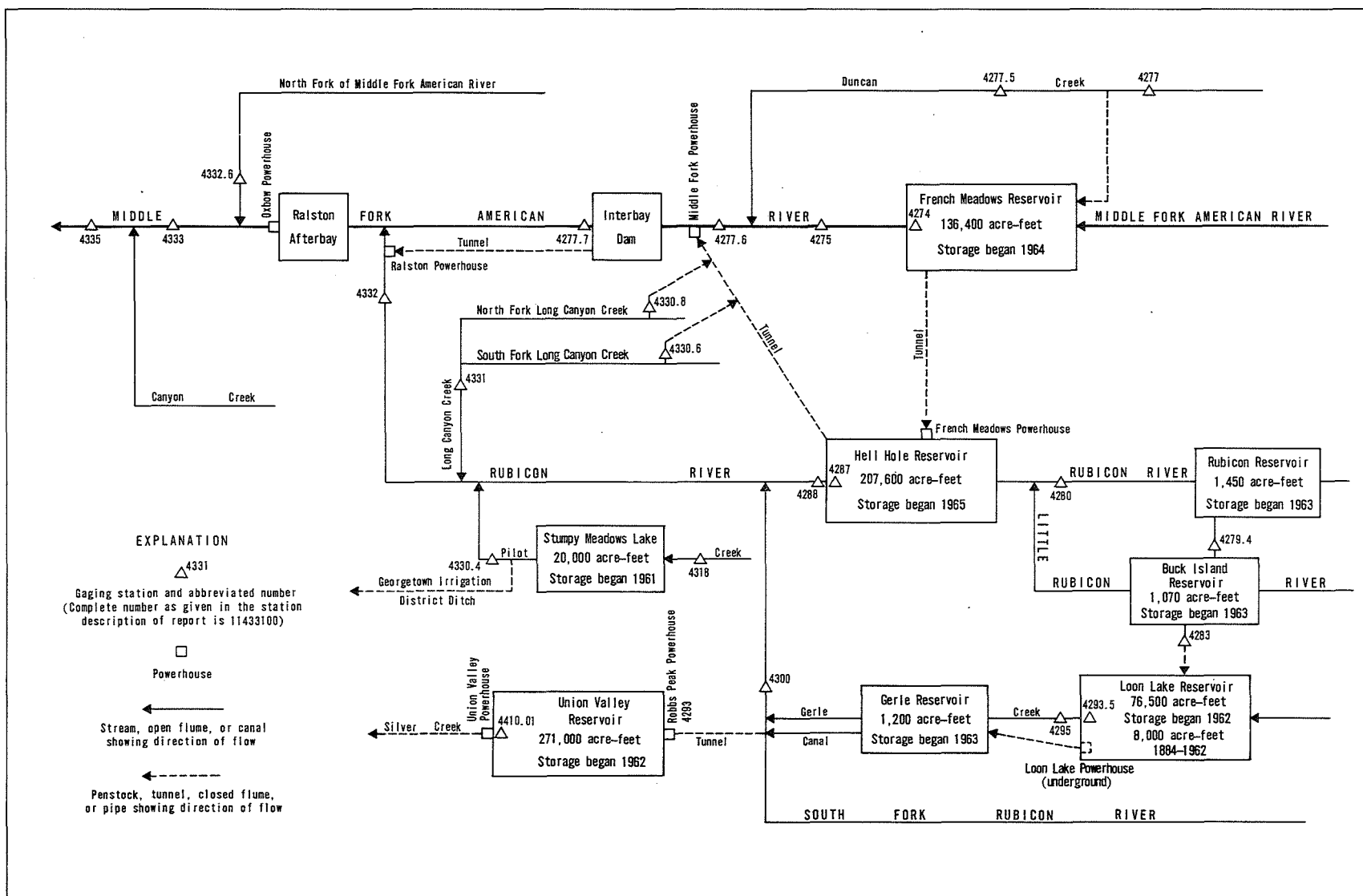


FIGURE 10. — Schematic diagram showing diversions and storage in Middle Fork American and Rubicon river basins.

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 (3.5 km) upstream from dam on Middle Fork American River, 6.9 mi (11.1 km) upstream from Chipmunk Creek, and 21 mi (34 km) northeast of Foresthill.

DRAINAGE AREA.--47.0 mi² (121.7 km²).

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 (155 hm³) between elevations 5,125 ft (1,562.1 m), minimum operating level and 5,263 ft (1,604.2 m), top of radial gates. Dead storage, 10,804 acre-ft (13.3 hm³). Reservoir is used to store water for hydroelectric power. Up to 400 ft³/s (11.3 m³/s) is diverted from Duncan Creek through a tunnel to reservoir. Water is released through a tunnel to French Meadows powerplant at Hell Hole Reservoir on the Rubicon River; releases began Dec. 13, 1965. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,700 acre-ft (170 hm³) May 19, 1966, elevation, 5,263.9 ft (1,604.44 m); minimum since reservoir first filled, 37,722 acre-ft (46.5 hm³) Nov. 20, 1977, elevation, 5,170.86 ft (1,576.078 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 137,113 acre-ft (169 hm³) June 19, elevation, 5,263.50 ft (1,604.315 m); minimum, 54,747 acre-ft (67.5 hm³) Nov. 12, elevation 5,191.65 ft (1,582.415 m).

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

5,125	10,804	5,200	62,447
5,130	13,075	5,230	94,074
5,150	23,743	5,270	146,502
5,170	37,085		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81868	61491	90235	112692	103232	112108	108966	114531	135261	135797	120705	100644
2	81165	60888	90471	112489	102833	112133	109441	114775	135402	135557	120097	99987
3	80465	60241	90837	112108	102350	111923	109866	115032	135416	135275	119440	99427
4	79822	59589	90405	112133	102193	111577	110180	115289	135360	134993	118784	98762
5	79075	58940	89962	111982	101844	111261	110443	115315	135303	134712	118299	98087
6	78437	58285	89499	111602	101844	110883	110418	115908	135148	134290	117673	97415
7	77802	57651	89273	111147	101916	110594	109904	116919	135247	133953	117061	96745
8	77127	56994	88520	110695	101603	110167	109366	116919	135430	133603	116426	96053
9	76402	56303	88149	110267	101339	109816	108892	119597	135797	133211	115792	95376
10	75880	55618	87702	109828	100883	110180	108929	120348	136249	132792	115148	94666
11	75255	54945	87255	109391	100513	110971	113801	121089	136518	132359	114493	93994
12	74528	54747	86943	108892	100155	111185	114659	121646	136476	131970	113865	93265
13	73837	52400	86554	108406	100548	111311	114429	122405	136249	131524	113227	93001
14	73117	58755	86443	107972	103984	111602	114006	123460	136263	131066	112578	92966
15	72401	60700	86943	107477	111375	111602	113571	124387	136461	130609	111956	92955
16	71688	62190	87076	106859	116180	111527	113227	125642	136660	130126	111299	92782
17	70979	64826	86966	106367	115689	111388	112960	126891	136674	129629	110632	92105
18	70334	65719	87188	105999	114916	111160	112832	127968	136830	129092	109966	91647
19	69591	66305	89940	105754	114313	110795	112616	128804	137113	128557	109316	90905
20	68911	66745	108204	105631	113942	110393	112654	129753	136688	127996	108655	90235
21	68226	70032	109804	105289	113878	110004	112591	130762	136405	127435	107972	89555
22	67532	72789	110368	104959	113763	109566	112591	131732	136405	126864	107303	88868
23	66864	79534	110657	105008	113494	109154	112870	132848	136405	126252	106650	88261
24	66168	84443	110758	105105	113163	108755	113214	133716	136291	125655	105999	87780
25	65466	86276	110720	104800	112832	108369	113418	133981	136221	125034	105313	87747
26	64787	87478	110808	104581	112540	108059	113571	134121	136150	124441	104654	87333
27	64140	88318	111350	104045	112273	108493	113789	134065	136051	123849	103923	86698
28	63977	88924	111388	103778	111995	108928	114057	134178	136008	123259	103317	86143
29	63406	89454	111779	103462	---	108904	114173	134515	136008	122645	102639	85401
30	62780	89488	112654	103462	---	108665	114237	134754	135881	122099	102096	84729
31	62134	---	112870	103583	---	108717	---	135035	---	121341	101303	---
MAX	81868	89488	112870	112692	116180	112133	114659	135035	137113	135797	120705	100644
MIN	62134	54747	86443	103462	100155	108059	108892	114531	135148	121341	101303	84729
a	5199.67	5225.99	5245.50	5238.02	5244.81	5242.20	5246.57	5262.03	5262.63	5252.02	5236.13	5221.72
b	-20385	+27354	+23382	-9287	+8412	-3278	+5520	+20798	+846	-14540	-20038	-16574
CAL YR 1981	b	+66491										
WTR YR 1982	b	+2210										

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

SACRAMENTO RIVER BASIN

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 (1.0 km) downstream from French Meadows Dam, 4.1 mi (6.6 km) upstream from Chipmunk Creek, and 14 mi (23 km) south of Cisco.

DRAINAGE AREA.--47.9 mi² (124.1 km²).

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1445: 1953-54. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,920 ft (1,500 m), from topographic map. Prior to Oct. 1, 1962, at site 0.8 mi (1.3 km) upstream at different datum.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400) 0.6 mi (1.0 km) upstream beginning in December 1964. Diversions from Duncan Creek to French Meadows Reservoir since December 1964 and from French Meadows Reservoir to Hell Hole Reservoir since December 1965. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--13 years (water years 1952-64, prior to regulation by French Meadows Reservoir), 149 ft³/s (4.22 m³/s), 107,900 acre-ft/yr (133.0 hm³/yr); 18 years (water years 1965-82), 21.6 ft³/s (0.612 m³/s), 15,650 acre-ft/yr (19.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft³/s (609 m³/s) Jan. 31, 1963, gage height, 14.20 ft (4.328 m), from rating curve extended above 1,100 ft³/s (31.2 m³/s) on basis of maximum flow at former site; minimum, 0.3 ft³/s (0.008 m³/s) Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961. Maximum discharge since construction of French Meadows Dam in 1964, 1,310 ft³/s (37.1 m³/s) Apr. 30, 1965, gage height, 7.68 ft (2.341 m); minimum daily, 0.8 ft³/s (0.023 m³/s) Oct. 22-25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft³/s (31.2 m³/s) Feb. 17, gage height, 7.38 ft (2.249 m); minimum daily, 7.3 ft³/s (0.21 m³/s) Nov. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	7.8	10	142	11	58	15	450	227	8.5	8.1	8.3
2	7.4	7.8	10	113	11	79	15	510	245	8.4	8.1	8.3
3	7.6	7.8	10	65	11	56	15	550	279	8.1	8.2	8.1
4	7.7	7.8	10	50	11	27	14	605	259	8.1	8.1	8.4
5	7.7	7.6	10	44	11	17	14	650	237	8.1	8.1	7.8
6	7.6	7.6	9.8	20	11	16	14	346	162	8.1	8.1	8.0
7	7.8	7.6	9.4	13	11	15	14	22	52	8.5	8.1	8.2
8	7.7	7.6	9.4	13	11	15	14	21	11	8.8	8.1	7.9
9	7.6	7.6	9.8	12	11	16	14	20	11	8.8	8.1	8.0
10	7.7	7.5	11	12	10	26	22	18	11	8.8	8.0	8.4
11	7.7	7.3	9.9	12	10	38	132	17	145	8.8	8.1	7.8
12	7.7	9.9	10	12	10	26	516	17	257	8.8	8.1	7.8
13	7.7	18	12	12	16	22	531	17	257	8.8	8.1	7.9
14	7.5	16	15	12	44	24	424	18	114	8.8	8.1	8.2
15	7.6	12	17	12	98	22	334	17	110	8.8	8.1	8.8
16	7.6	11	14	12	777	20	250	17	195	8.8	8.1	9.1
17	7.6	18	13	11	993	18	184	17	260	8.8	8.1	7.8
18	7.6	11	15	12	741	18	155	16	249	8.6	8.1	8.1
19	7.6	10	83	12	542	17	141	80	325	8.5	8.1	7.9
20	7.6	9.4	80	12	425	16	131	148	501	8.5	8.1	7.9
21	7.6	28	30	12	370	16	117	205	214	8.5	8.1	7.6
22	7.6	22	20	12	353	15	113	280	108	8.5	8.1	7.5
23	7.6	35	17	12	329	16	131	288	107	8.4	8.1	8.3
24	7.6	39	15	11	269	16	189	588	68	8.5	7.9	9.1
25	7.6	18	14	11	201	16	248	801	23	8.5	8.1	11
26	7.6	15	16	11	149	16	289	859	8.1	8.5	8.1	9.5
27	7.7	13	26	11	109	19	303	806	8.1	8.4	8.0	8.4
28	9.6	12	17	11	69	19	335	420	8.1	8.5	8.1	8.0
29	8.3	11	28	11	---	17	373	227	8.5	8.4	8.1	7.8
30	7.9	11	105	11	---	17	385	227	8.6	8.3	7.8	7.8
31	7.8	---	141	11	---	17	---	225	---	8.1	8.1	---
TOTAL	239.3	403.3	797.3	727	5614	730	5432	8482	4468.4	264.0	250.5	247.7
MEAN	7.72	13.4	25.7	23.5	201	23.5	181	274	149	8.52	8.08	8.26
MAX	9.6	39	141	142	993	79	531	859	501	8.8	8.2	11
MIN	7.4	7.3	9.4	11	10	15	14	16	8.1	8.1	7.8	7.5
AC-FT	475	800	1580	1440	11140	1450	10770	16820	8860	524	497	491
a	21130	8490	21780	18980	15660	21890	17540	21700	21570	22400	21180	18400

CAL YR 1981 TOTAL 3663.7 MEAN 10.0 MAX 141 MIN 7.0 AC-FT 7270
WTR YR 1982 TOTAL 27655.5 MEAN 75.8 MAX 993 MIN 7.3 AC-FT 54850

a Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows powerplant, furnished by Placer County Water Agency.

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 (0.3 km) upstream from diversion dam, 0.5 mi (0.8 km) downstream from Little Duncan Creek, 2 mi (3 km) northwest of French Meadows, and 20 mi (32 km) northeast of Foresthill.

DRAINAGE AREA.--9.94 mi² (25.74 km²).

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,270 ft (1,606 m), from topographic map. Prior to Sept. 3, 1965, at site 150 ft (46 m) upstream at datum 9.56 ft (2.914 m) higher.

REMARKS.--No storage or diversion above station. See schematic diagram of Middle Fork American River and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--22 years, 36.4 ft³/s (1.03 m³/s), 26,370 acre-ft/yr (32.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft³/s (103 m³/s) Dec. 22, 1964, gage height, 10.6 ft (3.23 m) from floodmarks, from rating curve extended above 400 ft³/s (11.3 m³/s) on basis of computation of flow over diversion dam, minimum daily, 0.10 ft³/s (0.003 m³/s) on several days during July and August 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 13	2030	479 13.6	7.77 2.368	Mar. 11	0100	288 8.16	7.02 2.140
Nov. 23	2015	1,330 37.7	8.94 2.725	Apr. 11	0900	846 24.0	8.27 2.521
Dec. 20	0030	*1,930 54.7	9.54 2.908	May 7	1830	272 7.70	7.18 2.188
Feb. 16	0015	1,770 50.1	9.41 2.868	May 26	1800	382 10.8	7.49 2.283

Minimum daily, 0.60 ft³/s (0.017 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	10	41	89	18	85	35	189	176	43	4.2	1.9
2	.60	9.4	37	69	18	80	34	202	167	36	4.2	1.8
3	1.8	8.0	32	62	18	69	33	215	160	31	4.0	1.8
4	.98	6.8	28	54	18	64	33	228	147	27	3.9	1.8
5	.75	6.3	26	48	18	59	34	220	139	24	3.8	1.7
6	.67	6.7	23	42	19	55	31	215	125	21	3.6	1.6
7	5.2	6.0	22	37	17	54	30	234	125	20	3.7	1.6
8	1.8	5.1	21	36	17	51	28	231	127	18	4.1	1.6
9	.90	4.5	21	34	16	50	30	202	139	17	3.6	1.5
10	4.6	4.2	24	33	16	148	94	160	153	15	3.3	1.9
11	6.6	4.1	22	32	15	207	651	135	158	14	3.2	2.3
12	3.5	45	21	30	15	151	366	137	144	13	3.2	1.8
13	2.8	246	23	27	59	132	225	151	131	12	3.0	1.7
14	2.0	145	54	27	372	132	164	169	129	11	3.0	1.7
15	1.6	214	128	26	867	105	132	189	138	11	2.9	2.3
16	1.4	143	96	25	886	90	119	207	145	10	2.8	4.3
17	1.2	220	69	25	400	78	113	215	144	9.4	2.7	3.1
18	1.3	98	124	24	269	65	111	202	154	8.8	2.6	4.3
19	1.2	63	1240	23	209	59	111	196	166	8.3	2.5	4.1
20	.98	45	1270	22	195	58	110	207	133	7.8	2.5	2.3
21	.93	280	447	22	188	55	108	231	111	7.3	2.4	1.9
22	.83	355	252	21	191	52	117	248	92	6.8	2.3	1.6
23	.79	662	168	21	162	52	136	278	76	6.5	2.2	1.5
24	.75	527	121	20	134	53	143	301	65	6.2	2.2	7.7
25	.75	247	95	21	115	52	141	311	56	5.9	2.1	4.9
26	.71	165	93	22	101	50	141	332	48	5.7	2.0	12
27	1.5	111	145	20	88	48	154	294	44	5.5	2.0	5.6
28	33	83	90	20	81	47	167	242	39	5.2	2.0	4.1
29	9.8	64	98	19	---	43	165	204	44	5.0	2.1	3.6
30	7.2	46	173	18	---	40	167	186	48	4.7	2.1	3.2
31	9.8	---	116	18	---	38	---	186	---	4.5	2.0	---
TOTAL	106.58	3830.1	5120	987	4522	2322	3923	6717	3523	420.6	90.2	135.3
MEAN	3.44	128	165	31.8	162	74.9	131	217	117	13.6	2.91	4.51
MAX	33	662	1270	89	886	207	651	332	176	43	4.2	4.9
MIN	.60	4.1	21	18	15	38	28	135	39	4.5	2.0	1.5
AC-FT	211	7600	10160	1960	8970	4610	7780	13320	6990	834	179	268
CAL YR 1981	TOTAL	14467.45	MEAN 39.6	MAX 1270	MIN .24	AC-FT 28700						
WTR YR 1982	TOTAL	31696.78	MEAN 86.8	MAX 1270	MIN .60	AC-FT 62870						

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 (244 m) downstream from unnamed right bank tributary, 1,000 ft (305 m) downstream from Duncan Creek diversion dam, and 20 mi (32 km) northeast of Foresthill.

DRAINAGE AREA.--10.5 mi² (27.2 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,210 ft (1,588 m), from topographic map.

REMARKS.--Flow is diverted above station through Duncan Creek diversion tunnel to French Meadows Reservoir (station 11427400). Maximum design flow of tunnel is 400 ft³/s (11.3 m³/s). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--18 years, 14.1 ft³/s (0.399 m³/s), 10,220 acre-ft/yr (12.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft³/s (103 m³/s) Dec. 22, 1964, gage height, 8.74 ft (2.664 m) in gage well, 10.0 ft (3.05 m) from floodmarks, from rating curve extended above 400 ft³/s (11.3 m³/s) on basis of computation of peak flow over diversion dam; no flow at times in 1965-66.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,950 ft³/s (55.2 m³/s) Dec. 20, gage height, 6.57 ft (2.003 m); minimum daily, 0.55 ft³/s (0.016 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	8.3	5.7	19	4.4	53	11	29	13	7.0	3.2	.73
2	.55	8.0	5.2	17	4.4	48	11	30	14	6.9	3.1	.69
3	1.4	7.2	4.9	14	4.5	39	10	31	15	6.1	2.9	.66
4	1.1	6.1	4.6	12	4.5	33	10	48	15	4.0	2.9	.63
5	.80	5.5	4.2	10	4.5	30	11	52	15	3.0	2.8	.69
6	.71	6.7	3.9	9.4	4.5	28	11	52	14	2.7	2.6	.82
7	5.8	7.0	3.6	9.0	4.5	27	10	83	14	2.5	2.7	.82
8	1.9	5.6	3.3	8.5	5.4	25	10	104	11	2.5	3.0	.76
9	1.0	4.7	2.9	8.0	6.0	24	10	75	8.1	4.0	2.4	.76
10	4.9	4.3	9.0	8.0	6.0	103	26	38	9.7	9.3	2.2	.82
11	8.1	4.3	14	7.9	5.9	153	690	23	8.7	9.3	2.0	1.2
12	3.5	11	14	7.5	5.8	85	335	28	8.1	7.5	1.9	.90
13	2.8	203	14	6.9	12	26	210	40	7.9	11	1.8	.82
14	1.8	139	17	6.6	98	26	155	58	7.8	11	1.7	.76
15	1.6	211	24	6.5	623	24	130	80	7.8	8.9	1.7	1.1
16	1.4	97	22	6.3	781	22	123	98	8.0	7.3	1.5	3.1
17	1.4	80	19	6.3	284	21	120	107	8.1	7.3	1.4	1.8
18	1.4	16	34	6.1	183	20	120	100	21	7.3	1.3	2.6
19	1.3	14	1080	5.7	141	19	120	92	24	7.3	1.2	4.1
20	1.2	13	1130	5.5	133	18	120	82	8.3	7.2	1.1	2.2
21	1.1	215	336	5.4	129	17	119	75	7.9	7.0	1.1	1.7
22	1.0	159	178	4.7	132	16	125	92	7.7	6.5	.99	1.4
23	.96	594	69	4.7	113	16	74	133	7.4	6.2	.87	1.3
24	.90	397	18	4.7	98	17	27	176	7.2	5.8	.82	6.4
25	.90	22	17	5.0	82	17	27	198	7.0	5.5	.79	12
26	.87	13	17	5.4	67	17	26	219	7.3	5.1	.79	6.9
27	1.3	9.7	20	4.9	54	16	28	187	7.3	4.6	.89	5.7
28	13	8.2	18	4.9	47	15	28	136	7.1	4.3	.89	5.4
29	8.3	7.1	19	4.6	---	14	27	84	7.1	4.0	.82	5.0
30	6.6	6.4	25	4.5	---	13	27	15	7.1	3.7	.76	4.2
31	8.0	---	21	4.5	---	12	---	16	---	3.4	.76	---
TOTAL	86.17	2283.1	3153.3	233.5	3037.4	994	2751	2581	311.6	180.2	52.88	75.96
MEAN	2.78	76.1	102	7.53	108	32.1	91.7	83.3	10.4	5.81	1.71	2.53
MAX	13	594	1130	19	781	153	690	219	24	11	3.2	12
MIN	.55	4.3	2.9	4.5	4.4	12	10	15	7.0	2.5	.76	.63
AC-FT	171	4530	6250	463	6020	1970	5460	5120	618	357	105	151
CAL YR 1981	TOTAL	6922.90	MEAN	19.0	MAX	1130	MIN	.28	AC-FT	13730		
WTR YR 1982	TOTAL	15740.11	MEAN	43.1	MAX	1130	MIN	.55	AC-FT	31220		

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERHOUSE, 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 (91 m) upstream from Middle Fork powerhouse, 3.7 mi (6.0 km) upstream from Big Mosquito Creek, and 11 mi (18 km) east of Foresthill.

DRAINAGE AREA.--87.8 mi² (227.4 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 2,540 ft (774 m), from topographic map.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 101 ft³/s (2.860 m³/s), 73,170 acre-ft/yr (90.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft³/s (279 m³/s) Jan. 13, 1980, gage height, 8.47 ft (2.582 m); minimum daily, 5.3 ft³/s (0.15 m³/s) Sept. 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,980 ft³/s (113 m³/s) Feb. 16, gage height, 7.75 ft (2.362 m); minimum daily, 17 ft³/s (0.48 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	31	120	694	134	358	241	903	403	70	47	23
2	17	30	110	560	131	494	227	976	411	66	46	23
3	20	28	102	439	132	392	281	1040	448	60	46	22
4	19	26	95	424	130	314	282	1130	426	52	46	22
5	19	25	90	433	124	272	238	1150	408	49	46	22
6	19	24	85	338	121	251	216	893	331	49	46	22
7	27	26	79	286	119	238	194	440	184	49	46	21
8	26	24	75	262	117	226	182	460	91	50	46	21
9	19	23	74	245	115	219	183	405	91	54	43	21
10	24	22	86	233	113	358	266	336	88	60	37	21
11	35	22	86	223	109	697	931	293	201	61	34	23
12	28	50	100	210	106	521	940	279	385	66	32	22
13	22	283	136	194	146	379	930	281	377	86	31	21
14	21	370	173	184	666	419	919	293	283	87	31	21
15	20	285	216	176	1680	367	889	304	141	80	30	23
16	20	236	214	170	1540	338	826	317	313	70	30	31
17	20	288	181	165	943	308	753	326	362	70	29	32
18	20	132	203	166	959	290	712	306	400	70	28	33
19	20	92	1680	165	933	264	690	317	377	70	28	37
20	19	74	2400	162	869	248	674	411	648	70	27	31
21	19	379	1050	155	840	236	640	426	350	70	27	28
22	19	518	752	138	830	223	638	533	178	65	26	27
23	18	793	528	136	788	214	654	571	175	65	25	26
24	18	969	378	136	677	209	679	842	146	61	25	44
25	18	403	325	137	564	208	725	1080	74	61	24	79
26	18	297	321	164	465	214	756	1120	65	61	24	60
27	19	238	598	158	383	238	787	1050	64	57	23	37
28	69	193	420	159	322	262	851	770	65	56	24	33
29	62	162	558	148	---	244	872	521	69	52	25	30
30	35	138	812	143	---	235	863	424	70	52	24	28
31	30	---	741	138	---	272	---	413	---	52	24	---
TOTAL	757	6181	12788	7341	14056	9508	18039	18610	7624	1941	1020	884
MEAN	24.4	206	413	237	502	307	601	600	254	62.6	32.9	29.5
MAX	69	969	2400	694	1680	697	940	1150	648	87	47	79
MIN	17	22	74	136	106	208	182	279	64	49	23	21
AC-FT	1500	12260	25360	14560	27880	18860	35780	36910	15120	3850	2020	1750

CAL YR 1981 TOTAL 33451 MEAN 91.6 MAX 2400 MIN 12 AC-FT 66350
WTR YR 1982 TOTAL 98749 MEAN 271 MAX 2400 MIN 17 AC-FT 195900

NOTE.--No gage-height record June 26 to Aug. 13.

SACRAMENTO RIVER BASIN

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 (152 m) downstream from Interbay Dam, 3.3 mi (5.3 km) upstream from Big Mosquito Creek, and 10.6 mi (17.1 km) east of Foresthill.

DRAINAGE AREA.--89.1 mi² (230.8 km²).

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

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 2,470 ft (753 m), from topographic map.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400) and after Aug. 22, 1966, by Interbay Reservoir, capacity, 130 acre-ft (160,000 m³) between normal operating limits of 2,502.0 ft (762.61 m) and 2,526.0 ft (769.92 m). Water is diverted from Hell Hole Reservoir through a tunnel to Middle Fork powerplant and re-diverted to Ralston powerplant. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 61.6 ft³/s (1.745 m³/s), 44,630 acre-ft/yr (55.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft³/s (280 m³/s) Jan. 13, 1980, gage height, 7.95 ft (2.423 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Oct. 25-30, 1966, Jan. 19, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 8,090 ft³/s (229 m³/s) Feb. 16; minimum daily, 8.9 ft³/s (0.25 m³/s) on many days during January and February.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	25	729	8.9	830	274	1130	426	33	28	17
2	17	18	25	628	8.9	628	257	1230	426	33	28	17
3	17	18	25	527	8.9	527	351	1330	376	33	28	17
4	17	18	26	527	8.9	527	351	1430	275	33	28	17
5	17	18	26	527	8.9	426	295	1530	235	33	28	17
6	18	18	26	527	8.9	426	261	1180	174	29	28	17
7	18	18	26	527	8.9	426	236	628	99	24	28	17
8	24	18	26	527	8.9	426	217	628	124	24	27	17
9	19	18	26	426	8.9	426	233	628	124	24	27	17
10	22	18	26	377	8.9	628	393	527	164	24	26	17
11	41	18	26	426	8.9	729	3050	527	174	24	23	17
12	31	18	26	326	8.9	729	2590	426	255	25	20	17
13	19	20	26	326	8.9	729	1430	426	194	25	19	18
14	24	24	49	275	36	628	1230	527	215	25	19	18
15	19	19	26	275	3050	527	1130	527	325	25	19	17
16	19	19	26	173	8090	527	1030	527	426	25	18	17
17	19	19	26	161	3550	527	930	527	426	26	18	17
18	18	21	26	94	2040	527	930	527	426	26	17	17
19	19	24	2530	12	1540	426	830	477	729	26	17	17
20	19	23	4040	8.9	1030	426	930	628	426	26	17	17
21	19	116	2040	8.9	1130	426	830	678	325	26	17	21
22	19	124	830	8.9	1130	426	830	704	225	27	17	27
23	18	174	527	8.9	1030	423	830	779	174	27	17	27
24	18	172	527	8.9	830	243	830	1330	43	27	17	27
25	18	25	527	8.9	729	223	830	1330	38	27	17	27
26	18	25	426	9.2	628	231	830	1530	33	27	17	26
27	18	25	524	8.9	527	256	930	1530	33	28	17	27
28	19	25	524	8.9	527	302	1030	1530	33	28	17	27
29	18	25	779	8.9	---	273	1030	628	33	28	17	27
30	18	25	578	8.9	---	259	1130	578	33	28	17	27
31	18	---	1030	8.9	---	324	---	578	---	28	17	---
TOTAL	615	1121	15370	7497.1	25982.7	14431	26048	26555	6989	844	650	605
MEAN	19.8	37.4	496	242	928	466	868	857	233	27.2	21.0	20.2
MAX	41	174	4040	729	8090	830	3050	1530	729	33	28	27
MIN	17	18	25	8.9	8.9	223	217	426	33	24	17	17
AC-FT	1220	2220	30490	14870	51540	28620	51670	52670	13860	1670	1290	1200
a	11970	33040	55230	56840	48940	57090	54030	57040	55360	54470	54760	33290

CAL YR 1981 TOTAL 22302.4 MEAN 61.1 MAX 4040 MIN 8.0 AC-FT 44240
WTR YR 1982 TOTAL 126707.8 MEAN 347 MAX 8090 MIN 8.9 AC-FT 251300

a Diversion, in acre-feet, to Ralston powerplant.

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'26", long 120°13'29", in NE¼SE¼ 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 (30 m) upstream from diversion dam on Rubicon River, 2.5 mi (4.0 km) upstream from Rubicon Springs, and 6.4 mi (10.3 km) southwest of Meeks Bay.

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

GAGE.--Water-stage recorder. Datum of gage is 6,533.23 ft (1,991.328 m) National Geodetic Vertical Datum of 1929 (levels by Sacramento Municipal Utility District). Auxiliary water-stage recorder since Aug. 26, 1966, 220 ft (67 m), downstream from tunnel outlet at different datum.

REMARKS.--Records good. Tunnel diverts water from Rubicon River to Rockbound Lake. See schematic diagram of Middle Fork American and Rubicon River basins..

AVERAGE DISCHARGE.--19 years, 105 ft³/s (2.974 m³/s), 76,070 acre-ft/yr (93.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,120 ft³/s (31.7 m³/s) Dec. 23, 1964; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	61	54	52	21	65	40	409	470	335	111	12
2	.20	62	55	54	21	66	44	488	447	306	88	9.8
3	.16	58	50	49	21	61	39	542	443	334	74	8.3
4	.08	50	46	46	21	52	39	562	404	314	70	7.5
5	.05	45	42	45	20	44	36	497	335	292	35	6.9
6	.03	45	38	62	19	40	32	448	286	282	1.8	6.1
7	3.9	47	36	54	19	40	29	494	314	342	4.5	5.4
8	11	35	40	41	19	39	27	539	380	362	56	4.3
9	6.7	28	41	36	19	41	27	405	451	339	75	3.7
10	30	24	53	34	18	78	74	269	537	304	72	3.2
11	53	23	46	34	17	178	892	213	579	317	58	2.6
12	34	110	38	32	17	110	915	250	511	326	51	2.2
13	22	657	39	30	31	80	557	354	439	325	49	1.7
14	15	778	90	28	511	74	299	427	447	320	46	1.5
15	12	424	145	28	839	59	170	451	600	289	44	1.8
16	8.6	563	131	28	1000	46	127	518	717	290	38	25
17	7.1	506	70	27	635	42	120	578	775	271	35	39
18	13	226	84	27	299	38	136	548	767	225	35	49
19	17	126	1020	28	179	34	148	486	867	203	37	114
20	16	89	1040	29	170	30	149	520	706	207	38	93
21	14	337	649	30	187	30	140	598	678	194	41	146
22	12	734	272	28	244	30	161	672	576	187	40	119
23	8.4	940	158	26	212	32	214	741	542	173	39	39
24	4.9	882	113	24	136	36	265	817	512	196	36	345
25	3.1	361	90	24	105	43	260	866	484	210	31	656
26	2.2	168	77	29	88	41	259	886	515	197	26	637
27	2.8	114	81	28	73	38	261	900	513	183	22	198
28	228	89	69	27	66	38	330	733	543	178	19	88
29	140	72	63	25	---	36	335	516	528	163	18	55
30	74	59	73	23	---	34	311	464	379	154	17	51
31	54	---	63	21	---	33	---	497	---	132	15	---
TOTAL	793.63	7713	4866	1049	5007	1608	6436	16688	15745	7950	1322.3	2731.0
MEAN	25.6	257	157	33.8	179	51.9	215	538	525	256	42.7	91.0
MAX	228	940	1040	62	1000	178	915	900	867	362	111	656
MIN	.03	23	36	21	17	30	27	213	286	132	1.8	1.5
AC-FT	1570	15300	9650	2080	9930	3190	12770	33100	31230	15770	2620	5420
CAL YR 1981 TOTAL	33505.42	MEAN	91.8	MAX	1040	MIN	0	AC-FT	66460			
WTR YR 1982 TOTAL	71908.93	MEAN	197	MAX	1040	MIN	.03	AC-FT	142600			

SACRAMENTO RIVER BASIN

11428000 RUBICON RIVER AT RUBICON SPRINGS, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°01'10", long 120°14'46", in SW¼NE¼ sec.31, T.14 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 200 ft (61 m) downstream from Rubicon Springs, 0.7 mi (1.1 km) upstream from Miller Creek, and 7 mi (11 km) west of Meeks Bay.

DRAINAGE AREA.--31.4 mi² (81.3 km²).

PERIOD OF RECORD.--February 1910 to March 1914 (published as "at Rubicon Springs"), October 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,052.97 ft (1,844.945 m) National Geodetic Vertical Datum of 1929. Feb. 1, 1910, to Mar. 31, 1914, nonrecording gage or water-stage recorder at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records good. Low summer flow, beginning in 1950, augmented by release from streamflow maintenance dams on Lakes Clyde, Lois, Middle Velma, and Schmidell, total controlled capacity, 555 acre-ft (684,000 m³). Flow below 1,200 ft³/s (34.0 m³/s) controlled by Rubicon diversion dam 5.5 mi (8.8 km) upstream. Diversion to Rubicon-Rockbound tunnel began Dec. 26, 1963 (station 11427940). See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE (adjusted for diversion to Rubicon-Rockbound tunnel).--29 years (water years 1911-13, 1957-82), 123 ft³/s (3.483 m³/s), 89,110 acre-ft/yr (110 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s (326 m³/s) Feb. 1, 1963, gage height, 14.28 ft (4.353 m), from rating curve extended above 1,200 ft³/s (34.0 m³/s) on basis of slope-conveyance computation of maximum flow; no flow at times in some years prior to construction of Rubicon diversion dam in 1963 and 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1955 reached a stage of 13.0 ft (3.96 m) from floodmarks, present site and datum, discharge, 9,270 ft³/s (263 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,750 ft³/s (135 m³/s) Feb. 16, gage height, 9.86 ft (3.005 m); minimum discharge, 0.37 ft³/s (0.010 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	15	18	25	14	37	19	136	28	15	8.2	6.9
2	.41	13	19	22	13	36	17	142	26	12	8.0	6.9
3	.57	11	17	19	14	27	16	144	25	11	8.5	6.8
4	.55	9.9	16	18	15	23	16	143	23	10	7.7	6.9
5	.48	9.4	15	20	13	21	16	116	22	9.7	8.0	6.7
6	.44	9.4	15	18	13	20	15	117	20	9.3	8.3	6.6
7	4.6	9.1	14	17	13	20	15	138	19	9.1	9.3	6.7
8	1.9	8.4	15	16	13	21	15	126	19	9.0	9.8	6.6
9	.73	8.3	16	16	13	24	15	88	19	8.7	9.5	6.8
10	9.5	8.0	29	16	12	58	81	58	19	8.4	9.6	6.9
11	8.8	7.8	21	16	12	74	1910	54	20	8.7	9.5	6.8
12	6.6	59	17	15	12	44	514	74	18	9.1	9.3	6.9
13	4.6	832	19	15	28	39	74	95	17	9.1	9.3	6.9
14	4.3	461	44	15	258	43	45	100	17	9.0	8.8	6.9
15	3.8	97	64	15	1030	30	39	109	17	9.4	7.3	8.2
16	4.2	52	34	15	2370	25	41	109	17	9.5	7.3	13
17	4.5	141	22	15	96	22	48	110	17	9.3	7.3	9.3
18	4.8	36	44	15	54	20	56	90	20	9.3	7.1	8.6
19	5.2	24	3120	15	53	18	57	83	146	10	7.1	11
20	5.6	19	3090	15	63	17	52	90	19	10	7.1	8.6
21	5.5	250	93	15	71	17	50	93	16	9.9	7.1	7.8
22	5.4	180	46	14	92	18	66	94	14	9.9	7.1	7.2
23	5.7	880	34	13	55	19	88	98	12	9.4	7.0	6.6
24	7.5	1010	28	14	39	22	90	97	12	9.2	7.0	39
25	7.7	50	25	14	35	26	85	113	13	9.1	6.9	274
26	7.7	32	28	18	32	25	85	185	12	9.1	6.9	68
27	8.4	26	51	16	27	24	101	157	11	9.1	6.8	12
28	69	22	27	15	27	27	116	56	11	9.1	7.1	8.3
29	19	20	33	14	---	21	100	34	14	8.9	7.2	7.9
30	14	18	55	14	---	20	116	31	16	8.4	7.0	7.2
31	17	---	31	14	---	17	---	31	---	8.7	7.0	---
TOTAL	238.85	4318.3	7100	499	4487	855	3958	3111	659	296.4	244.1	592.0
MEAN	7.70	144	229	16.1	160	27.6	132	100	22.0	9.56	7.87	19.7
MAX	69	1010	3120	25	2370	74	1910	185	146	15	9.8	274
MIN	.37	7.8	14	13	12	17	15	31	11	8.4	6.8	6.6
AC-FT	474	8570	14080	990	8900	1700	7850	6170	1310	588	484	1170
MEAN a	33.2	401	386	49.9	339	79.5	347	639	547	266	50.4	111
AC-FT a	2040	23870	23730	3070	18830	4890	20620	39270	32540	16360	3100	6590

CAL YR 1981 TOTAL 15288.87 MEAN 41.9 MAX 3120 MIN .17 AC-FT 30330 MEAN a 134 AC-FT a 96800
WTR YR 1982 TOTAL 26358.65 MEAN 72.2 MAX 3120 MIN .37 AC-FT 52280 MEAN a 269 AC-FT a 194900

a Adjusted for diversion to Rubicon-Rockbound tunnel.

11428300 HUCK-LOON TUNNEL, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'17", long 120°15'21", in SE¼NW¼ 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 (11.9 km) southwest of Meeks Bay.

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

GAGE.--Water-stage recorder. Datum of gage is 6,425.0 ft (1,958.34 m) 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. Gates are closed at the tunnel entrance during the summer and opened each fall to raise the level of Buck Island Lake for recreation purposes. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--19 years, 135 ft³/s (3.823 m³/s), 97,810 acre-ft/yr (121 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,240 ft³/s (35.1 m³/s) Dec. 23, 1964; no flow many days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	88	75	90	30	93	64	441	555	410	159	14
2	0	93	73	82	30	104	66	548	514	358	129	12
3	0	92	70	73	30	89	70	619	507	371	105	10
4	0	83	65	82	30	76	62	674	472	366	93	8.9
5	0	77	59	83	29	65	54	617	403	351	61	7.9
6	0	74	55	75	28	58	52	531	337	325	.67	7.1
7	0	81	52	76	27	56	44	559	345	368	.68	6.5
8	0	67	53	63	27	55	40	652	405	427	.68	5.9
9	0	51	57	53	26	55	38	540	483	427	9.7	5.0
10	3.0	42	71	48	25	86	63	358	587	382	63	4.1
11	59	38	72	47	25	237	856	267	663	382	68	3.5
12	63	109	63	45	24	187	1110	278	612	396	59	2.6
13	42	740	59	42	31	127	871	384	517	404	54	1.7
14	29	1060	94	40	480	113	428	483	482	401	51	1.0
15	21	652	184	39	1090	96	239	524	633	372	49	.97
16	16	770	205	39	1150	77	167	597	794	353	44	8.6
17	13	758	129	38	949	65	147	680	915	350	39	39
18	15	420	101	39	460	59	158	688	915	300	36	54
19	21	208	981	44	254	53	176	597	1040	257	36	101
20	23	137	1160	45	213	46	182	601	896	255	38	133
21	22	317	954	49	225	43	172	691	815	246	40	185
22	19	1050	461	44	283	42	183	802	698	240	42	201
23	15	1080	242	39	291	43	235	925	623	227	41	91
24	12	1100	164	35	203	47	301	1030	587	232	39	261
25	8.0	655	129	34	149	56	307	1060	538	269	35	680
26	5.5	288	109	43	123	61	308	1070	580	269	31	949
27	5.0	175	115	44	105	58	307	1070	570	248	26	375
28	229	132	103	42	91	65	367	990	590	241	22	158
29	274	104	97	38	---	64	393	684	629	226	20	89
30	147	86	107	34	---	62	357	539	487	211	18	67
31	95	---	100	32	---	68	---	560	---	189	17	---
TOTAL	1136.5	10627	6259	1577	6428	2406	7817	20059	18192	9853	1426.73	3482.77
MEAN	36.7	354	202	50.9	230	77.6	261	647	606	318	46.0	116
MAX	274	1100	1160	90	1150	237	1110	1070	1040	427	159	949
MIN	0	38	52	32	24	42	38	267	337	189	.67	.97
AC-FT	2250	21080	12410	3130	12750	4770	15510	39790	36080	19540	2830	6910
CAL YR 1981 TOTAL	44840.04			MEAN 123	MAX 1160	MIN 0	AC-FT 88940					
WTR YR 1982 TOTAL	89264.00			MEAN 245	MAX 1160	MIN 0	AC-FT 177100					

SACRAMENTO RIVER BASIN

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 (0.5 km) upstream from Hell Hole Dam on Rubicon River, and 15.6 mi (25.1 km) west of Meeks Bay.

DRAINAGE AREA.--114 mi² (295 km²).

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 (256 hm³) between elevations 4,287.65 ft (1,306.876 m), invert of river outlet and 4,630.0 ft (1,411.22 m), crest of ogee spillway. Dead storage 248 acre-ft (306,000 m³). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 211,050 acre-ft (260 hm³) Dec. 20, 1981, elevation, 4,632.75 ft (1,412.062 m); minimum since reservoir first filled, 37,499 acre-ft (46.2 hm³) Mar. 23, 1973, elevation, 4,428.28 ft (1,349.740 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 211,050 acre-ft (260 hm³) Dec. 20, elevation, 4,632.75 ft (1,412.062 m); minimum, 119,159 acre-ft (147 hm³) Oct. 1, elevation, 4,545.80 ft (1,385.560 m).

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

4,340	5,220	4,500	83,025
4,360	9,835	4,550	122,720
4,380	16,250	4,600	171,865
4,400	24,160	4,650	233,420
4,450	49,610		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119159	131477	177879	207465	186536	207139	197575	208493	208092	207152	184990	151275
2	119260	131361	176789	207214	185721	207252	196601	208455	208054	207089	183884	150576
3	119412	131584	175943	206714	184919	206989	195750	208569	207991	206839	182643	150081
4	119496	131718	175554	206639	184184	206651	194902	208607	207891	206464	181476	149619
5	120003	131557	175054	206339	183287	206264	191323	208406	207815	205965	180221	149077
6	120680	131817	174497	205715	182001	205790	190270	208431	207703	205540	179064	148557
7	121352	132508	173930	205105	180732	205217	189493	208607	207678	205005	177902	148058
8	122089	133247	173443	204495	179839	204847	188660	208456	207715	204408	176766	147571
9	122771	133356	172856	203887	178857	204346	187989	208155	207778	203787	175600	147106
10	123447	133473	172608	203267	178005	204470	188232	207854	207767	203131	174417	146544
11	124279	133446	172090	202648	177086	206339	199042	207765	207941	202462	173262	145981
12	125038	133900	171854	201956	176137	206589	202930	208041	207854	201771	172124	145461
13	125643	140865	171730	201327	175577	206576	204881	208305	207803	201081	170945	144620
14	126338	146670	172394	200637	181220	206714	205627	208343	207828	200306	169761	143455
15	127035	148387	173806	200023	193198	206627	205840	208456	207979	199532	168594	142337
16	127735	149528	174349	199287	208845	206339	205965	208594	208079	198712	167410	141618
17	128437	152171	174417	198675	208418	206027	206164	208594	208105	197819	166331	141303
18	128939	152150	174974	197941	208267	205590	206514	208493	208343	196929	165147	141446
19	128525	151275	175563	197331	208029	205067	206864	208393	208431	196017	163969	141465
20	128042	150606	211050	196722	208029	204508	207027	208493	208092	195096	162809	140998
21	127621	156146	208744	195993	208105	203962	207189	208468	207966	194115	161664	140570
22	127376	160355	208142	195180	208217	203403	207552	208769	207841	193162	160505	140086
23	127332	169182	207916	193946	207916	202883	208066	208908	207778	192175	159310	139623
24	128007	180163	207715	192705	207690	202376	208142	208958	207640	191179	158132	139567
25	128604	181197	207515	191971	207515	201895	208130	208971	207490	190162	156932	140789
26	128551	181686	207628	191371	207339	201376	208167	209084	207289	189160	155698	141714
27	128419	181360	208016	190868	207127	200294	208242	208921	207027	188125	154555	141618
28	129743	180708	207678	190150	206914	199374	208330	208506	206839	187092	153318	141427
29	129831	179874	207991	189362	---	198773	208293	208217	207052	186027	152130	141073
30	129867	178903	208130	188636	---	198247	208280	208155	207114	184990	151488	140722
31	130612	---	207841	187377	---	198186	---	208167	---	185284	151428	---
MAX	130612	181686	211050	207465	208845	207252	208330	209084	208431	207152	184990	151275
MIN	119159	131361	171730	187377	175577	198106	187989	207765	206839	184990	151428	139567
a	4559.06	4606.18	4630.20	4613.42	4629.46	4622.40	4630.55	4630.46	4629.62	4611.65	4580.95	4570.06
b	+11496	+48291	+28938	-20464	+19537	-8728	+10094	-113	-1053	-21830	-33856	-10706

CAL YR 1981 b +109558

WTR YR 1982 b +21606

a Elevation, in feet NGVD, 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 (183 m) downstream from outlet of dam, and 15.3 mi (24.6 km) west of Meeks Bay.

DRAINAGE AREA.--114 mi² (295 km²).

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 (1,289.767 m) National Geodetic Vertical Datum of 1929 (levels by Placer County Water Agency).

REMARKS.--Flow regulated by Hell Hole Reservoir (station 11428700) beginning December 1965. Water is diverted out of the basin above the station through Buck-Loon tunnel (station 11428300). Water is diverted from Middle Fork American River basin by tunnel from French Meadows Reservoir (station 11427400) to Hell Hole Reservoir. Water is diverted from Hell Hole Reservoir through a tunnel to Middle Fork powerplant. Diversion began Sept. 8, 1966. During years when Hell Hole Dam spills, records include flow which bypasses the station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 27.7 ft³/s (0.784 m³/s), 20,070 acre-ft/yr (24.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,380 ft³/s (266 m³/s) Dec. 20, 1981, including flow over spillway; no flow Aug. 25 to Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,380 ft³/s (266 m³/s) Dec. 20, including flow over spillway; minimum daily, 0.34 ft³/s (0.01 m³/s) June 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	13	19	66	21	27	21	639	207	23	17	9.7
2	9.3	13	19	22	21	29	20	764	223	23	17	9.6
3	9.3	13	18	22	21	26	20	780	206	23	16	9.6
4	9.4	13	18	22	21	25	20	827	172	23	16	9.6
5	9.5	13	18	22	21	24	19	706	140	23	15	9.6
6	9.6	13	18	21	21	24	19	598	122	23	14	9.6
7	9.7	13	18	21	20	23	19	694	81	23	13	9.3
8	10	13	18	21	20	23	19	764	45	23	13	9.2
9	10	13	18	21	20	23	20	543	23	23	11	9.2
10	10	13	18	21	20	29	28	263	12	23	9.5	9.2
11	11	13	18	21	20	35	58	108	.34	23	9.6	9.2
12	11	15	19	20	20	27	35	158	55	23	9.6	9.2
13	11	23	20	20	23	26	28	372	187	22	9.3	9.2
14	10	22	20	20	40	27	27	568	330	21	9.2	9.2
15	10	20	21	20	70	26	25	622	363	21	9.2	9.2
16	10	18	20	20	302	25	23	691	242	21	9.2	9.2
17	10	23	19	20	1190	23	23	809	180	21	9.2	9.2
18	10	18	19	19	672	22	23	808	141	21	9.2	9.2
19	10	17	68	19	425	22	23	884	2.1	19	9.2	9.2
20	10	16	4350	18	338	22	22	946	73	18	9.2	9.2
21	10	33	2420	18	371	22	22	775	195	18	9.2	9.2
22	10	28	669	18	469	22	22	661	187	18	9.0	9.2
23	10	30	322	18	391	22	153	513	129	18	9.1	9.2
24	10	35	177	18	165	22	397	426	44	18	9.7	9.7
25	10	23	44	19	40	21	396	327	19	18	9.6	11
26	10	22	24	20	25	21	418	198	35	17	9.6	11
27	10	21	383	19	25	22	441	107	35	17	9.6	11
28	12	20	178	18	24	22	557	181	29	17	9.6	11
29	11	19	118	19	---	21	517	386	24	17	9.6	11
30	12	19	498	21	---	21	441	422	24	17	9.6	11
31	13	---	268	21	---	21	---	311	---	17	9.6	---
TOTAL	317.4	565	9857	665	4816	745	3856	16851	3525.44	632	338.6	289.9
MEAN	10.2	18.8	318	21.5	172	24.0	129	544	118	20.4	10.9	9.66
MAX	13	35	4350	66	1190	35	557	946	363	23	17	11
MIN	9.3	13	18	18	20	21	19	107	.34	17	9.0	9.2
AC-FT	630	1120	19550	1320	9550	1480	7650	33420	6990	1250	672	575
a	11630	23430	53700	55590	46590	58200	54670	60370	57080	55280	55270	32870
CAL YR 1981 TOTAL	15737.90			MEAN 43.1	MAX 4350	MIN 8.6	AC-FT 31220					
WTR YR 1982 TOTAL	42458.34			MEAN 116	MAX 4350	MIN .34	AC-FT 84220					

a Diversion, in acre-feet, from Hell Hole Reservoir to Middle Fork powerplant, furnished by Placer County Water Agency.

SACRAMENTO RIVER BASIN

11429300 ROBBS PEAK POWERPLANT NEAR KYBURZ, CA

LOCATION.--Lat 38°53'50", long 120°22'38", in SE¼SW¼ sec.11, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in powerhouse on shore of Union Valley Reservoir, 9.5 mi (15.3 km) 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. Altitude of gage is 4,880 ft (1,487 m), from topographic map. Prior to October 1965, water-stage recorder and concrete control in abandoned section of canal 0.5 mi (0.8 km) upstream at different datum.

REMARKS.--Tunnel diverts at South Fork Rubicon River diversion dam in NE¼ sec.27, T.13 N., R.14 E., and discharges into Union Valley Reservoir (station 11441001). Water is imported from Rubicon River basin via Rubicon-Rockbound tunnel and Buck-Loon tunnel to Loon Lake, then via Loon Lake powerplant or Gerle Creek to Robbs Peak tunnel and powerplant. The water is later used in the South Fork American River basin for power development. See schematic diagrams of Middle Fork American and Rubicon River basins and South Fork American River basin.

COOPERATION.--Records furnished by Sacramento Municipal Utility District, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--20 years, 240 ft³/s (6.797 m³/s) 173,900 acre-ft/yr (214 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,440 ft³/s (40.8 m³/s) Dec. 22-24, 1964; no flow many days each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	11	91	686	500	333	279	0	983	565	103	96
2	0	10	186	635	455	385	325	0	913	519	191	0
3	0	6.0	69	767	459	274	333	0	888	509	248	0
4	0	0	0	767	432	261	290	313	928	484	246	399
5	0	0	128	767	461	220	267	812	918	469	275	201
6	0	0	327	540	457	189	290	872	898	467	268	0
7	0	0	514	335	451	172	305	928	898	339	246	287
8	0	0	509	656	457	178	286	933	651	318	16	74
9	0	0	535	600	445	217	374	888	454	319	186	0
10	0	39	615	620	446	514	442	797	461	255	204	0
11	0	75	620	716	443	923	837	676	441	167	202	0
12	0	106	651	888	438	476	983	777	492	298	207	0
13	0	495	463	913	483	353	721	832	519	306	200	0
14	0	434	797	953	988	431	435	883	560	322	233	0
15	0	404	862	953	988	312	420	872	651	316	11	0
16	0	479	726	958	645	221	595	908	893	303	181	0
17	0	751	625	953	837	242	550	888	908	310	272	0
18	0	256	615	953	479	177	777	883	953	187	283	0
19	0	197	953	953	400	185	817	938	988	121	242	0
20	0	110	963	953	445	157	893	968	953	349	278	0
21	0	468	898	432	466	186	857	983	943	295	300	0
22	0	998	746	382	535	127	807	963	918	278	110	0
23	0	1030	852	378	453	130	767	978	867	299	137	0
24	0	817	867	342	320	269	751	978	867	313	284	0
25	0	473	741	278	310	385	691	978	832	177	308	0
26	0	238	502	385	283	405	711	993	767	121	156	0
27	36	186	847	417	254	380	324	978	726	313	146	0
28	118	146	827	550	235	380	0	978	721	336	169	0
29	175	95	893	405	---	338	0	978	656	258	55	0
30	100	84	903	414	---	296	0	978	580	308	157	0
31	0	---	756	605	---	293	---	978	---	266	192	---
TOTAL	429	7908.0	19081	20154	13565	9409	15127	24931	23227	9887	6106	1057
MEAN	13.8	264	616	650	484	304	504	804	774	319	197	35.2
MAX	175	1030	963	958	988	923	983	993	988	565	308	399
MIN	0	0	0	278	235	127	0	0	441	121	11	0
AC-FT	851	15690	37850	39980	26910	18660	30000	49450	46070	19610	12110	2100

CAL YR 1981 TOTAL 76238.00 MEAN 209 MAX 1030 MIN 0 AC-FT 151200
WTR YR 1982 TOTAL 150881.00 MEAN 413 MAX 1030 MIN 0 AC-FT 299300

SACRAMENTO RIVER BASIN

231

11429350 LOON LAKE NEAR MEEKS BAY, CA

LOCATION.--Lat 38°58'59", long 120°19'22", in SE¼SW¼ sec.8, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in powerhouse intake structure, 1.6 mi (2.6 km) southwest of right bank end of Loon Lake Dam on Gerle Creek, and 10 mi (16 km) southwest of town of Meeks Bay.

DRAINAGE AREA.--7.96 mi² (20.62 km²).

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 (2.6 km) 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 (9.86 hm³). Usable capacity, 73,900 acre-ft (91.1 hm³), between elevations 6,325 ft (1,927.9 m), invert of fishwater release valve and 6,410 ft (1,953.8 m) crest of spillway. Dead storage, 2,300 acre-ft (2.84 hm³). 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 at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 77,700 acre-ft (95.8 hm³) June 6, 1969, elevation, 6,411.1 ft (1,954.10 m); minimum since reservoir first filled, 3,690 acre-ft (4.55 hm³) Nov. 3, 1970, elevation, 6,330.3 ft (1,929.48 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 76,800 acre-ft (94.7 hm³) May 28, elevation, 6,410.4 ft (1,953.89 m); minimum, 22,000 acre-ft (27.1 hm³) Feb. 13, elevation, 6,362.9 ft (1,939.41 m).

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

6,330	3,600
6,340	7,200
6,350	12,500
6,360	19,600
6,370	28,500
6,390	50,000
6,412	79,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33500	36200	63500	62100	31700	39900	45000	57500	74900	74000	73500	62400
2	33400	36400	63600	61400	30800	40300	44800	58900	74900	73800	73300	62400
3	33400	36600	63700	60400	30000	40500	44700	60500	74500	73500	72800	62400
4	33300	36700	63900	59800	29300	40800	44600	62200	74100	73400	72400	61200
5	33300	36900	63900	58900	28500	40900	44400	63500	73500	73300	71900	61200
6	33300	37000	63500	58200	27700	41000	44200	64400	72800	73000	71400	61200
7	33400	37200	62600	58000	26800	41200	43800	65400	72100	73100	70900	60400
8	33400	37300	61900	56900	25900	41300	43500	66600	72100	73300	70900	60400
9	33400	37400	61200	56000	25100	41400	43000	67200	72800	73500	70500	60300
10	33400	37400	60400	55000	24300	42100	42800	67400	73400	73700	70000	60300
11	33600	37500	59600	53800	23400	42800	45800	67400	74200	74100	69800	60300
12	33700	38200	58900	52100	22600	43200	48600	67400	74700	74200	69500	60100
13	33700	40800	58600	50500	22000	43600	50400	67600	75200	74400	69100	60100
14	33800	43000	58000	48700	23600	44000	51500	68200	75100	74500	68700	60100
15	33800	44800	57800	47000	27700	44200	52100	68800	75500	74700	68700	60100
16	33800	46600	57600	45200	31200	44600	52000	69600	75500	74700	68300	60300
17	33800	48700	56900	43400	33200	44700	52100	70700	75500	74800	67800	60300
18	33800	49600	56400	41800	34300	45000	51800	71400	75600	75100	67400	60400
19	33800	50000	60400	40100	35000	45100	51500	71900	75900	75200	66900	60700
20	33800	50500	63900	38500	35600	45200	51000	72300	76100	74900	66300	60900
21	33800	52100	66000	38200	36300	45200	50500	72800	75900	74800	65800	61200
22	33800	54500	66100	37600	37100	45300	50400	73700	75600	74700	65800	61700
23	33800	57600	65700	37100	37900	45400	50500	74800	75200	74500	65300	61900
24	33800	60300	64900	36800	38300	45300	51100	75500	74800	74400	64800	62400
25	33800	61500	64300	36600	38700	45200	51600	76100	74400	74700	64300	64300
26	33800	62300	64100	36100	39000	45000	52100	76500	74200	74700	64100	66000
27	33900	62700	64100	35500	39200	44800	53000	76600	74000	74500	63600	66700
28	34900	63000	63400	34800	39500	44800	54200	76800	73800	74200	63400	67000
29	35500	63100	62800	34100	---	44800	55200	76300	73800	74000	63400	67100
30	35800	63200	62800	33400	---	44800	56300	75600	74000	73800	62800	67100
31	36000	---	62600	32300	---	45000	---	75200	---	73500	62400	---
MAX	36000	63200	66100	62100	39500	45400	56300	76800	76100	75200	73500	67100
MIN	33300	36200	56400	32300	22000	39900	42800	57500	72100	73000	62400	60100
a	6377.5	6400.4	6399.9	6374.0	6380.8	6385.8	6395.0	6409.3	6408.4	6408.1	6399.8	6403.4
b	+2500	+27200	-600	-30300	+7200	+5500	+11300	+18900	-1200	-500	-11100	+4700

CAL YR 1981 b +30700

WTR YR 1982 b +33600

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

b Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'20", long 120°18'52", in NE¼NE¼ sec.5, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 0.3 mi (0.5 km) downstream from Loon Lake Dam, and 11 mi (18 km) southwest of Meeks Bay.

DRAINAGE AREA.--8.01 mi² (20.7 km²).

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 concrete weir. Altitude of gage is 6,250 ft (1,905 m), from topographic map. Prior to August 1962, nonrecording gage at site 1,400 ft (427 m) 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. Storage began Dec. 5, 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, 11428300). Diversion to Loon Lake powerplant starting August 1971, bypasses station and returns to Gerle Creek at Gerle Creek Dam. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--10 years (water years, 1911, 1963-71, prior to diversion to Loon Lake powerplant), 131 ft³/s (3.710 m³/s), 94,910 acre-ft/yr (117 hm³/yr); 11 years (water years 1972-82), 8.27 ft³/s (0.234 m³/s), 5,990 acre-ft/yr (7.39 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft³/s (91.8 m³/s), unregulated, Feb. 1, 1963, gage height, 12.65 ft (3.856 m), from rating curve extended above 600 ft³/s (17.0 m³/s) on basis of slope-area measurement of maximum flow; no flow Oct. 15, 1913. Maximum discharge since construction of Loon Lake Dam in 1963, 1,050 ft³/s (29.7 m³/s) June 5, 1969, gage height, 9.03 ft (2.752 m); minimum daily, 3.6 ft³/s (0.10 m³/s) Sept. 27, 28, Nov. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 212 ft³/s (6.00 m³/s) May 28, gage height, 4.69 ft (1.430 m); minimum daily, 7.7 ft³/s (0.22 m³/s) on several days during October, January, February, and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	8.5	9.0	8.3	7.7	9.3	9.5	10	8.7	8.3	8.0	8.0
2	7.9	8.4	8.6	8.3	7.7	9.3	9.5	10	8.5	8.3	8.0	8.0
3	7.7	8.3	8.6	8.3	7.7	9.2	9.5	10	8.3	8.3	8.0	8.0
4	7.7	8.3	8.6	8.3	7.9	9.2	9.5	10	8.3	8.1	8.0	8.0
5	7.9	8.3	8.6	8.3	8.0	9.2	9.5	9.5	8.3	8.0	8.0	8.0
6	8.0	8.3	8.6	8.3	8.0	9.2	9.5	9.6	8.1	8.0	7.9	8.0
7	8.8	8.3	8.4	8.3	8.0	9.2	9.5	10	8.2	8.3	7.8	8.0
8	8.0	8.3	8.3	8.3	8.0	9.2	9.5	9.6	8.6	8.6	7.7	8.0
9	8.0	8.3	8.1	8.2	7.8	9.2	9.5	9.0	8.6	8.5	7.7	8.0
10	9.2	8.3	8.3	8.0	7.7	12	12	8.4	8.6	8.6	7.7	8.0
11	8.5	8.3	8.0	8.0	7.9	11	21	8.5	8.6	8.6	7.7	8.0
12	8.1	10	8.0	8.0	8.0	9.8	12	9.0	8.6	8.6	8.1	8.0
13	8.1	14	8.1	8.0	9.6	9.7	11	9.5	8.6	8.6	8.6	8.0
14	8.0	10	8.8	8.0	14	9.8	10	9.5	8.4	8.6	8.6	8.0
15	8.0	11	8.6	8.0	20	9.5	10	10	8.0	8.6	8.6	8.5
16	8.0	9.4	8.5	8.0	17	9.5	9.6	10	8.0	8.5	8.6	8.8
17	8.0	11	8.3	7.7	9.9	9.4	9.6	9.9	8.0	8.5	8.6	8.0
18	8.1	8.7	9.4	7.7	9.5	9.2	9.7	9.5	8.2	8.5	8.6	8.0
19	8.0	8.6	20	7.7	9.5	9.2	9.6	9.7	8.2	8.6	8.6	8.0
20	8.0	8.6	16	7.7	9.6	9.2	9.5	10	8.1	8.6	8.6	8.0
21	8.0	13	9.7	7.7	9.7	9.2	9.4	10	8.0	8.5	8.4	8.0
22	8.0	12	9.0	7.7	10	9.3	9.6	10	8.0	8.5	8.3	8.0
23	8.0	13	8.7	7.7	9.6	9.3	9.8	10	8.0	8.3	8.3	8.2
24	8.0	13	8.4	7.7	9.4	9.4	9.7	11	8.1	8.0	8.2	9.5
25	8.0	9.8	8.3	7.7	9.2	9.4	9.6	10	8.3	8.0	8.0	11
26	8.0	9.5	8.5	7.7	9.2	9.3	9.8	18	8.3	8.0	8.0	8.8
27	8.4	9.4	9.4	7.7	9.2	9.3	10	71	8.3	8.0	8.0	8.6
28	10	9.2	8.5	8.0	9.2	9.4	9.9	103	8.2	8.0	8.0	8.6
29	8.6	9.2	8.5	8.0	---	9.3	9.5	41	8.4	8.0	8.0	8.6
30	8.4	9.2	9.2	7.8	---	9.2	9.8	9.7	8.6	8.0	8.0	8.5
31	8.6	---	8.6	7.7	---	9.5	---	9.1	---	8.0	8.0	---
TOTAL	254.0	290.2	285.6	246.8	269.0	293.9	306.6	494.5	249.1	258.0	252.6	249.1
MEAN	8.19	9.67	9.21	7.96	9.61	9.48	10.2	16.0	8.30	8.32	8.15	8.30
MAX	10	14	20	8.3	20	12	21	103	8.7	8.6	8.6	11
MIN	7.7	8.3	8.0	7.7	7.7	9.2	9.4	8.4	8.0	8.0	7.7	8.0
AC-FT	504	576	566	490	534	583	608	981	494	512	501	494
a	6.0	4.0	19320	34810	10990	2690	10680	29120	40510	18820	13160	2060
CAL YR 1981 TOTAL	3046.6											
MEAN 8.35												
MAX 20												
MIN 7.7												
AC-FT 6040												
WTR YR 1982 TOTAL	3449.4											
MEAN 9.45												
MAX 103												
MIN 7.7												
AC-FT 6840												

a Diversion, in acre-feet, to Loon Lake powerplant, furnished 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 SW¼SW¼ sec.22, T.13 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank 600 ft (183 m) downstream from Gerle Creek, and 18 mi (29 km) east of Georgetown.

DRAINAGE AREA.--47.6 mi² (123 km²).

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. Altitude of gage is 4,970 ft (1,515 m), from topographic map. Feb. 1, 1910, to June 21, 1914, nonrecording gage at site about 700 ft (213 m) downstream 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 Rubicon-Rockbound tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon tunnel (stations 11427940, 11428300). Prior to Dec. 3, 1961, water was diverted out of the basin in Georgetown Divide ditch. Robbs Peak tunnel 1.2 mi (1.9 km) upstream (station 11429800) began diversion of up to 1,320 ft³/s (37.4 m³/s) to Silver Creek basin October 1962. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE (unadjusted).--20 years (water years 1962-82), 22.1 ft³/s (0.626 m³/s), 16,010 acre-ft/yr (19.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s (326 m³/s) Jan. 31, 1963, gage height, 12.32 ft (3.755 m), from rating curve extended above 2,500 ft³/s (70.8 m³/s) on basis of slope-area measurement of maximum flow; minimum, 0.8 ft³/s (0.023 m³/s) Sept. 21, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,160 ft³/s (174 m³/s) Feb. 16, gage height, 10.26 ft (3.127 m); minimum daily, 4.4 ft³/s (0.12 m³/s) Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	4.6	18	13	6.8	17	10	14	50	11	10	10
2	5.0	4.6	12	12	6.9	17	11	14	14	10	9.9	10
3	5.2	4.4	18	11	6.9	13	12	15	8.8	10	10	10
4	4.9	5.0	28	12	6.8	11	12	18	8.7	10	10	10
5	4.9	5.0	18	14	6.7	11	9.4	14	8.7	9.9	10	10
6	4.9	5.1	8.0	10	6.6	9.9	8.5	14	8.6	9.9	10	9.9
7	5.9	5.0	7.8	9.2	6.6	9.7	32	18	8.7	9.7	11	10
8	5.0	5.0	7.1	9.0	6.6	9.8	9.0	21	13	9.6	10	12
9	5.0	5.0	7.8	8.9	6.6	9.7	8.4	13	9.2	9.6	10	8.1
10	6.4	4.9	8.5	8.7	6.6	19	15	12	9.6	9.9	11	8.9
11	6.1	4.9	7.4	8.5	6.6	74	1560	12	9.7	10	11	9.0
12	5.5	10	8.6	8.4	6.6	15	601	11	9.7	10	10	8.9
13	5.4	196	9.9	8.4	8.5	13	16	11	10	9.6	10	9.0
14	5.5	479	9.2	8.4	323	17	14	11	9.9	9.0	10	11
15	5.2	13	9.6	8.4	1970	13	14	11	9.8	8.9	10	14
16	4.6	10	8.5	8.2	2990	12	13	11	9.9	9.3	10	18
17	4.6	66	7.8	8.2	35	11	13	10	9.7	9.2	10	17
18	4.6	92	9.1	8.3	14	10	13	10	28	9.2	10	18
19	4.6	7.9	2650	8.2	13	9.4	14	9.8	16	9.0	10	22
20	4.6	7.5	2780	8.2	13	9.0	14	15	10	9.9	11	19
21	4.7	489	93	7.7	13	9.0	14	13	10	9.5	10	14
22	4.7	347	14	7.3	13	9.0	14	11	9.8	9.6	10	12
23	4.7	155	12	7.1	12	9.3	15	11	9.7	9.9	10	12
24	4.8	932	11	7.0	11	9.4	14	146	9.6	10	10	21
25	4.9	30	10	7.1	10	9.6	14	377	9.6	10	10	104
26	4.9	28	10	7.7	10	10	14	353	9.5	9.7	10	140
27	5.4	27	13	7.4	10	11	369	346	9.5	11	10	58
28	11	25	11	7.5	10	12	562	266	9.6	11	11	31
29	7.0	24	22	7.1	---	11	632	193	11	10	11	18
30	5.2	25	23	6.9	---	11	179	97	11	10	10	13
31	4.8	---	14	6.8	---	10	---	72	---	10	11	---
TOTAL	165.1	3016.9	5866.3	270.6	5535.8	421.8	4226.3	2149.8	361.3	304.4	316.9	667.8
MEAN	5.33	101	189	8.73	198	13.6	141	69.3	12.0	9.82	10.2	22.3
MAX	11	932	2780	14	2990	74	1560	377	50	11	11	140
MIN	4.6	4.4	7.1	6.8	6.6	9.0	8.4	9.8	8.6	8.9	9.9	8.1
AC-FT	327	5980	11640	537	10980	837	8380	4260	717	604	629	1320
CAL YR 1981 TOTAL	10672.2			MEAN 29.2	MAX 2780	MIN 4.4	AC-FT 21170					
WTR YR 1982 TOTAL	23303.0			MEAN 63.8	MAX 2990	MIN 4.4	AC-FT 46220					

SACRAMENTO RIVER BASIN

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 (3.4 km) upstream from Stumpy Meadows Dam, and 12.5 mi (20.1 km) east of Georgetown.

DRAINAGE AREA.--11.7 mi² (30.3 km²).

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1971, published as "above Stumpy Meadows Reservoir."

GAGE.--Water-stage recorder. Altitude of gage is 4,280 ft (1,305 m), from topographic map.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--22 years, 24.6 ft³/s (0.697 m³/s), 17,820 acre-ft/yr (22.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,490 ft³/s (70.5 m³/s) Jan. 13, 1980, gage height, 6.31 ft (1.923 m) in gage well, 6.84 ft (2.085 m) from floodmarks, from rating curve extended above 170 ft³/s (4.81 m³/s) on basis of slope-area measurement of maximum flow; maximum gage height, 8.05 ft (2.454 m) Jan. 31, 1963; minimum daily discharge, 0.14 ft³/s (0.004 m³/s) Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.83 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 14	0115	173 4.90	3.02 0.920	Mar. 2	0115	171 4.84	3.01 .917
Nov. 24	0600	316 8.95	3.47 1.058	Mar. 11	0915	265 7.50	3.33 1.015
Dec. 30	0230	218 6.17	3.18 .969	Apr. 11	2145	833 23.6	4.49 1.369
Feb. 16	0515	*2,000 56.6	5.86 1.786				

Minimum daily, 2.3 ft³/s (0.065 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	8.4	23	124	24	84	65	142	41	22	9.1	4.9
2	2.3	7.5	21	97	24	153	57	141	39	20	9.1	4.9
3	3.1	6.9	21	81	24	118	63	142	38	19	9.0	4.7
4	3.2	6.3	20	73	24	101	67	148	37	19	9.0	4.7
5	2.9	5.9	19	73	23	92	59	143	36	18	8.8	4.6
6	2.7	5.8	19	60	23	81	56	137	35	18	8.4	4.5
7	6.4	5.4	19	53	22	75	53	137	33	17	9.3	4.5
8	4.5	5.0	19	49	22	71	51	134	32	17	9.9	4.2
9	3.5	4.9	22	44	22	67	50	124	31	16	8.3	4.2
10	8.2	4.8	26	41	22	76	59	112	30	16	7.8	4.3
11	9.8	4.8	23	38	22	187	447	101	29	16	7.7	4.4
12	6.0	17	28	36	21	156	438	93	28	15	7.7	4.2
13	4.6	60	32	34	24	127	233	91	28	15	7.5	4.2
14	4.3	82	26	33	82	131	176	90	27	15	7.4	4.2
15	4.0	43	29	32	374	122	163	87	26	14	7.3	5.6
16	3.8	39	25	30	1260	107	154	86	25	14	7.0	13
17	3.7	73	24	30	382	96	147	84	25	14	6.7	8.8
18	3.6	39	29	29	209	86	141	80	25	13	6.4	10
19	3.4	27	40	29	151	76	138	75	26	13	6.2	10
20	3.4	21	90	29	129	69	136	73	24	13	6.2	7.8
21	3.4	75	74	29	118	65	134	71	23	12	5.9	6.7
22	3.4	101	55	26	116	62	137	68	22	12	5.7	6.1
23	3.4	71	120	25	108	59	140	66	21	12	5.6	6.0
24	3.4	192	92	25	96	58	142	63	21	12	5.4	17
25	3.4	77	76	24	86	57	143	60	21	11	5.2	29
26	3.2	53	66	27	78	58	143	56	20	11	5.1	21
27	3.8	41	80	26	73	64	144	53	20	11	5.1	13
28	30	34	65	26	69	73	145	50	20	10	5.3	11
29	22	29	125	25	---	68	145	47	24	10	5.7	11
30	13	25	184	25	---	64	144	44	22	9.6	5.4	8.4
31	9.9	---	139	24	---	65	---	42	---	9.2	5.1	---
TOTAL	184.6	1164.7	1631	1297	3628	2768	4170	2840	829	443.8	218.3	246.9
MEAN	5.95	38.8	52.6	41.8	130	89.3	139	91.6	27.6	14.3	7.04	8.23
MAX	30	192	184	124	1260	187	447	148	41	22	9.9	29
MIN	2.3	4.8	19	24	21	57	50	42	20	9.2	5.1	4.2
AC-FT	366	2310	3240	2570	7200	5490	8270	5630	1640	880	433	490

CAL YR 1981 TOTAL 6520.4 MEAN 17.9 MAX 192 MIN 1.3 AC-FT 12930
WTR YR 1982 TOTAL 19421.3 MEAN 53.2 MAX 1260 MIN 2.3 AC-FT 38520

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 (137 m) downstream from Mutton Canyon, 500 ft (150 m) downstream from Georgetown Divide diversion dam, 2.5 mi (4.0 km) downstream from Stumpy Meadows Dam, and 10 mi (16 km) east of Georgetown.

PERIOD OF RECORD.--June 1961 to current year.

REMARKS.--Records good. Flow regulated by Stumpy Meadows Lake, usable capacity, 20,000 acre-ft (24.7 hm³) completed in November 1961. Georgetown Irrigation District ditch, capacity, about 20 ft³/s (0.57 m³/s) diverts water out of Pilot Creek, 500 ft (150 m) above station. See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s (154 m³/s) Dec. 22, 1964, gage height, 9.60 ft (2.926 m), from rating curve extended above 300 ft³/s (8.50 m³/s) on basis of slope-area measurement at gage height 5.00 ft (1.524 m); maximum gage height, 10.06 ft (3.066 m) Dec. 23, 1964; minimum daily discharge, 0.20 ft³/s (0.006 m³/s) Sept. 24, Nov. 1-5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,230 ft³/s (91.5 m³/s) Feb. 16, gage height, 8.94 ft (2.725 m); minimum daily, 0.91 ft³/s (0.026 m³/s) Oct. 1.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.91	1.3	3.8	393	45	200	144	260	38	12	3.5	2.6
2	.93	1.2	3.6	299	45	333	135	258	36	10	3.4	2.6
3	1.1	1.2	3.5	225	38	252	196	250	35	8.6	3.4	2.6
4	1.1	1.2	3.5	274	32	215	182	261	33	7.6	3.4	2.5
5	1.0	1.1	3.4	283	31	192	144	234	31	6.6	3.3	2.5
6	.98	1.2	3.4	195	30	173	140	209	29	6.1	3.3	2.5
7	1.5	1.1	3.3	159	30	159	124	206	28	5.7	3.4	2.5
8	1.1	1.1	3.2	136	29	148	119	202	26	5.3	3.4	2.4
9	1.1	1.9	3.9	123	29	138	117	194	25	5.2	3.3	2.4
10	1.7	2.5	5.3	110	28	180	178	186	24	5.1	3.2	2.4
11	1.8	2.5	3.8	100	27	319	899	162	23	5.1	3.2	2.4
12	1.3	4.4	5.6	89	26	253	870	144	22	5.0	3.1	2.4
13	1.1	10	6.7	81	44	216	535	137	21	5.0	3.1	2.3
14	1.1	8.1	4.6	75	214	253	439	134	21	4.9	3.1	2.3
15	1.1	5.2	6.2	70	906	219	378	129	20	4.6	3.0	2.7
16	1.1	4.3	4.7	65	2120	206	323	124	19	4.4	3.0	3.0
17	1.1	10	4.0	60	782	189	295	121	18	4.4	2.9	3.0
18	1.1	4.7	5.7	62	454	177	278	115	17	4.3	2.9	3.7
19	1.1	3.6	79	77	338	151	270	106	18	4.2	2.8	3.2
20	1.0	3.2	187	81	277	138	265	100	17	4.1	2.8	2.8
21	1.0	23	113	79	246	129	257	93	15	4.0	2.8	2.6
22	1.0	13	81	57	230	126	262	87	14	3.9	2.8	2.5
23	1.0	13	209	50	212	123	263	82	13	3.9	2.7	2.5
24	1.0	46	208	48	190	118	268	76	12	3.9	2.7	3.5
25	1.0	9.9	167	46	172	116	266	68	11	3.8	2.7	6.4
26	1.0	5.8	138	72	160	125	264	63	11	3.7	2.7	4.3
27	1.1	5.0	183	63	149	144	263	58	10	3.6	2.7	3.2
28	4.9	4.5	138	60	137	173	268	52	10	3.6	2.7	2.9
29	4.1	4.1	293	52	---	165	265	46	15	3.6	2.7	2.8
30	1.7	3.9	441	48	---	159	259	43	14	3.5	2.7	2.7
31	1.4	---	380	46	---	191	---	40	---	3.5	2.6	---
TOTAL	42.42	198.0	2695.2	3578	7021	5680	8666	4240	626	159.2	93.3	86.2
MEAN	1.37	6.60	86.9	115	251	183	289	137	20.9	5.14	3.01	2.87
MAX	4.9	46	441	393	2120	333	899	261	38	12	3.5	6.4
MIN	.91	1.1	3.2	46	26	116	117	40	10	3.5	2.6	2.3
AC-FT	84	393	5350	7100	13930	11270	17190	8410	1240	316	185	171
CAL YR 1981	TOTAL	4358.12	MEAN	11.9	MAX	441	MIN	.91	AC-FT	8640		
WTR YR 1982	TOTAL	33085.32	MEAN	90.6	MAX	2120	MIN	.91	AC-FT	65620</		

SACRAMENTO RIVER BASIN

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 (5.3 km) upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 mi (27.7 km) east of Volcanoville.

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

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 4,630 ft (1,411 m), from topographic map.

REMARKS.--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 collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 9.51 ft³/s (0.269 m³/s), 6,890 acre-ft/yr (8.50 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 251 ft³/s (7.11 m³/s) Nov. 12, 1973; no flow for part of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	22		0				0	6.5		
2		0	21		6.0				0	5.0		
3		0	19		14				0	3.8		
4		0	18		14				0	2.6		
5		0	17		13				0	2.0		
6		0	16		12				0	1.8		
7		0	15		12				0	1.4		
8		0	14		11				0	1.0		
9		0	14		11				0	.30		
10		0	18		11				0	.15		
11		0	16		10				7.2	0		
12		2.4	16		10				16	0		
13		29	23		27				15	0		
14		22	43		121				14	0		
15		21	65		47				13	0		
16		20	41		1.4				12	0		
17		31	31		0				12	0		
18		22	40		0				12	0		
19		15	24		0				15	0		
20		11	.65		0				12	0		
21		36	.35		0				9.3	0		
22		38	0		0				7.7	0		
23		105	0		0				6.8	0		
24		65	0		0				6.2	0		
25		80	0		0				5.3	0		
26		62	0		0				4.5	0		
27		48	0		0				4.0	0		
28		34	0		0				3.5	0		
29		28	0		---				5.9	0		
30		25	0		---				4.8	0		
31		---	0		---				---	0		
TOTAL	0	694.4	474.00	0	320.4	0	0	0	186.2	24.55	0	0
MEAN	0	23.1	15.3	0	11.4	0	0	0	6.21	.79	0	0
MAX	0	105	65	0	121	0	0	0	16	6.5	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	1380	940	0	636	0	0	0	369	49	0	0

CAL YR 1981 TOTAL 2899.34 MEAN 7.94 MAX 105 MIN 0 AC-FT 5750
WTR YR 1982 TOTAL 1699.55 MEAN 4.66 MAX 121 MIN 0 AC-FT 3370

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 (5.1 km) upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 mi (27.2 km) east of Volcanoville.

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

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,700 ft (1,430 m), from topographic map.

REMARKS.--No regulation or diversion above station. 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 on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 3.66 ft³/s (0.104 m³/s), 2,650 acre-ft/yr (3.27 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 63 ft³/s (1.78 m³/s) Nov. 25, 1981; no flow for part of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	1.6	13		0							
2	0	1.1	12		2.1							
3	0	.60	11		4.5							
4	0	.21	10		4.7							
5	0	.16	9.2		4.0							
6	0	.12	8.5		3.5							
7	0	.12	7.8		3.4							
8	0	.12	7.1		3.3							
9	0	.08	6.9		3.0							
10	0	.08	9.5		2.8							
11	0	.08	8.0		2.5							
12	0	.65	8.3		2.4							
13	0	25	13		18							
14	0	13	31		21							
15	0	5.9	45		6.2							
16	0	8.4	28		.82							
17	0	37	19		0							
18	0	19	26		0							
19	0	10	6.4		0							
20	0	6.7	0		0							
21	0	18	0		0							
22	0	8.5	0		0							
23	0	60	0		0							
24	0	21	0		0							
25	0	63	0		0							
26	0	28	0		0							
27	0	21	0		0							
28	7.0	18	0		0							
29	1.8	15	0		---							
30	1.4	13	0		---							
31	2.5	---	0		---							
TOTAL	12.7	395.42	279.7	0	82.22	0	0	0	0	0	0	0
MEAN	.41	13.2	9.02	0	2.94	0	0	0	0	0	0	0
MAX	7.0	63	45	0	21	0	0	0	0	0	0	0
MIN	0	.08	0	0	0	0	0	0	0	0	0	0
AC-FT	25	784	555	0	163	0	0	0	0	0	0	0
CAL YR 1981	TOTAL	1619.04	MEAN 4.44	MAX 63	MIN 0	AC-FT 3210						
WTR YR 1982	TOTAL	770.04	MEAN 2.11	MAX 63	MIN 0	AC-FT 1530						

SACRAMENTO RIVER BASIN

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 (23 m) downstream from North Fork Long Canyon, 6.5 mi (10.5 km) south of French Meadows, and 18 mi (29 km) east of Foresthill.

DRAINAGE AREA.--18.0 mi² (46.6 km²).

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,100 ft (1,250 m), from topographic map.

REMARKS.--Water is diverted above this station to a diversion tunnel from Hell Hole Reservoir to Middle Fork American River powerplant via South Fork and North Fork Long Canyon diversion tunnels (stations 11433060, 11433080); diversions began in February 1966. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (since diversion to Middle Fork American River powerplant).--16 years (water years 1967-82), 31.8 ft³/s (0.901 m³/s) 23,040 acre-ft/yr (28.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft³/s (133 m³/s) Jan. 13, 1980, gage height, 10.05 ft (3.063 m), from rating curve extended above 900 ft³/s (25.5 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 11.20 ft (3.414 m) Dec. 23, 1964; minimum daily discharge, 0.08 ft³/s (0.002 m³/s) Sept. 27, 28, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,060 ft³/s (115 m³/s) Feb. 16, gage height, 9.59 ft (2.923 m); minimum daily, 0.15 ft³/s (0.004 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	2.4	27	274	51	202	80	293	64	15	3.5	.94
2	.15	1.8	25	206	43	220	81	289	59	13	3.4	.85
3	.23	1.3	24	166	32	162	86	291	55	12	3.3	.85
4	.51	1.0	23	148	32	140	83	298	51	12	3.3	.85
5	.45	.89	23	130	31	126	75	274	56	11	3.1	.76
6	.40	.76	22	117	30	114	70	261	48	11	3.0	.76
7	1.5	.62	21	103	29	107	65	266	43	11	3.2	.76
8	.79	.49	20	95	29	104	63	249	40	10	3.4	.68
9	.51	.43	21	87	28	103	65	219	38	10	3.0	.60
10	1.2	.35	23	83	28	225	140	188	36	9.8	2.8	.76
11	2.0	.31	21	80	27	374	1000	164	30	9.4	2.7	1.0
12	1.6	11	25	76	26	250	629	157	17	8.9	2.6	.76
13	.95	89	35	71	47	203	367	158	17	8.5	2.5	.68
14	1.2	121	38	70	356	233	306	158	16	8.0	2.5	.68
15	1.2	70	42	69	1520	186	290	155	15	7.5	2.4	.94
16	1.1	46	38	67	1550	161	268	156	14	7.1	2.3	2.2
17	1.1	140	34	67	571	142	267	150	16	6.8	2.2	1.6
18	1.1	31	37	67	345	127	280	140	15	6.4	2.1	2.3
19	1.0	22	988	64	302	112	289	133	18	6.4	2.0	2.3
20	1.0	17	1540	59	296	102	285	135	15	6.1	2.0	1.7
21	1.0	289	641	55	293	97	276	135	13	5.8	1.9	1.5
22	.95	247	344	53	283	95	283	132	12	5.4	1.4	1.4
23	.95	203	246	52	230	96	308	134	11	5.2	1.2	1.6
24	.95	490	192	52	190	98	310	133	11	4.9	1.1	6.0
25	.95	89	162	53	166	99	298	129	11	4.9	1.1	24
26	.95	53	186	61	148	102	291	123	10	4.7	1.0	16
27	1.4	41	466	58	136	120	298	111	10	4.3	1.0	6.6
28	10	35	241	58	126	134	306	96	10	4.2	1.0	4.5
29	6.2	31	352	54	---	100	289	83	12	4.1	1.0	3.8
30	1.8	29	556	52	---	90	287	74	14	3.9	1.0	3.4
31	2.3	---	336	52	---	84	---	69	---	3.7	.94	---
TOTAL	45.61	2064.35	6749	2699	6945	4508	7735	5353	777	241.0	67.94	90.77
MEAN	1.47	68.8	218	87.1	248	145	258	173	25.9	7.77	2.19	3.03
MAX	10	490	1540	274	1550	374	1000	298	64	15	3.5	24
MIN	.15	.31	20	52	26	84	63	69	10	3.7	.94	.60
AC-FT	90	4090	13390	5350	13780	8940	15340	10620	1540	478	135	180
CAL YR 1981	TOTAL	12044.01	MEAN	33.0	MAX	1540	MIN	.15	AC-FT	23890		
WTR YR 1982	TOTAL	37275.67	MEAN	102	MAX	1550	MIN	.15	AC-FT	73940		

11433200 RUBICON RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 38°59'33", long 120°43'14", in SE 1/4 NW 1/4 sec.11, T.13 N., R.11 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 0.6 mi (1.0 km) upstream from Ralston powerhouse, 1.2 mi (1.9 km) upstream from confluence of Rubicon River and Middle Fork American River, and 5.6 mi (9.0 km) southeast of Foresthill.

DRAINAGE AREA.--315 mi² (816 km²).

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,200 ft (366 m), from topographic map. October 1958 to May 17, 1963, at site 2.0 mi (3.2 km) upstream, 150 ft (46 m) downstream from Ralston Bridge, and May 17, 1963, to Mar. 30, 1965, at site 2.1 mi (3.4 km) upstream, 100 ft (30 m) upstream from Ralston Bridge at datum 1,362.20 ft (415.199 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Hell Hole Reservoir (station 11428700), Loon Lake (station 11429350), and Stumpy Meadows Lake, capacity, 20,000 acre-ft (24.7 hm³). Water is imported from French Meadows Reservoir on Middle Fork American River through a tunnel to French Meadows powerplant on shore of Hell Hole Reservoir. Water is diverted from Hell Hole Reservoir through a tunnel to Middle Fork powerplant on Middle Fork American River. Robbs Peak tunnel and powerplant (station 11429800) divert water to South Fork American River basin. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to construction of Hell Hole Dam).--7 years (water years 1959-65), 609 ft³/s (17.2 m³/s), 440,900 acre-ft/yr (544 hm³/yr); 17 years (water years 1966-82), 301 ft³/s (8.524 m³/s), 218,100 acre-ft/yr (269 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, unknown, Dec. 23, 1964, gage height, 55.4 ft (16.89 m) from floodmarks, caused by overtopping of the partly constructed Hell Hole Dam; next highest peak discharge, 83,000 ft³/s (2,350 m³/s) Feb. 1, 1963, gage height, 35.0 ft (10.67 m) former site and datum; minimum daily, 10 ft³/s (0.28 m³/s) Sept. 20-27, 1962. Maximum discharge since construction of Hell Hole Dam in 1965, 37,000 ft³/s (1,050 m³/s) Jan. 13, 1980, gage height, 19.65 ft (5.989 m) from floodmarks; minimum daily, 7.4 ft³/s (0.21 m³/s) Sept. 11, 12, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of December 1937, November 1950, and December 1955 had approximate discharges of 44,000 ft³/s (1,250 m³/s), 56,000 ft³/s (1,590 m³/s), and 73,000 ft³/s (2,070 m³/s), respectively, on basis of 1958-64 stage-discharge relation and U.S. Forest Service floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,600 ft³/s (725 m³/s) Dec. 20, gage height, 17.16 ft (5.230 m); minimum daily, 24 ft³/s (0.68 m³/s) Oct. 2-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	52	183	2390	365	1300	1360	2040	760	181	82	49
2	24	49	165	1750	340	1690	1210	2190	641	175	79	49
3	24	45	153	1330	290	1360	1940	2130	584	166	79	51
4	24	42	145	1340	272	1190	2040	2320	529	161	79	49
5	24	41	148	1570	266	1060	1500	2230	489	155	79	47
6	24	41	126	1040	258	960	745	1980	414	152	77	46
7	28	37	110	865	253	880	760	2010	344	145	74	46
8	34	36	117	770	250	850	670	2130	318	142	74	44
9	31	35	113	710	247	810	675	1900	326	139	77	47
10	30	35	132	685	245	1410	1100	1550	352	136	69	44
11	40	35	118	630	238	2200	8270	1180	404	136	69	41
12	40	76	126	578	232	1660	6070	959	425	133	67	41
13	34	361	185	540	350	1380	3370	1020	385	133	67	41
14	30	1040	187	515	2400	1540	2700	1260	339	133	64	41
15	29	212	189	494	9800	1350	2420	1430	322	124	64	44
16	28	216	199	470	12500	1210	2130	1470	409	121	64	68
17	28	507	173	456	5400	1100	1950	1560	489	118	62	80
18	27	297	164	462	3890	1020	1880	1540	500	118	60	78
19	26	149	4620	498	3100	890	1830	1380	840	112	60	86
20	26	110	16500	490	2760	815	1780	1300	776	109	58	81
21	26	589	7860	468	2750	780	1710	1400	484	107	58	74
22	26	1620	2780	400	2900	748	1640	1490	361	104	55	62
23	26	522	1760	375	2490	740	1700	1650	278	101	55	57
24	26	2660	1300	370	1700	758	2010	1780	226	101	53	84
25	26	586	1020	372	1160	810	2020	2250	196	99	53	138
26	26	386	866	479	1030	867	1960	2320	175	99	53	289
27	28	310	1550	435	950	932	2140	2400	175	94	51	164
28	138	261	1230	424	885	1150	2700	1950	169	91	49	119
29	189	225	1640	392	---	1090	2860	1360	178	89	49	96
30	93	201	3010	376	---	1090	2260	916	190	89	49	83
31	63	---	2350	370	---	1720	---	800	---	87	49	---
TOTAL	1243	10776	49219	22044	57321	35360	65400	51895	12078	3850	1978	2239
MEAN	40.1	359	1588	711	2047	1141	2180	1674	403	124	63.8	74.6
MAX	189	2660	16500	2390	12500	2200	8270	2400	840	181	82	289
MIN	24	35	110	370	232	740	670	800	169	87	49	41
AC-FT	2470	21370	97630	43720	113700	70140	129700	102900	23960	7640	3920	4440

CAL YR 1981 TOTAL 90212 MEAN 247 MAX 16500 MIN 21 AC-FT 178900
WTR YR 1982 TOTAL 313403 MEAN 859 MAX 16500 MIN 24 AC-FT 621600

NOTE.--No gage-height record Jan. 6 to Mar. 25.

11433260 NORTH FORK OF MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'27", long 120°43'03", in NE 1/4 NW 1/4 sec.35, T.14 N., R.11 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 1.0 mi (1.6 km) downstream from El Dorado Canyon, and 4.8 mi (7.7 km) east of Foresthill.

DRAINAGE AREA.--88.9 mi² (230.3 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft (396 m), from topographic map.

REMARKS.--No storage or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 265 ft³/s (7.505 m³/s), 192,000 acre-ft/yr (237 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,100 ft³/s (852 m³/s) Jan. 13, 1980, gage height, 17.00 ft (5.182 m) from floodmarks; minimum daily, 7.1 ft³/s (0.20 m³/s) Sept. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 13,900 ft³/s (394 m³/s) Dec. 20; minimum daily, 20 ft³/s (0.57 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	52	162	2100	380	676	766	1160	351	131	53	46
2	20	49	141	1280	373	1010	700	1160	323	119	50	45
3	22	46	123	905	377	842	863	1160	305	114	50	44
4	27	42	108	941	375	783	855	1160	290	106	51	43
5	24	39	97	1130	358	720	772	1120	283	100	54	42
6	22	38	88	811	344	644	700	1060	262	100	56	41
7	37	37	80	661	334	603	614	1060	246	96	56	40
8	42	35	75	587	326	580	586	1040	238	93	59	40
9	28	33	70	547	314	565	588	960	229	92	54	40
10	32	32	88	523	304	765	1030	828	223	88	51	40
11	62	31	74	512	291	1340	5450	696	219	76	49	40
12	49	39	86	498	280	1010	3000	655	205	79	49	41
13	33	535	183	468	422	848	2480	652	195	77	47	40
14	29	1500	230	444	4170	911	2000	670	182	74	47	41
15	27	731	296	433	8060	840	1710	668	174	71	47	43
16	25	674	307	417	9850	796	1480	685	169	69	50	54
17	24	1500	231	407	3350	776	1300	690	166	67	48	58
18	23	570	212	411	2200	742	1200	642	176	68	48	61
19	23	327	3740	410	2100	664	1180	609	179	66	46	72
20	22	240	13900	399	2000	605	1170	601	179	66	46	55
21	22	1370	4940	393	1880	581	1160	607	154	68	46	51
22	22	1320	2610	359	1700	565	1170	592	141	67	47	48
23	22	1630	1710	344	1410	557	1180	588	132	64	47	47
24	21	3270	1320	346	1100	556	1180	582	127	64	47	62
25	21	850	1080	355	850	555	1170	566	124	65	46	197
26	21	519	941	491	662	574	1180	549	118	62	46	182
27	21	364	1740	519	596	649	1170	527	116	60	45	68
28	132	280	1090	490	570	763	1170	470	113	58	45	54
29	227	228	2160	443	---	723	1170	414	128	56	46	48
30	84	190	3750	406	---	706	1150	391	125	55	47	44
31	55	---	2080	391	---	820	---	371	---	53	47	---
TOTAL	1240	16571	43712	18421	44976	22769	40144	22933	5872	2424	1520	1727
MEAN	40.0	552	1410	594	1606	734	1338	740	196	78.2	49.0	57.6
MAX	227	3270	13900	2100	9850	1340	5450	1160	351	131	59	197
MIN	20	31	70	344	280	555	586	371	113	53	45	40
AC-FT	2460	32870	86700	36540	89210	45160	79630	45490	11650	4810	3010	3430
CAL YR 1981 TOTAL	98765			MEAN 271	MAX 13900	MIN 20	AC-FT 195900					
WTR YR 1982 TOTAL	222309			MEAN 609	MAX 13900	MIN 20	AC-FT 440900					

NOTE.--No gage-height record Dec. 20-27.

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 39°00'23", long 120°45'40", 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 1.7 mi (2.7 km) downstream from Oxbow powerhouse, and 3.2 mi (5.1 km) east of Foresthill.

DRAINAGE AREA.--524 mi² (1,357 km²).

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,060 ft (323 m), from topographic map. Prior to Oct. 22, 1965, at site 3.2 mi (5.1 km) downstream at different datum.

REMARKS.--Flow regulated by French Meadows Reservoir, Hell Hole Reservoir, Loon Lake (stations 11427400, 11428700, 11429350), Stumpy Meadows Lake, usable capacity, 20,000 acre-ft (24.7 hm³), and Raiston and Oxbow powerplants. Robbs Peak tunnel (station 11429800) and Georgetown Divide ditch, capacity, about 25 ft³/s (0.71 m³/s) divert water out of basin above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project,

AVERAGE DISCHARGE.--24 years, 1,125 ft³/s (31.86 m³/s), 815,100 acre-ft/yr (1,010 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 310,000 ft³/s (8,780 m³/s) Dec. 23, 1964, gage height, 69.0 ft (21.03 m) 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 (793 m³/s) on basis of slope-area measurement at gage height 38.0 ft (11.58 m) and slope-conveyance study at gage height 69.0 ft (21.03 m) at site and datum then in use; next highest peak, 113,000 ft³/s (3,200 m³/s) Feb. 1, 1963, gage height, 38.00 ft (11.582 m) site and datum then in use; minimum, 35 ft³/s (0.99 m³/s) Oct. 10, 20, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 35,700 ft³/s (1,010 m³/s) Dec. 20; minimum daily, 71 ft³/s (2.01 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	280	140	1760	7320	1970	3290	3740	4660	2580	1260	625	219
2	303	208	1710	5360	1920	4950	3510	5040	2440	1200	1100	851
3	437	208	1630	4100	1920	4080	4690	4960	2390	1280	1100	740
4	598	196	1610	4370	1930	3560	4820	5280	2330	1260	1100	707
5	80	221	1590	5870	1820	3290	3970	5260	2250	1250	1100	744
6	71	200	1520	4200	1780	3120	3600	4580	2130	1240	1110	739
7	85	132	1530	3330	1790	2950	3290	4160	1940	1240	1100	746
8	100	97	1460	3170	1710	2840	3160	4330	1850	1240	1110	728
9	79	185	1440	2820	1700	2780	3100	4010	1890	1240	1090	713
10	83	188	1550	2840	1650	3340	4120	3470	1890	1230	1090	768
11	120	193	1530	2740	1650	5670	19500	2990	1920	1220	1090	752
12	112	201	1510	2560	1600	4450	16000	2740	2070	1220	1080	758
13	100	1420	1840	2400	1640	3810	8230	2810	1980	1210	1080	724
14	118	2560	1840	2310	1580	4190	6770	3080	1960	1210	1090	747
15	114	1390	2040	2220	22500	3920	6010	3280	1900	1210	1080	717
16	96	1620	2090	2130	31500	3710	5420	3370	1980	1220	990	499
17	77	2580	1890	2140	13800	3510	4920	3500	2050	1210	760	509
18	78	2170	1840	2100	7980	3420	4770	3370	2130	1200	1110	228
19	117	1830	12700	2110	6950	3180	4660	3160	2390	1190	1120	442
20	200	1450	35700	2120	6200	3060	4620	3210	2570	1190	1120	621
21	190	3440	17100	2200	5800	2940	4460	3370	2100	1220	1130	694
22	192	6170	7060	1910	5620	2880	4390	3550	1780	1220	1130	722
23	179	4900	5160	1900	4780	2780	4490	3740	1660	1110	1140	775
24	89	11900	3890	1910	3900	2780	4750	4180	1580	1110	1130	912
25	105	3590	3340	1920	3490	2720	4700	5130	1480	1120	1140	979
26	161	2580	3020	2620	3220	2790	4600	5260	1420	1110	1130	829
27	175	2380	5930	2600	3070	2990	4850	5180	1420	1100	1130	663
28	216	2160	4150	2320	2890	3400	5480	4200	1350	1080	1120	625
29	223	1970	5970	2300	---	3330	5600	3310	1270	1090	1130	624
30	225	1850	10400	1820	---	3310	4940	2760	1250	1080	844	525
31	170	---	7260	1980	---	4460	---	2600	---	331	792	---
TOTAL	5173	58129	152060	89690	146360	107500	167160	120540	57950	36091	32861	20300
MEAN	167	1938	4905	2893	5227	3468	5572	3888	1932	1164	1060	677
MAX	598	11900	35700	7320	31500	5670	19500	5280	2580	1280	1140	979
MIN	71	97	1440	1820	1580	2720	3100	2600	1250	331	625	219
AC-FT	10260	115300	301600	177900	290300	213200	331600	239100	114900	71590	65180	40270

CAL YR 1981 TOTAL 352250 MEAN 965 MAX 35700 MIN 67 AC-FT 698700
WTR YR 1982 TOTAL 993814 MEAN 2723 MAX 35700 MIN 71 AC-FT 1971000

NOTE.--No gage-height record Feb. 15-26, July 22 to Aug. 17. Stage-discharge relation affected by backwater Dec. 19, 20, Apr. 11.

11433420 MAINE BAR CANYON CREEK NEAR GREENWOOD, CA

LOCATION.--Lat 38°55'34", long 120°56'51", in NW 1/4 NW 1/4 sec.2, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, on right bank 2.8 mi (4.5 km) northwest of Greenwood, and 4.5 mi (7.2 km) northeast of Cool.

DRAINAGE AREA.--0.76 mi² (1.97 km²).

PERIOD OF RECORD.--March to September 1972 (discharge measurements only), October 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,520 ft (463 m), from topographic map.

REMARKS.--Records fair. No diversion or regulation above station.

AVERAGE DISCHARGE.--10 years, 1.00 ft³/s (0.028 m³/s), 724 acre-ft/yr (892,700 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 263 ft³/s (7.45 m³/s) Jan. 13, 1980, gage height, 2.35 ft (0.716 m); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20 ft³/s (0.57 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 13	2130	27 0.76	1.12 0.341	Feb. 15	2230	79 2.24	1.65 .503
Nov. 21	1630	54 1.53	1.40 .427	Mar. 2	0945	22 .62	1.11 .338
Dec. 19	2345	97 2.75	1.69 .515	Mar. 31	0930	54 1.53	1.47 .448
Dec. 29	1400	45 1.27	1.32 .402	Apr. 3	0800	28 .79	1.21 .369
Jan. 5	0415	63 1.78	1.47 .448	Apr. 11	0415	*169 4.79	2.07 .631

Minimum daily, 0.02 ft³/s (0.001 m³/s) several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.09	1.2	9.1	1.6	2.5	12	.71	.24	.13	.02	.04
2	.02	.09	1.0	6.4	1.4	8.6	13	.69	.23	.11	.02	.04
3	.04	.09	.86	4.1	1.3	5.2	18	.62	.22	.10	.03	.04
4	.04	.09	.79	37	1.2	3.5	8.9	.54	.23	.09	.61	.04
5	.03	.09	.68	31	1.0	2.7	6.2	.47	.19	.09	.03	.03
6	.04	.09	.62	7.9	.94	2.2	4.9	.45	.18	.08	.03	.03
7	.12	.10	.56	4.5	.87	2.0	3.8	.41	.17	.06	.06	.03
8	.06	.10	.54	3.2	.81	1.8	3.2	.44	.16	.06	.05	.02
9	.06	.10	1.4	2.7	.81	1.5	2.8	.44	.15	.05	.05	.03
10	.15	.10	1.8	2.3	.73	2.5	6.2	.42	.14	.05	.05	.03
11	.17	.10	1.1	1.9	.68	4.1	36	.40	.15	.05	.06	.03
12	.10	1.7	1.8	1.6	.62	2.6	10	.38	.17	.05	.04	.03
13	.08	7.4	1.9	1.4	1.5	2.2	5.8	.35	.16	.05	.04	.03
14	.08	1.8	1.5	1.3	6.4	4.6	6.5	.34	.14	.04	.05	.04
15	.08	.76	1.7	1.2	38	3.4	4.9	.32	.12	.04	.05	.07
16	.09	.70	1.5	1.1	25	4.6	3.8	.29	.11	.04	.04	.08
17	.10	5.6	1.2	1.0	6.6	5.2	3.1	.31	.11	.05	.04	.06
18	.10	1.0	2.8	1.1	4.0	5.9	2.5	.30	.12	.05	.04	.09
19	.11	.58	31	1.7	3.0	4.5	2.2	.28	.12	.03	.04	.05
20	.13	.40	47	3.0	2.5	3.5	1.9	.26	.11	.03	.04	.03
21	.16	18	10	3.5	2.1	2.8	1.6	.25	.11	.04	.04	.03
22	.18	4.5	4.9	2.6	1.8	2.4	1.5	.24	.08	.03	.04	.03
23	.18	3.7	3.2	2.1	1.6	2.1	1.3	.23	.08	.03	.04	.03
24	.18	5.6	2.5	1.9	1.4	1.8	1.2	.19	.09	.03	.03	.08
25	.19	2.8	2.0	1.7	1.3	1.6	1.1	.19	.09	.03	.03	.41
26	.21	2.6	1.7	3.3	1.2	1.8	1.1	.21	.08	.03	.04	.11
27	.35	2.6	1.6	2.5	1.2	1.7	.98	.26	.08	.03	.04	.07
28	1.4	2.3	1.3	3.6	1.1	4.0	.89	.22	.10	.03	.04	.07
29	.52	1.7	16	2.7	---	7.1	.85	.23	.26	.03	.04	.05
30	.14	1.4	10	2.2	---	9.9	.77	.23	.13	.03	.04	.05
31	.10	---	9.5	1.9	---	22	---	.25	---	.02	.04	---
TOTAL	5.23	66.18	163.65	151.5	110.66	130.3	166.99	10.92	4.32	1.57	1.23	1.77
MEAN	.17	2.21	5.28	4.89	3.95	4.20	5.57	.35	.14	.051	.040	.059
MAX	1.4	18	47	37	38	22	36	.71	.26	.13	.06	.41
MIN	.02	.09	.54	1.0	.62	1.5	.77	.19	.08	.02	.02	.02
AC-FT	10	131	325	301	219	258	331	22	8.6	3.1	2.4	3.5

CAL YR 1981 TOTAL 361.39 MEAN .99 MAX 47 MIN .01 AC-FT 717
WTR YR 1982 TOTAL 814.32 MEAN 2.23 MAX 47 MIN .02 AC-FT 1620

11433500 MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CA

LOCATION.--Lat 38°55'05", long 121°00'51", in NE 1/4 SW 1/4 sec.6, T.12 N., R.9 E., Placer County, Hydrologic Unit 18020128, on right bank at quarry, 1.4 mi (2.2 km) upstream from mouth; and 3.3 mi (5.3 km) northeast of Auburn.

DRAINAGE AREA.--614 mi² (1,590 km²).

PERIOD OF RECORD.--October 1911 to current year. Prior to October 1934, published as "near East Auburn."

REVISED RECORDS.--WSP 861: 1928. WSP 1315-A: 1913-15, 1919, 1921, 1923(M), 1929(M), 1930. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 552.35 ft (168.356 m) National Geodetic Vertical Datum of 1929 (levels by Murray Engineers). Prior to December 1930, nonrecording gages near present site at different datums. December 1930 to Mar. 1, 1963, water-stage recorder at site 0.4 mi (0.6 km) upstream at different datum.

REMARKS.--Records good. Natural flow of stream affected by French Meadows Reservoir (station 11427400), Hell Hole Reservoir (station 11428700), Loon Lake (station 11429350), Stumpy Meadows Lake, usable capacity, 20,000 acre-ft (24.7 hm³), diversion dams on Rubicon and Little Rubicon Rivers, and Ralston and Oxbow powerplants. Robbs Peak powerplant (station 11429300) diverts water out of basin. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--71 years, 1,323 ft³/s (37.47 m³/s), 958,500 acre-ft/yr (1.18 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 253,000 ft³/s (7,160 m³/s) Dec. 23, 1964, gage height, 60.4 ft (18.41 m) from floodmarks, from rating curve extended above 69,000 ft³/s (1,950 m³/s) on basis of slope-area measurement of maximum flow (caused by overtopping of the partly constructed Hell Hole Dam); next highest peak, 121,000 ft³/s (3,430 m³/s) Feb. 1, 1963, gage height, 43.1 ft (13.14 m) from floodmarks, site and datum then in use; maximum gage height, 102.65 ft (31.28 m) Jan. 14, 1980, backwater from Auburn Dam (under construction); minimum discharge, 20 ft³/s (0.57 m³/s) Sept. 6, 1931, Sept. 19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 46,700 ft³/s (1,320 m³/s) Feb. 16; maximum gage height, 84.0 ft (25.603 m) Feb. 16, backwater from Auburn Dam (under construction); minimum daily, 79 ft³/s (2.24 m³/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	350	168	1700	8130	2000	3620	5840	5280	2600	1210	279	491
2	314	330	1620	5960	1960	6540	5060	5600	2500	1180	1120	589
3	479	537	1540	4410	1960	5390	7280	5500	2410	1210	1130	695
4	530	364	1520	6000	1950	4580	7020	6020	2390	1200	1120	625
5	404	538	1520	8730	1870	4110	5420	6050	2310	1190	1130	684
6	87	467	1440	5240	1790	3810	4780	5470	2200	1190	1130	700
7	79	298	1420	3330	1800	3580	4200	4760	2030	1200	1120	684
8	96	130	1400	3460	1740	3410	3920	5200	1890	1200	1140	668
9	92	196	1390	3010	1710	3260	3750	4820	1910	1190	1130	657
10	83	412	1510	2890	1660	3670	4480	4260	1920	1190	1120	716
11	97	418	1440	2770	1660	6340	22700	3700	2010	1200	1110	695
12	122	575	1460	2620	1630	4450	17100	3300	2100	1190	1120	705
13	103	1590	1760	2480	1660	4260	10600	3320	2060	1190	1110	662
14	104	4040	1770	2390	5990	4700	8660	3500	2000	1180	1110	695
15	113	1280	1890	2290	19300	4550	7690	3610	1950	1190	1100	726
16	108	1540	2030	2190	32000	4270	6980	3720	1990	1180	1100	668
17	90	3330	1830	2170	21500	4110	6270	3900	2080	1180	1060	726
18	79	2080	1730	2120	9110	4120	5980	3690	2200	1180	1100	579
19	79	1630	12700	2130	7900	3870	5810	3310	2400	1180	1090	515
20	477	1350	27600	2140	7020	3670	5580	3320	2620	1170	1090	737
21	597	2130	23600	2270	6260	3450	5390	3360	2200	1170	1090	678
22	633	6950	10700	1930	6040	3320	5230	3610	1830	1150	1090	785
23	455	3570	6800	1930	5620	3180	5290	3750	1670	1170	1090	695
24	288	11000	4500	1950	4840	3120	5590	4500	1560	1150	1090	758
25	95	4120	3690	1960	4240	3090	5400	4970	1400	1170	1090	875
26	167	2820	4600	2610	3930	3140	5210	5260	1320	1130	1090	1150
27	521	2410	6420	2780	3660	3250	5600	5280	1310	1170	1080	864
28	645	2240	4600	2510	3320	3820	6180	4330	1300	1150	1080	769
29	962	1970	5570	2330	---	4010	6350	3600	1220	1150	1090	695
30	735	1820	9990	1980	---	4400	5700	2940	1210	1150	1070	700
31	451	---	7600	2010	---	7600	---	2690	---	807	504	---
TOTAL	9435	60303	157340	98720	164120	128690	205060	132620	58590	36167	32773	21186
MEAN	304	2010	5075	3185	5861	4151	6835	4278	1953	1167	1057	706
MAX	962	11000	27600	8730	32000	7600	22700	6050	2620	1210	1140	1150
MIN	79	130	1390	1930	1630	3090	3750	2690	1210	807	279	491
AC-FT	18710	119600	312100	195800	325500	255300	406700	263100	116200	71740	65010	42020

CAL YR 1981 TOTAL 355033 MEAN 973 MAX 27600 MIN 61 AC-FT 704200
WTR YR 1982 TOTAL 1105004 MEAN 3027 MAX 32000 MIN 79 AC-FT 2192000

NOTE.--No gage-height record Dec. 20-28, Feb. 16-18, and May 29 to June 25.

SACRAMENTO RIVER BASIN

11433800 NORTH FORK AMERICAN RIVER BELOW AUBURN DAMSITE, NEAR AUBURN, CA

LOCATION.--Lat 38°52'20", long 121°03'18", in SE 1/4 SW 1/4 sec.23, T.12 N., R.8 E., Placer County, Hydrologic Unit 18020128, on right bank 1,080 ft (329 m) upstream from Knickerbocker Creek, 4,000 ft (1,220 m) downstream from Auburn damsite, and 2.0 mi (3.2 km) southeast of Auburn.

DRAINAGE AREA.--973 mi² (2,520 km²).

PERIOD OF RECORD.--May 1972 to current year.

REVISED RECORDS.--WDR CA-80-4: 1973-75(M), 1978(M), 1979(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Records good prior to December and fair thereafter. Natural flow of stream affected by many reservoirs and diversions (see REMARKS for stations 11427000, 11433500).

AVERAGE DISCHARGE.--10 years, 2,064 ft³/s (58.5 m³/s), 1,495,000 acre-ft/yr (1.84 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,700 ft³/s (1,890 m³/s) Jan. 14, 1980, gage height, 87.5 ft (26.67 m) from floodmarks, affected by temporary storage at Auburn damsite; minimum daily, 51 ft³/s (1.44 m³/s) July 12, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59,700 ft³/s (1,690 m³/s) Feb. 16, gage height, 85.72 ft (26.127 m) from crest-stage gage; minimum daily, 115 ft³/s (3.26 m³/s) Oct. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	403	317	2610	14500	3380	5020	9400	7790	4650	1930	432	662
2	361	404	2450	11200	3250	9520	8100	8230	4410	1860	1230	593
3	508	745	2290	8570	3240	7970	13000	8280	4280	1780	1240	765
4	624	501	2200	10900	3190	6540	11600	8470	4080	1750	1230	717
5	512	663	2140	15900	3100	5750	8550	8510	3820	1710	1240	772
6	134	598	2040	10300	2980	5280	7450	7860	3560	1680	1230	773
7	116	459	1960	7430	2950	4920	6470	7400	3290	1670	1230	763
8	140	233	1910	5800	2880	4650	6090	7640	3100	1670	1240	749
9	152	230	1880	4950	2810	4440	5360	7090	3090	1660	1240	749
10	131	507	2260	4630	2740	4850	6180	6110	3150	1640	1220	824
11	155	517	2110	4450	2760	9510	36800	5350	3250	1610	1210	783
12	210	720	2070	4220	2650	7980	35800	4920	3350	1580	1210	786
13	191	3410	2650	3990	2680	6560	17700	5050	3170	1570	1190	743
14	155	8950	2860	3830	10900	7140	13600	5480	3000	1550	1190	772
15	157	3480	3250	3700	30200	6930	12000	5720	2910	1530	1190	788
16	151	4630	3680	3580	56500	6680	10600	5960	3200	1500	1190	753
17	134	7260	2920	3510	29600	6370	9480	6220	3280	1490	1150	825
18	116	4230	2690	3460	14800	6390	9040	6060	3410	1460	1180	684
19	115	2910	28800	3500	11200	6280	8690	5690	3880	1430	1170	634
20	431	2320	51600	3490	10000	5770	8400	5700	3970	1360	1170	836
21	672	3800	33400	3710	9050	5320	8020	5930	3360	1360	1170	781
22	696	13800	14700	3330	8760	5010	7840	6250	2790	1320	1170	868
23	527	9690	10700	3230	8040	4740	7940	6500	2550	1340	1160	783
24	393	23100	8200	3230	6850	4630	8270	6930	2390	1310	1160	859
25	131	8680	6120	3280	5970	4570	8090	7710	2210	1330	1150	1020
26	165	5280	5210	4060	5450	4600	7860	7910	2140	1290	1150	1930
27	536	4300	9820	4600	5080	4730	7860	7970	2060	1310	1150	1130
28	851	3790	8080	4180	4670	6080	8660	6760	2010	1300	1150	936
29	1580	3230	9570	3920	---	5830	8670	5600	1970	1280	1150	855
30	1070	2860	17300	3540	---	6650	7990	4770	1930	1280	1140	808
31	694	---	13500	3390	---	13500	---	4620	---	956	547	---
TOTAL	12211	121614	260970	172380	255680	194210	325510	204480	94260	46506	35479	24941
MEAN	394	4054	8418	5561	9131	6265	10850	6596	3142	1500	1144	831
MAX	1580	23100	51600	15900	56500	13500	36800	8510	4650	1930	1240	1930
MIN	115	230	1880	3230	2650	4440	5360	4620	1930	956	432	593
AC-FT	24220	241200	517600	341900	507100	385200	645600	405600	187000	92240	70370	49470

CAL YR 1981 TOTAL 629803 MEAN 1725 MAX 51600 MIN 82 AC-FT 1249000
WTR YR 1982 TOTAL 1748241 MEAN 4790 MAX 56500 MIN 115 AC-FT 3468000

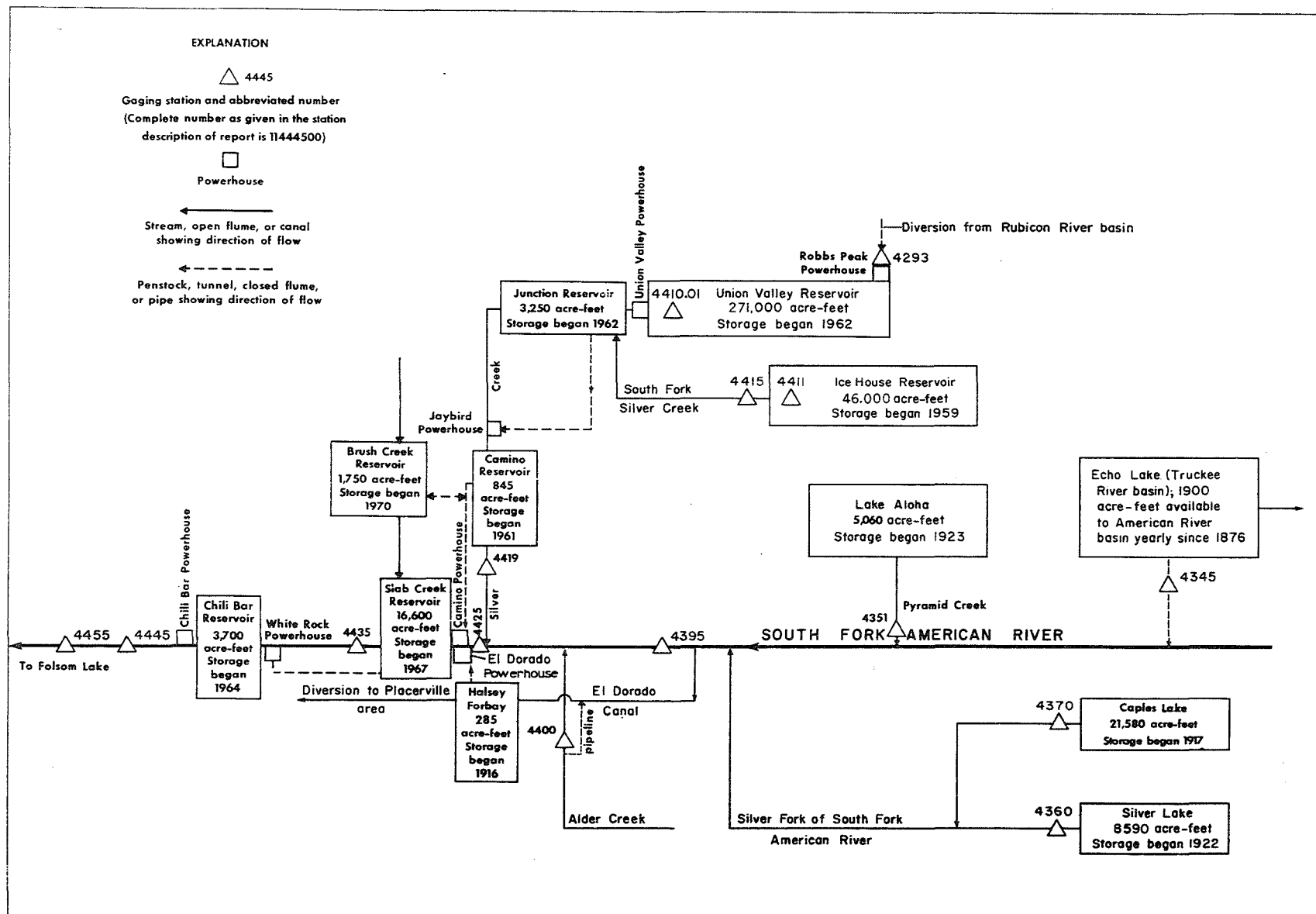


FIGURE 11.-- Schematic diagram showing diversions and storage in South Fork American River basin.

SACRAMENTO RIVER BASIN

11434500 ECHO LAKE CONDUIT NEAR PHILLIPS, CA

LOCATION.--Lat 38°49'52", long 120°02'12", in NW¼ 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 (0.8 km) downstream from intake, and 2.4 mi (3.9 km) northeast of Phillips.

PERIOD OF RECORD.--August 1923 to current year. Prior to October 1974 diversion seasons only. 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 seasons 1944-53.

GAGE.--Water-stage recorder. Altitude of gage is 7,420 ft (2,262 m), from topographic map. Prior to July 16, 1929, nonrecording gage at site 0.4 mi (0.6 km) upstream at different datum.

REMARKS.--Conduit diverts from Echo Lake, capacity, 1,900 acre-ft (2.34 hm³) in Truckee River basin into basin of South Fork American River for power and irrigation. See schematic diagram of South Fork American River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 33 ft³/s (0.93 m³/s) Sept. 10, 11, 1980; no flow for most of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	9.8	4.2								0	.11
2	25	10	3.7								0	.11
3	27	10	3.3								0	.11
4	26	10	3.2								0	.11
5	11	10	2.9								0	.11
6	.33	10	2.1								0	.11
7	26	10	4.2								0	14
8	26	9.9	6.1								0	22
9	24	9.6	2.9								0	25
10	22	9.3	4.0								0	28
11	23	8.8	5.5								0	27
12	22	8.8	3.5								0	27
13	21	13	6.5								0	27
14	20	11	7.4								0	27
15	18	9.9	7.5								0	27
16	17	7.6	7.5								0	27
17	16	7.5	7.1								0	27
18	14	6.9	2.0								0	27
19	13	6.8	0								0	27
20	12	13	0								0	26
21	11	16	0								0	26
22	10	17	0								0	26
23	9.5	19	0								0	26
24	9.4	19	0								0	26
25	8.1	16	0								0	26
26	7.1	13	0								0	26
27	6.6	11	0								0	26
28	8.2	8.9	0								0	26
29	9.9	5.8	0								0	26
30	9.9	4.9	0								.11	26
31	9.9	---	0								.11	---
TOTAL	491.93	322.5	83.6	0	0	0	0	0	0	0	.22	618.66
MEAN	15.9	10.8	2.70	0	0	0	0	0	0	0	.007	20.6
MAX	29	19	7.5	0	0	0	0	0	0	0	.11	28
MIN	.33	4.9	0	0	0	0	0	0	0	0	0	.11
AC-FT	976	640	166	0	0	0	0	0	0	0	.4	1230

CAL YR 1981 TOTAL 1069.29 MEAN 2.93 MAX 30 MIN 0 AC-FT 2120

WTR YR 1982 TOTAL 1516.91 MEAN 4.16 MAX 29 MIN 0 AC-FT 3010

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA

LOCATION.--Lat 38°48'57", long 120°06'58", in NW¼SW¼ sec.9, T.11 N., R.17 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 0.5 mi (0.8 km) northeast of Twin Bridges, and 2.2 mi (3.5 km) west of Phillips.

DRAINAGE AREA.--8.76 mi² (22.69 km²).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,320 ft (1,926 m), from topographic map.

REMARKS.--Flow regulated by Lake Aloha, capacity, 5,060 acre-ft (6.24 hm³); no contents Sept. 30, 1981, and 1,500 acre-ft (1.85 hm³) Sept. 30, 1982. Lake of the Woods, Ropl Lake, and Toem Lakes (unknown capacities) are also regulated at times. See schematic diagram of South Fork American River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--12 years, 39.6 ft³/s (1.121 m³/s), 28,690 acre-ft/yr (35.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 858 ft³/s (24.3 m³/s) June 26, 1971, gage height, 4.62 ft (1.408 m), from rating curve extended above 160 ft³/s (4.53 m³/s); minimum daily, 0.07 ft³/s (0.002 m³/s) Sept. 20-24, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 627 ft³/s (17.8 m³/s) Dec. 20, gage height, 4.04 ft (1.231 m); minimum daily, 0.55 ft³/s (0.016 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	22	23	30	18	91	50	104	120	102	50	86
2	.55	22	23	28	18	91	31	118	122	101	41	86
3	.95	22	22	25	18	88	23	129	119	105	35	89
4	2.3	19	21	27	18	86	25	124	109	102	33	88
5	1.9	17	20	47	17	84	25	110	99	95	33	87
6	1.5	19	19	29	17	82	22	105	99	99	42	85
7	4.7	17	19	27	17	81	20	113	107	108	44	83
8	7.1	15	20	22	17	80	18	111	111	99	45	81
9	6.0	14	20	21	17	79	17	93	117	71	43	79
10	12	13	22	21	17	84	47	75	121	68	41	77
11	18	13	19	21	16	86	267	70	120	70	37	73
12	15	21	19	20	16	80	167	80	111	77	39	69
13	13	120	24	20	41	79	95	94	108	92	58	64
14	12	130	49	20	134	80	79	99	127	101	58	57
15	12	71	40	20	199	75	72	106	146	106	58	53
16	11	84	30	19	283	71	70	117	155	121	57	63
17	15	62	24	19	81	69	70	122	158	106	58	57
18	20	38	32	19	50	66	70	116	163	95	65	55
19	17	29	365	20	46	64	67	115	166	90	76	64
20	15	26	375	21	50	61	62	126	146	80	90	49
21	12	55	96	22	54	58	56	139	142	54	90	39
22	10	80	52	20	62	53	56	148	132	60	89	29
23	8.7	189	40	19	49	47	65	160	130	63	88	15
24	7.7	123	34	19	41	44	71	162	122	73	87	78
25	6.9	50	30	20	35	39	69	172	139	80	85	136
26	6.6	36	30	20	43	28	68	190	133	80	87	78
27	6.7	32	37	21	93	21	73	195	133	78	91	29
28	36	27	29	20	91	19	87	141	135	77	90	21
29	28	25	31	19	---	20	81	119	128	72	89	21
30	19	23	34	18	---	28	85	121	105	68	88	20
31	21	---	27	18	---	24	---	126	---	60	87	---
TOTAL	348.16	1414	1626	692	1558	1958	2008	3800	3823	2653	1974	1911
MEAN	11.2	47.1	52.5	22.3	55.6	63.2	66.9	123	127	85.6	63.7	63.7
MAX	36	189	375	47	283	91	267	195	166	121	91	136
MIN	.55	13	19	18	16	19	17	70	99	54	33	15
AC-FT	691	2800	3230	1370	3090	3880	3980	7540	7580	5260	3920	3790
CAL YR 1981 TOTAL	11033.64			MEAN 30.2	MAX 375	MIN .07	AC-FT 21890					
WTR YR 1982 TOTAL	23765.16			MEAN 65.1	MAX 375	MIN .55	AC-FT 47140					

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA

LOCATION.--Lat 38°40'17", long 120°07'18", in SW¼ sec. 32, T.10 N., R.17 E., Amador County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 1,000 ft (305 m) downstream from Silver Lake Dam, and 3.5 mi (5.6 km) southwest of Kirkwood.

DRAINAGE AREA.--15.2 mi² (39.4 km²).

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. Datum of gage is 7,199.5 ft (2,194.41 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Silver Lake 1,000 ft (305 m) upstream, capacity, 3,340 acre-ft (4.73 hm³) at spillway level and 8,590 acre-ft (10.6 hm³) with 11 ft (3.4 m) of flashboards; contents in Silver Lake were 3,340 acre-ft (4.73 hm³) Sept. 30, 1981, and 7,060 acre-ft (8.70 hm³) Sept. 30, 1982. 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 (0.40 km) east of station. For leakage from Silver Lake, refer to listed annual figures below; not included in average discharge. See schematic diagram of South Fork American River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--60 years, 34.6 ft³/s (0.980 m³/s), 25,070 acre-ft/yr (30.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft³/s (31.2 m³/s) Nov. 21, 1950, gage height, 6.03 ft (1.838 m), from rating curve extended above 430 ft³/s (12.2 m³/s); no flow many days in February, March 1948, Jan. 13, 14, 1954, Nov. 3, 1959, to Feb. 5, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 604 ft³/s (17.1 m³/s) Dec. 20, gage height, 4.47 ft (1.362 m); minimum daily, 0.62 ft³/s (0.018 m³/s) Nov. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	18	29	42	11	40	38	199	247	106	3.4	2.1
2	60	15	26	39	11	48	32	235	234	80	3.4	1.9
3	59	26	23	33	11	43	30	261	219	71	2.0	1.8
4	58	29	21	41	11	35	30	279	206	72	2.0	3.1
5	25	32	19	54	10	31	25	275	187	72	2.6	3.5
6	15	31	18	41	10	27	24	255	164	44	3.3	3.3
7	58	31	17	31	9.8	25	21	267	122	11	3.4	3.1
8	57	30	16	25	10	24	18	279	103	5.8	3.3	2.9
9	55	29	16	22	9.8	23	16	250	116	8.5	3.3	2.5
10	50	28	18	20	9.6	26	22	193	138	18	3.3	5.1
11	35	27	17	19	9.3	45	264	147	162	50	3.3	7.1
12	36	14	17	17	8.8	46	497	133	169	87	3.2	6.9
13	49	3.0	18	16	11	41	360	155	169	64	3.2	16
14	47	1.6	18	15	44	42	232	201	124	46	3.2	26
15	46	.91	20	15	124	39	147	215	100	45	3.1	28
16	46	.62	21	14	462	35	106	244	125	44	2.9	16
17	46	1.8	19	14	364	33	87	268	155	22	2.8	5.0
18	45	2.5	19	15	217	30	82	267	183	6.5	2.8	3.5
19	43	2.1	256	18	136	26	85	256	218	4.8	2.7	3.5
20	43	1.9	570	19	103	23	90	270	218	5.6	2.5	3.4
21	42	5.5	529	24	90	21	89	167	213	6.1	2.4	19
22	41	57	303	21	85	19	92	82	184	6.6	2.4	43
23	40	129	175	17	80	19	107	93	158	6.3	2.4	63
24	39	229	111	15	70	19	127	159	158	5.7	2.3	47
25	38	164	81	14	60	20	132	218	135	5.7	2.4	28
26	37	109	63	16	52	21	128	257	111	5.3	2.4	14
27	37	81	53	17	45	21	129	302	105	4.9	2.3	4.5
28	24	61	43	17	40	26	155	308	112	4.4	2.2	4.4
29	11	45	43	16	---	31	170	286	121	3.9	2.3	4.3
30	16	35	46	14	---	33	163	272	118	3.6	2.4	4.1
31	35	---	40	12	---	38	---	261	---	3.6	2.3	---
TOTAL	1293	1239.93	2665	693	2104.3	950	3498	7054	4774	919.3	85.5	376.0
MEAN	41.7	41.3	86.0	22.4	75.2	30.6	117	228	159	29.7	2.76	12.5
MAX	60	229	570	54	462	48	497	308	247	106	3.4	63
MIN	11	.62	16	12	8.8	19	16	82	100	3.6	2.0	1.8
AC-FT	2560	2460	5290	1370	4170	1880	6940	13990	9470	1820	170	746
AC-FT a	0	0	0	0	0	0	0	78	714	922	665	342

CAL YR 1981 TOTAL 9872.23 MEAN 27.0 MAX 570 MIN .62 AC-FT 19580
WTR YR 1982 TOTAL 25652.03 MEAN 70.3 MAX 570 MIN .62 AC-FT 50880

a Leakage from Silver Lake.

LOCATION.--Lat 38°42'29", long 120°03'00", in SW¼SW¼ sec.18, T.10 N., R.18 E., Alpine County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 500 ft (152 m) downstream from main dam and outlet gate of Caples Lake, and 1.3 mi (2.1 km) east of Kirkwood.

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.

GAGE.--Water-stage recorder and concrete control for outlet, and water-stage recorder for spillway. Altitude of gage is 7,700 ft (2,347 m), from topographic map.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the 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 (18.9 m³/s) June 3, 1969; minimum daily, 0.1 ft³/s (0.003 m³/s) Mar. 25-31, 1944, Nov. 27, 28, 1956.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.3	4.2	5.7	6.3	6.9	7.4	183	133	207	35	18
2	15	6.5	4.2	5.7	6.3	6.9	7.3	182	133	191	28	27
3	15	6.2	4.1	5.7	6.3	6.9	7.3	182	133	177	26	24
4	15	9.8	4.2	5.7	6.3	6.9	7.4	182	134	171	26	18
5	8.6	20	4.5	5.7	6.3	6.9	7.3	182	134	155	26	17
6	4.2	26	4.5	5.7	6.3	6.9	7.4	182	134	108	33	16
7	4.8	26	4.9	6.0	6.3	6.9	7.4	182	134	39	35	11
8	4.8	26	5.1	5.8	6.3	6.9	7.4	182	126	9.7	32	5.5
9	10	17	5.1	5.8	6.3	6.9	7.4	182	118	91	31	5.4
10	10	7.2	5.1	5.8	6.3	7.0	7.7	181	118	130	30	5.2
11	5.4	7.2	5.1	5.8	6.1	7.0	9.9	181	119	118	35	5.6
12	5.4	6.0	5.1	5.8	6.2	7.0	8.1	180	120	117	39	4.8
13	16	6.0	5.2	5.9	6.5	7.0	58	180	120	118	32	4.7
14	31	5.3	5.2	6.0	6.9	7.1	118	179	120	118	24	5.4
15	35	5.1	5.2	6.0	8.0	7.2	118	179	120	120	23	6.2
16	35	4.7	5.2	6.0	8.6	7.2	152	180	122	120	23	7.0
17	35	4.5	5.1	6.0	6.9	7.2	184	180	130	120	23	6.9
18	35	4.1	5.1	6.0	6.7	7.2	183	181	131	114	23	7.5
19	28	4.1	7.6	6.0	6.7	7.2	182	182	137	97	23	8.0
20	20	4.1	7.9	6.3	6.8	7.2	180	185	142	83	23	8.2
21	28	4.3	5.8	6.3	6.9	7.2	186	110	178	81	28	8.1
22	39	4.5	5.7	6.3	6.9	7.2	191	46	204	83	32	7.9
23	50	4.9	5.7	6.3	6.9	7.3	190	47	204	82	25	7.7
24	54	4.7	5.7	6.3	6.9	7.4	189	48	204	83	17	10
25	60	4.4	5.7	6.3	6.8	7.4	187	49	202	85	16	53
26	66	4.3	5.7	6.4	6.9	7.4	187	50	202	90	16	146
27	63	4.2	5.7	6.4	6.9	7.4	185	50	202	97	16	74
28	35	4.2	5.6	6.4	6.9	7.4	185	91	209	97	9.5	33
29	8.0	4.2	5.5	6.3	---	7.4	183	131	214	90	5.5	24
30	7.8	4.2	5.6	6.3	---	7.4	183	131	210	70	5.6	15
31	7.8	---	5.7	6.3	---	7.4	---	132	---	47	8.7	---
TOTAL	762.8	247.0	165.0	187.0	187.5	221.3	3133.0	4512	4587	3308.7	749.3	590.1
MEAN	24.6	8.23	5.32	6.03	6.70	7.14	104	146	153	107	24.2	19.7
MAX	66	26	7.9	6.4	8.6	7.4	191	185	214	207	39	146
MIN	4.2	4.1	4.1	5.7	6.1	6.9	7.3	46	118	9.7	5.5	4.7
AC-FT	1510	490	327	371	372	439	6210	8950	9100	6560	1490	1170
CAL YR 1981	TOTAL	7252.8	MEAN	19.9	MAX	108	MIN	1.8	AC-FT	14390		
WTR YR 1982	TOTAL	18650.7	MEAN	51.1	MAX	214	MIN	4.1	AC-FT	36990		

SACRAMENTO RIVER BASIN

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA

LOCATION.--Lat 38°45'49", long 120°19'39", in SW¼SW¼ sec.29, T.11 N., R.15 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank beside U.S. Highway 50, 0.8 mi (1.3 km) downstream from Silver Fork of South Fork, and 1.9 mi (3.1 km) southwest of Kyburz.

DRAINAGE AREA.--193 mi² (500 km²).

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.

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. Altitude of gage is 3,840 ft (1,170 m), from topographic map. Prior to Oct. 1, 1962, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Flow at low and medium stages partly regulated by four reservoirs since beginning of record, total capacity, 37,100 acre-ft (45.7 hm³). See schematic diagram of South Fork American River basin. For records of combined discharge of river and canal, see following page.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 60 years (water years 1923-82), 292 ft³/s (8.269 m³/s), 211,600 acre-ft/yr (261 hm³/yr).
Combined river and diversion: 60 years (water years 1923-82), 408 ft³/s (11.55 m³/s), 295,600 acre-ft/yr (364 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 17,400 ft³/s (493 m³/s) Dec. 23, 1964, gage height, 10.92 ft (3.328 m), from rating curve extended above 6,300 ft³/s (178 m³/s) on basis of contracted-opening measurement at gage height 10.40 ft (3.170 m); minimum daily, 0.13 ft³/s (0.004 m³/s) Nov. 26, 1977.
Combined flow: Maximum discharge, 17,500 ft³/s (496 m³/s) Dec. 23, 1964; minimum daily, 10 ft³/s (0.28 m³/s) Oct. 17, 19, 1929.

EXTREMES FOR CURRENT YEAR.--River only: Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 13	2145	4,150 118	7.26 2.213	Apr. 11	1600	7,170 203	9.58 2.615
Dec. 20	1345	8,040 228	8.86 2.701	May 3	2145	3,390 96.0	6.81 2.076
Feb. 16	0345	*11,000 312	9.65 2.941	June 18	1845	2,150 60.9	5.91 1.801

Minimum daily, 4.0 ft³/s (0.11 m³/s) Oct. 6.

Combined flow: Maximum discharge, 11,100 ft³/s (314 m³/s) Feb. 16; minimum daily, 43 ft³/s (1.22 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	4.3	108	440	120	787	443	2370	1620	917	52	6.9
2	5.6	4.3	104	387	117	814	490	2570	1560	802	30	8.7
3	5.6	5.6	86	336	121	702	477	2760	1500	751	22	21
4	5.2	7.8	77	346	118	636	467	2830	1400	717	7.8	11
5	5.1	4.4	66	391	102	584	442	2630	1280	647	5.3	6.6
6	4.0	5.1	56	330	101	549	431	2520	1190	592	6.9	5.9
7	5.1	4.9	45	280	100	535	351	2660	1170	479	21	5.6
8	5.2	4.9	46	258	99	510	364	2560	1170	400	31	8.5
9	5.1	5.0	49	247	92	505	378	2150	1290	361	16	4.5
10	20	5.1	64	241	85	671	548	1730	1330	450	8.0	4.7
11	35	5.1	59	228	81	1090	5360	1530	1310	442	6.2	4.7
12	5.9	51	51	206	78	855	3410	1550	1220	487	6.0	4.4
13	5.2	1230	59	186	141	774	2150	1740	1150	475	14	5.1
14	5.9	1430	184	181	1580	824	1780	1890	1120	444	11	5.4
15	5.1	433	192	178	3610	696	1540	1940	1200	427	9.0	15
16	5.1	484	158	172	6740	621	1450	2120	1300	441	9.9	84
17	5.1	716	102	170	2450	572	1520	2190	1380	387	10	32
18	5.1	287	88	171	1580	522	1580	2070	1460	319	10	11
19	5.0	174	3050	166	1320	475	1600	2030	1610	276	16	42
20	5.0	118	6080	170	1300	445	1600	2180	1380	244	48	24
21	5.1	302	2240	173	1300	426	1550	2190	1320	189	53	4.6
22	5.1	1130	1260	152	1300	413	1620	2030	1240	178	51	5.6
23	5.1	1040	871	137	1140	406	1790	2190	1160	166	51	6.8
24	5.0	1500	669	139	952	413	1860	2340	1120	170	42	276
25	4.9	678	554	142	852	426	1810	2430	1070	174	26	374
26	4.9	445	485	178	772	417	1800	2540	1030	170	25	565
27	4.9	338	590	157	766	389	1860	2550	1000	165	25	160
28	145	253	437	156	731	415	2090	2140	993	162	22	67
29	21	163	476	137	---	378	2050	1880	1100	141	15	24
30	4.3	125	630	126	---	362	2090	1750	976	121	9.5	19
31	4.4	---	520	121	---	361	---	1740	---	82	7.2	---
TOTAL	358.6	10953.5	19456	6702	27748	17573	44901	67800	37649	11776	666.8	1813.0
MEAN	11.6	365	628	216	991	567	1497	2187	1255	380	21.5	60.4
MAX	145	1500	6080	440	6740	1090	5360	2830	1620	917	53	565
MIN	4.0	4.3	45	121	78	361	351	1530	976	82	5.3	4.4
AC-FT	711	21730	38590	13290	55040	34860	89060	134500	74680	23360	1320	3600
CAL YR 1981 TOTAL	67855.9			MEAN 186	MAX 6080	MIN 3.2	AC-FT 134600					
WTR YR 1982 TOTAL	247396.9			MEAN 678	MAX 6740	MIN 4.0	AC-FT 490700					

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SOUTH FORK AMERICAN RIVER
AND EL DORADO CANAL NEAR KYBURZ, CA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	137	257	569	259	921	534	2390	1760	1070	209	161
2	112	103	253	516	256	948	501	2590	1700	952	185	169
3	115	116	235	465	262	836	486	2780	1640	900	172	185
4	115	112	226	477	263	770	470	2850	1540	866	167	176
5	110	114	215	523	249	721	452	2650	1410	798	162	170
6	43	131	205	459	248	688	437	2540	1320	743	165	166
7	70	137	194	409	247	674	405	2680	1300	631	181	162
8	120	122	195	387	247	649	407	2610	1300	554	191	172
9	109	116	198	376	240	644	416	2220	1350	514	176	164
10	135	99	213	370	233	810	586	1820	1410	605	167	168
11	145	91	208	360	229	1230	5410	1640	1450	597	157	168
12	108	165	200	343	226	994	3450	1670	1360	642	162	162
13	113	1370	208	325	289	913	2190	1870	1290	630	175	155
14	123	1530	333	320	1720	963	1820	2020	1270	599	172	164
15	133	542	341	317	3740	835	1580	2070	1360	582	165	178
16	131	593	307	311	6850	760	1490	2250	1460	597	162	249
17	132	825	251	309	2560	711	1560	2320	1530	543	158	197
18	143	396	237	310	1700	661	1620	2200	1610	474	163	176
19	140	283	3190	305	1440	614	1640	2160	1760	430	172	207
20	119	227	6210	309	1420	584	1640	2310	1530	397	200	188
21	110	411	2370	312	1420	565	1590	2330	1470	341	195	152
22	117	1240	1390	291	1420	552	1660	2170	1390	333	198	162
23	123	1150	1010	276	1270	545	1830	2330	1310	325	198	169
24	129	1610	803	278	1090	552	1900	2480	1270	329	185	441
25	126	787	688	281	986	565	1850	2570	1220	334	176	529
26	136	554	622	317	906	556	1840	2680	1180	330	172	723
27	136	447	730	296	900	528	1900	2690	1150	325	179	324
28	294	368	577	295	865	554	2130	2280	1150	322	180	231
29	161	312	612	276	---	517	2080	2020	1250	301	175	188
30	106	274	759	265	---	501	2110	1890	1130	281	168	183
31	117	---	649	260	---	500	---	1880	---	241	162	---
TOTAL	3870	14362	23886	10907	31535	21861	45984	70960	41870	16586	5449	6639
MEAN	125	479	771	352	1126	705	1533	2289	1396	535	176	221
MAX	294	1610	6210	569	6850	1230	5410	2850	1760	1070	209	723
MIN	43	91	194	260	226	500	405	1640	1130	241	157	152
AC-FT	7680	28490	47380	21630	62550	43360	91210	140700	83050	32900	10810	13170
CAL YR 1981	TOTAL	111128	MEAN 304	MAX 6210	MIN 19	AC-FT 220400						
WTR YR 1982	TOTAL	293909	MEAN 805	MAX 6850	MIN 43	AC-FT 583000						

11441001 UNION VALLEY RESERVOIR NEAR RIVERTON, CA

LOCATION.--Lat 38°51'49", long 120°26'15", in NW¼NW¼ 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 (1.1 km) upstream from Little Silver Creek, and 6.6 mi (10.6 km) north of Riverton.

DRAINAGE AREA.--83.7 mi² (216.8 km²).

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 in May 1962. Usable capacity, 270,300 acre-ft (333 hm³) between elevations 4,645.0 ft (1,415.80 m), minimum operating level and 4,870.0 ft (1,484.38 m), top of radial spillway gates. Dead storage, 7,000 acre-ft (8.63 hm³). Reservoir receives water from the South Fork Rubicon River via Robbs Peak powerplant (station 11429800). Water is used for power development in the South Fork American River basin. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins and South Fork American River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 279,100 acre-ft (344 hm³) July 9, 1974, elevation, 4,870.6 ft (1,484.56 m); minimum since reservoir first filled, 18,300 acre-ft (22.6 hm³) Jan. 13, 1977, elevation, 4,683.3 ft (1,427.47 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 277,600 acre-ft (342 hm³) June 18, elevation, 4,870.1 ft (1,484.41 m); minimum, 71,000 acre-ft (87.5 hm³) Oct. 1-6, elevation, 4,764.0 ft (1,452.07 m).

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

4,680	17,000	4,780	90,000
4,700	25,000	4,800	118,900
4,720	35,300	4,820	154,400
4,740	48,800	4,840	197,400
4,760	66,800	4,870	277,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71000	74400	124700	198400	211400	233500	225100	247900	274400	274900	244000	190700
2	71000	74600	124200	200500	211200	234600	224900	249500	274400	274400	241800	188600
3	71000	75000	123800	202400	210500	234300	224300	250900	274100	273500	240000	187300
4	71000	75100	123200	205100	209500	233500	223300	252900	273800	272900	238100	188200
5	71000	75200	122700	207300	208700	233000	222300	254300	273800	272000	236500	188400
6	71000	75500	123700	208500	208000	231900	221300	255400	273200	271100	234600	188600
7	71200	75700	123800	208700	207300	230900	220200	256800	273200	270300	232700	188400
8	71200	75800	124200	210000	206500	230100	219000	258800	273200	269100	232500	186600
9	71200	75900	125000	210700	205800	229000	218200	259900	273500	268000	230600	184600
10	71300	76100	126200	212400	205100	230300	218700	260500	273500	266500	228200	182300
11	71600	76000	127200	213200	204100	234300	227700	260500	273800	267100	226400	180100
12	71600	76600	128000	213400	203400	235100	234000	261100	273800	266200	224300	179700
13	71700	81400	129400	213900	203400	235600	236200	261900	273800	265400	222300	177700
14	71700	85400	131100	214700	209200	237000	236700	263100	273800	264500	220200	175800
15	71700	87700	132800	215200	221500	236500	236700	264200	274400	263600	220200	174100
16	71800	89300	134200	215400	234000	235400	237500	265900	275200	262200	218200	172400
17	71800	92900	134900	215900	236200	234300	238100	267100	276100	260800	216400	170500
18	71900	93600	136300	216700	236700	233500	239100	268200	277600	259900	214400	168800
19	71900	94500	149600	217200	237500	232500	240200	269100	277300	258800	212700	169000
20	71900	94900	164000	218200	237500	231100	241000	270000	276400	257700	210700	167300
21	71900	99300	169000	218000	237300	229800	241800	271100	276100	256500	209000	165200
22	72000	104300	171700	217700	237000	228500	242700	272300	275200	255400	209200	163200
23	72000	111300	174300	217400	236500	227500	243800	273800	274900	254000	207000	161600
24	72000	117700	176200	216200	235600	226700	244900	274900	274900	254800	205100	160800
25	72100	120100	178400	215200	234800	226400	245700	275800	274900	254600	203100	161400
26	72100	121200	179700	214700	234300	226200	246500	276700	275200	252600	201000	162200
27	72300	122200	183200	213900	233800	225900	246500	277000	275200	250600	198800	160800
28	73400	123000	185500	213400	233000	226400	246200	276400	275200	249300	196500	159000
29	73700	123800	189100	212400	---	226200	245700	275800	275500	247300	196700	157400
30	74000	124200	192800	211700	---	225600	246500	275200	275200	245400	194600	156000
31	74200	---	195800	212200	---	225600	---	274600	---	243800	192500	---
MAX	74200	124200	195800	218200	237500	237000	246500	277000	277600	274900	244000	190700
MIN	71000	74400	122700	198400	203400	225600	218200	247900	273200	243800	192500	156000
a	4766.9	4803.2	4839.3	4846.1	4854.2	4851.4	4859.2	4869.1	4869.3	4858.2	4837.9	4820.8
b	+3200	+50000	+71600	+16400	+20800	-7400	+20900	+28100	+600	-31400	-51300	-36500

CAL YR 1981 b +74300

WTR YR 1982 b +85000

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

b Change in contents, in acre-feet.

11441100 ICE HOUSE RESERVOIR NEAR KYBURZ, CA

LOCATION.--Lat 38°49'26", long 120°21'34", in SE¼SW¼ sec.1, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on left bank at Ice House Dam on South Fork Silver Creek, 0.5 mi (0.8 km) upstream from Peavine Creek, and 4.8 mi (7.7 km) northwest of Kyburz.

DRAINAGE AREA.--27.2 mi² (70.4 km²).

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).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 15, 1959. Usable capacity, 45,800 acre-ft (56.5 hm³) between elevations 5,327.5 ft (1,623.82 m), centerline of fishwater outlet, and 5,450.0 ft (1,661.16 m), top of spillway gates. Dead storage, 160 acre-ft (197,000 m³). Reservoir is used to store water for power development. See schematic diagram of South Fork American River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 46,400 acre-ft (57.2 hm³) June 27, 1971, elevation, 5,450.6 ft (1,661.34 m); minimum since reservoir first filled, 1,740 acre-ft (2.15 hm³) Oct. 5-9, 1962, elevation, 5,349.85 ft (1,630.634 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,700 acre-ft (56.3 hm³) June 19, 28, 29, elevation, 5,449.7 ft (1,661.07 m); minimum, 15,500 acre-ft (19.1 hm³) Nov. 12, elevation, 5,395.1 ft (1,644.43 m).

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

5,349	1,600	5,400	17,600
5,350	1,760	5,420	27,400
5,360	3,840	5,440	39,200
5,380	9,600	5,451	46,700

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33300	20600	23300	31300	22800	30900	36100	44600	44100	45500	44800	44400
2	32600	20400	23200	31500	22400	31200	36100	44800	44400	45400	44800	44400
3	32100	19700	23000	31600	22000	31500	36100	44900	44600	45100	44800	44100
4	31600	19000	22900	31900	21600	31700	36100	45000	44800	45000	44800	43200
5	31000	18400	22800	31900	21200	31900	36000	44800	44800	44800	44700	42300
6	30400	17800	22600	31800	20800	32100	35900	44600	44800	44600	44700	41400
7	29700	17200	22400	31600	20300	32200	35800	44300	44900	44700	44800	41000
8	29100	17100	22200	31300	19900	32400	35700	44000	45200	44700	44800	40900
9	28400	16500	22000	30900	19400	32600	35500	43500	45400	44700	44800	40900
10	28000	16000	21800	30500	19000	33100	35500	43300	45400	44700	44800	40900
11	27400	15700	21700	30200	18600	33600	36600	43300	45200	44800	44800	40900
12	26800	15500	21600	29800	18300	34000	38000	43400	45000	44800	44800	40800
13	26100	16200	21400	29400	18000	34300	38700	43500	44800	44800	44800	40800
14	25400	17000	21400	29100	18900	34600	39100	43700	44700	44800	44800	40800
15	24800	17200	21400	28700	21600	34900	39400	44000	44800	44700	44700	40800
16	24100	17700	21300	28400	25300	35200	39800	44400	45000	44700	44700	40900
17	23600	18100	21200	28000	26300	35400	40100	44600	45200	44600	44700	40900
18	23400	18300	21200	27800	26800	35700	40500	44500	45600	44600	44700	40900
19	22700	18500	24100	27400	27400	35700	40900	44400	45700	44600	44700	41000
20	22000	18600	28000	27100	27800	35800	41300	44500	45400	44600	44700	41100
21	21300	19300	28900	26800	28200	35900	41800	44600	45200	44600	44700	41100
22	20600	20000	29300	26400	28700	36000	42200	44800	45200	44600	44700	41100
23	20100	21000	29700	26100	29100	36000	42800	45200	45200	44700	44700	41100
24	20100	22200	30000	25800	29400	36000	43300	45400	45200	44700	44600	41500
25	20100	22600	30300	25400	29800	36000	43800	45100	45300	44700	44600	42200
26	20000	22800	30500	25000	30000	35900	44400	44600	45400	44700	44600	42600
27	20000	23100	30900	24700	30300	35900	44700	44200	45500	44700	44600	42700
28	20200	23300	31000	24300	30700	36000	44800	43700	45700	44700	44500	42800
29	20400	23400	31000	24000	---	36000	44800	43700	45700	44700	44500	42800
30	20400	23400	31000	23600	---	36000	44600	43800	45600	44700	44400	42800
31	20500	---	31100	23200	---	36100	---	43900	---	44800	44400	---
MAX	33300	23400	31100	31900	30700	36100	44800	45400	45700	45500	44800	44400
MIN	20000	15500	21200	23200	18000	30900	35500	43300	44100	44600	44400	40800
a	5406.2	5412.1	5426.9	5411.6	5426.1	5435.2	5448.2	5447.1	5449.5	5448.4	5447.9	5445.5
b	-13500	+2900	+7700	-7900	+7500	+5400	+8500	-700	+1700	-800	-400	-1600

CAL YR 1981 b +9980

WTR YR 1982 b +8800

a Elevation, in feet NGVD, 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 NW¼NW¼ sec.12, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 300 ft (91 m) upstream from Peavine Creek, 0.4 mi (0.6 km) downstream from Ice House Dam, and 4.8 mi (7.7 km) northwest of Kyburz.

DRAINAGE AREA.--27.5 mi² (71.2 km²).

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. Altitude of gage is 5,290 ft (1,612 m), from topographic map. Prior to Oct. 1, 1959, at site 0.3 mi (0.5 km) upstream at different datum.

REMARKS.--Records excellent. Flow regulated by Ice House Reservoir beginning in December 1959 (station 11441100). See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Ice House Reservoir).--58 years, 75.8 ft³/s (2.147 m³/s), 54,920 acre-ft/yr (67.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,940 ft³/s (112 m³/s) Dec. 23, 1955, gage height, 6.71 ft (2.045 m) site and datum then in use, from rating curve extended above 540 ft³/s (15.3 m³/s) on basis of slope-area measurement at gage height 6.69 ft (2.039 m); no flow Oct. 31 to Nov. 9, 1958. Maximum discharge since construction of Ice House Dam in 1959, 1,930 ft³/s (54.7 m³/s) May 26, 1982, gage height, 5.74 ft (1.750 m), from rating curve extended above 730 ft³/s (20.7 m³/s) on basis of computation of flow over dam of peak flow; minimum daily, 1.2 ft³/s (0.03 m³/s) Mar. 17-19, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,930 ft³/s (54.7 m³/s) May 26, gage height, 5.74 ft (1.750 m); minimum daily, 6.0 ft³/s (0.17 m³/s) Oct. 26, Nov. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	361	6.1	133	8.4	253	7.9	106	402	208	209	27	19
2	359	125	141	8.2	254	7.5	106	402	143	209	28	18
3	254	355	141	8.1	253	6.9	106	403	143	209	29	142
4	217	353	140	73	252	6.7	106	471	178	209	29	451
5	357	356	140	175	252	6.6	106	549	206	209	29	451
6	355	360	140	175	252	6.6	119	574	206	151	23	448
7	354	245	140	205	252	6.5	143	572	148	103	18	218
8	349	100	140	256	251	6.9	152	571	98	103	18	14
9	350	359	140	256	249	7.2	162	570	165	103	18	16
10	245	249	140	255	248	9.4	164	419	270	103	18	17
11	310	176	138	254	248	10	132	248	314	103	18	17
12	401	184	139	254	248	8.3	10	252	314	103	18	17
13	372	9.6	139	253	249	8.1	9.2	256	314	99	18	17
14	370	8.8	138	252	137	8.8	9.2	256	256	105	18	17
15	367	7.6	138	252	20	8.0	9.4	256	206	105	18	18
16	364	7.3	138	251	18	7.8	9.4	256	206	105	17	18
17	260	8.4	138	250	11	7.8	9.6	335	206	105	17	17
18	124	7.4	138	252	10	7.6	9.7	415	206	105	16	17
19	362	7.2	70	255	10	31	9.7	413	316	73	18	17
20	360	6.8	14	254	10	50	9.8	414	405	52	20	17
21	358	9.1	9.4	253	10	50	9.8	414	299	52	21	17
22	357	7.6	8.7	253	9.8	55	9.2	414	209	52	21	17
23	254	6.8	8.2	252	9.1	80	8.7	415	189	55	19	18
24	6.4	8.4	8.0	251	9.0	106	8.9	520	156	57	17	18
25	6.3	6.5	7.8	250	8.7	106	9.0	849	140	57	17	19
26	6.0	6.2	8.0	249	7.8	106	9.0	928	128	57	17	18
27	6.2	6.1	9.1	248	7.0	107	164	761	128	57	18	18
28	7.0	6.1	119	248	6.9	107	284	631	128	46	18	18
29	6.5	6.0	210	250	---	106	345	410	173	29	18	18
30	6.2	48	210	252	---	106	402	278	209	27	18	17
31	6.2	---	135	252	---	106	---	279	---	27	18	---
TOTAL	7510.8	3062.0	3318.2	6704.7	3545.3	1254.6	2737.6	13933	6267	3079	617	2144
MEAN	242	102	107	216	127	40.5	91.3	449	209	99.3	19.9	71.5
MAX	401	360	210	256	254	107	402	928	405	209	29	451
MIN	6.0	6.0	7.8	8.1	6.9	6.5	8.7	248	98	27	16	14
AC-FT	14900	6070	6580	13300	7030	2490	5430	27640	12430	6110	1220	4250

CAL YR 1981 TOTAL 20854.0 MEAN 57.1 MAX 492 MIN 6.0 AC-FT 41360 MEAN a 70.8 AC-FT a 51260
WTR YR 1982 TOTAL 54173.2 MEAN 148 MAX 928 MIN 6.0 AC-FT 107500 MEAN a 161 AC-FT a 116300

a Adjusted for change in contents in Ice House Reservoir.

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 (91 m) downstream from Round Tent Canyon, 0.4 mi (0.6 km) downstream from diversion dam, and 5 mi (8 km) northeast of Pollock Pines.

DRAINAGE AREA.--171 mi² (443 km²).

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,754.06 ft (839.438 m) National Geodatic 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, Junction and Camino reservoirs, and diversions to Camino powerplant since 1961. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (unadjusted).--22 years, 84.7 ft³/s (2.400 m³/s), 61,370 acre-feet/yr (75.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s (547 m³/s) Jan. 31, 1963, gage height, 11.28 ft (3.438 m) in gage well, 11.9 ft (3.63 m) from floodmarks, from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 1.0 ft³/s (0.028 m³/s) Nov. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,100 ft³/s (371 m³/s) Feb. 15, gage height, 10.21 ft (3.112 m); minimum daily, 4.4 ft³/s (0.12 m³/s) Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	10	16	98	21	30	100	983	910	21	22	21
2	9.4	9.9	16	73	21	50	276	945	907	20	22	21
3	9.6	6.3	15	52	21	41	274	952	887	20	22	20
4	9.8	4.4	15	56	20	35	237	974	880	20	22	20
5	9.5	6.1	14	82	19	31	241	1080	919	19	22	20
6	9.8	6.2	14	62	17	27	187	1410	1010	19	22	20
7	10	6.2	13	48	16	25	199	1430	832	19	22	20
8	9.6	6.1	13	38	16	22	175	964	369	19	22	20
9	9.6	6.1	13	33	15	20	119	948	422	19	22	20
10	10	6.6	14	29	14	29	307	844	422	19	22	20
11	10	6.5	13	27	12	53	1400	559	420	18	22	20
12	9.7	8.0	14	24	8.6	45	849	550	417	18	22	20
13	9.6	23	18	22	19	38	545	537	414	18	21	20
14	9.6	40	18	20	110	50	496	489	521	18	21	20
15	9.6	15	19	19	2950	196	494	517	431	18	21	21
16	9.7	14	19	18	5010	500	395	474	436	19	21	21
17	9.7	37	17	18	1650	478	439	480	464	20	21	21
18	9.7	23	17	18	924	301	372	641	436	20	21	21
19	9.7	16	146	17	224	158	364	759	1450	20	21	21
20	9.6	13	1970	16	484	152	594	939	1580	21	21	21
21	9.4	56	427	15	1050	137	616	946	1200	23	21	21
22	9.5	68	94	14	831	109	656	931	1010	22	21	20
23	9.6	41	65	13	731	166	674	926	909	20	21	21
24	9.9	119	46	13	621	24	674	1050	565	21	21	22
25	9.8	55	35	13	434	24	633	1450	424	20	22	24
26	9.6	35	32	26	144	26	610	1710	8.1	21	22	22
27	9.9	26	50	26	69	29	758	1560	7.9	21	21	22
28	14	21	39	26	22	34	893	1580	9.3	22	21	21
29	13	18	73	24	---	32	885	1370	15	22	21	21
30	11	17	98	23	---	30	983	1230	19	22	21	21
31	10	---	93	22	---	32	---	1500	---	22	21	---
TOTAL	309.3	719.4	3446	985	15473.6	2924	15445	30728	18294.3	621	665	623
MEAN	9.98	24.0	111	31.8	553	94.3	515	991	610	20.0	21.5	20.8
MAX	14	119	1970	98	5010	500	1400	1710	1580	23	22	24
MIN	9.4	4.4	13	13	8.6	20	100	474	7.9	18	21	20
AC-FT	613	1430	6840	1950	30690	5800	30640	60950	36290	1230	1320	1240
CAL YR 1981 TOTAL	7766.5			MEAN 21.3	MAX 1970	MIN 4.4	AC-FT 15400					
WTR YR 1982 TOTAL	90233.6			MEAN 247	MAX 5010	MIN 4.4	AC-FT 179000					

SACRAMENTO RIVER BASIN

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 (107 m) upstream from El Dorado powerhouse, 2.4 mi (3.9 km) downstream from Silver Creek, and 2.8 mi (4.5 km) northwest of Pollock Pines.

DRAINAGE AREA.--449 mi² (1,163 km²).

PERIOD OF RECORD.--August to December 1923 (published as "below Silver Creek"), November 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,862.79 ft (567.778 m) National Geodetic Vertical Datum of 1929. Aug. 11 to Dec. 16, 1923, nonrecording gage at same site at different datum.

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (unadjusted).--12 years, 450 ft³/s (12.74 m³/s), 326,000 acre-ft/yr (402 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft³/s (835 m³/s) Jan. 13, 1980, gage height, 17.83 ft (5.435 m); minimum daily, 9.6 ft³/s (0.27 m³/s) Oct. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,600 ft³/s (697 m³/s) Feb. 16, gage height, 16.55 ft (5.044 m); minimum daily, 19 ft³/s (0.54 m³/s) Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	26	212	1230	320	1040	860	3950	2730	996	107	40
2	20	25	193	944	308	1330	1130	4110	2600	848	86	40
3	21	24	172	756	309	1130	1290	4320	2510	776	67	39
4	22	19	147	973	307	1000	1340	4470	2390	746	61	39
5	21	23	133	1580	268	905	1180	4350	2300	683	48	39
6	20	21	120	1020	263	835	1020	4550	2270	638	45	37
7	27	20	106	760	261	808	912	4750	2090	517	44	37
8	25	20	95	638	253	755	842	4140	1530	448	61	37
9	22	20	94	577	236	741	868	3650	1710	391	76	39
10	28	20	122	544	223	886	1290	3000	1830	466	54	38
11	64	20	114	513	210	1680	10200	2360	1740	457	47	37
12	53	33	105	472	192	1420	6980	2290	1650	495	44	36
13	28	1030	146	421	226	1220	4360	2460	1570	504	43	36
14	24	2100	203	398	2240	1450	3490	2640	1610	465	48	36
15	23	498	286	382	7970	1350	3060	2660	1610	450	47	38
16	23	640	270	366	15900	1480	2700	2820	1710	456	43	97
17	22	957	195	354	5750	1390	2730	2940	1860	428	42	102
18	22	526	164	356	3390	1220	2700	2980	1880	358	42	66
19	22	300	3360	363	2220	961	2730	2990	3270	315	42	56
20	22	213	11200	347	2150	898	2890	3390	3170	286	44	85
21	21	415	4020	350	2720	856	2850	3490	2710	242	75	57
22	21	1710	2010	311	2460	782	2940	3250	2330	220	75	43
23	21	1220	1370	289	2220	854	3130	3360	2150	203	77	41
24	21	2270	1030	288	1860	690	3240	3690	1690	203	76	219
25	21	1150	854	296	1580	695	3090	4260	1520	209	65	296
26	21	746	745	476	1190	706	3040	4680	1060	206	55	754
27	22	567	902	464	1060	684	3130	4560	1010	199	54	261
28	96	449	735	444	974	804	3650	4190	1000	199	54	148
29	156	327	953	388	---	759	3580	3620	1110	184	52	92
30	54	249	1390	351	---	727	3580	3190	995	165	47	64
31	30	---	1170	333	---	912	---	3550	---	135	42	---
TOTAL	1014	15638	32616	16984	57060	30968	84802	110660	57605	12888	1763	2949
MEAN	32.7	521	1052	548	2038	999	2827	3570	1920	416	56.9	98.3
MAX	156	2270	11200	1580	15900	1680	10200	4750	3270	996	107	754
MIN	20	19	94	288	192	684	842	2290	995	135	42	36
AC-FT	2010	31020	64690	33690	113200	61430	168200	219500	114300	25560	3500	5850
a	16260	19940	44240	68140	75720	83550	81790	82100	62190	67520	62480	49780
b	6340	6760	9860	9670	8910	10220	2050	7020	7800	8750	8200	8520

CAL YR 1981 TOTAL 99080 MEAN 271 MAX 11200 MIN 18 AC-FT 196500

WTR YR 1982 TOTAL 424947 MEAN 1164 MAX 15900 MIN 19 AC-FT 842900

a Diversion, in acre-feet, to Camino powerplant, furnished by Sacramento Municipal Utility District.

b Diversion, in acre-feet, to El Dorado powerplant, furnished by Pacific Gas and Electric Company.

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA

LOCATION.--Lat 38°46'23", long 120°42'02", in NE 1/4 SW 1/4 sec.25, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, on right bank 500 ft (152 m) downstream from Slab Creek Dam, 500 ft (152 m) upstream from Iowa Canyon Creek, and 2.8 mi (4.5 km) northwest of Camino.

DRAINAGE AREA.--493 mi² (1,277 km²).

PERIOD OF RECORD.--October 1922 to current year. Monthly discharge only for October 1922, published in WSP 1315-A. Records for the river and the 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.--Water-stage recorder. Altitude of gage is 1,620 ft (494 m), from topographic map. See WSP 2131 for history of changes prior to Oct. 12, 1966.

REMARKS.--Records fair. Flow regulated by six reservoirs, total usable capacity, 347,000 acre-ft (428 hm³). Since 1967 diversion from Slab Creek Dam to White Rock powerplant bypasses this station. Echo Lake conduit (station 11434500) imports up to 1,900 acre-ft (2.34 hm³) each year from Truckee River basin. Variable amounts of El Dorado Canal water, up to 40 ft³/s (1.13 m³/s) May to October, and about 7 ft³/s (0.20 m³/s) remainder of the year, diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Consumnes 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 tunnel (station 11429800). See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE.--37 years (water years 1923-59, prior to extensive regulation and transbasin diversion in South Fork American River basin), 961 ft³/s (27.22 m³/s), 695,700 acre-ft/yr (858 hm³/yr), combined flow of South Fork American River and American River Flume; 8 years (water years 1960-67, transition period prior to bypass to White Rock powerplant), 1,062 ft³/s (30.08 m³/s), 769,400 acre-ft/yr (949 hm³/yr); 15 years (water years 1968-82), 152 ft³/s (3.738 m³/s) 95,630 acre-ft/yr (118 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft³/s (1,410 m³/s) Dec. 23, 1955, gage height, 32.6 ft (9.94 m) from floodmarks, site and datum then in use, from rating curve extended above 24,000 ft³/s (680 m³/s) on basis of computation of maximum flow over dam; minimum daily, 1.3 ft³/s (0.037 m³/s) Aug. 24, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,500 ft³/s (779 m³/s) Feb. 16, gage height, 21.90 ft (6.675 m); minimum daily, 5.8 ft³/s (0.16 m³/s) Nov. 17-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	13	11	23	23	39	1810	678	39	39	39
2	19	19	13	11	23	23	39	1990	109	38	39	39
3	19	19	13	11	23	23	39	2270	59	38	39	39
4	19	19	13	11	23	23	39	2280	39	38	39	39
5	19	19	13	11	23	19	39	2320	39	38	39	39
6	19	19	13	11	23	14	39	2500	39	38	39	39
7	19	19	13	12	23	14	38	2380	39	38	39	39
8	19	19	13	11	23	14	39	1960	39	38	39	39
9	19	19	11	11	23	14	39	1500	39	39	39	39
10	19	19	11	11	23	14	39	919	39	39	39	39
11	19	19	11	11	23	14	8080	319	39	39	39	39
12	19	19	11	11	23	14	6090	184	39	39	39	39
13	19	19	11	11	23	14	2590	323	39	39	39	39
14	19	19	11	11	23	14	1600	520	39	39	39	39
15	19	19	11	11	6170	28	1040	517	39	38	39	39
16	19	12	11	11	16900	41	717	668	39	39	39	39
17	19	5.8	11	11	4890	41	856	813	39	39	39	39
18	19	5.8	11	11	1940	41	614	819	39	39	39	39
19	19	5.8	463	11	527	41	632	773	39	39	39	39
20	19	13	9810	11	284	41	741	1150	216	38	39	39
21	19	13	2490	11	1030	41	794	1300	281	38	39	39
22	19	13	40	11	697	31	826	1040	39	38	39	39
23	19	13	11	11	420	21	1200	1110	39	38	39	39
24	19	13	11	11	34	21	1140	1420	39	38	39	39
25	19	13	11	11	23	21	1000	2070	39	39	39	39
26	19	13	11	11	23	30	925	2520	39	39	39	39
27	19	13	11	11	23	38	1240	2480	39	39	39	39
28	19	13	11	11	23	38	1510	2280	39	39	39	39
29	19	13	11	17	---	38	1500	1520	39	39	39	39
30	19	13	11	23	---	38	1450	1020	39	39	39	39
31	19	---	11	23	---	38	---	1090	---	39	39	---
TOTAL	589	457.4	13116	372	33306	825	34934	43865	2318	1196	1209	1170
MEAN	19.0	15.2	423	12.0	1190	26.6	1164	1415	77.3	38.6	39.0	39.0
MAX	19	19	9810	23	16900	41	8080	2520	678	39	39	39
MIN	19	5.8	11	11	23	14	38	184	39	38	39	39
AC-FT	1170	907	26020	738	66060	1640	69290	87010	4600	2370	2400	2320
CAL YR 1981 TOTAL	19665.4			MEAN 53.9	MAX 9810	MIN 5.8	AC-FT 39010					
WTR YR 1982 TOTAL	133357.4			MEAN 365	MAX 16900	MIN 5.8	AC-FT 264500					

SACRAMENTO RIVER BASIN

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 (213 m) downstream from Chili Bar Dam, 0.5 mi (0.8 km) upstream from Big Canyon, and 2.5 mi (4.0 km) north of Placerville.

DRAINAGE AREA.--598 mi² (1,549 km²).

PERIOD OF RECORD.--August 1911 to July 1920, July 1964 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 931.05 ft (283.784 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Aug. 11, 1911, to July 31, 1920, nonrecording gage 0.0 mi (1.0 km) downstream at different datum.

REMARKS.--Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to extensive regulation and transbasin diversion).--9 years (water years 1912-20), 1,132 ft³/s (32.06 m³/s), 820,100 acre-ft/yr (1.01 km³/yr); 18 years (water years 1965-82), 1,462 ft³/s (41.40 m³/s), 1,059,000 acre-ft/yr (1.31 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft³/s (1,340 m³/s) Dec. 23, 1964, gage height, 17.4 ft (5.30 m) from floodmarks, from rating curve extended above 18,000 ft³/s (510 m³/s) on basis of computations of flow over dam of maximum flow; minimum daily, 0.2 ft³/s (0.006 m³/s) Nov. 12, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,900 ft³/s (988 m³/s) Feb. 16, gage height, 15.59 ft (4.752 m); minimum daily, 110 ft³/s (3.12 m³/s) Oct. 31, Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	554	110	983	2560	2210	3640	3970	5570	4410	2920	763	1320
2	158	113	1300	2720	2350	4990	4680	5790	3850	2920	1450	1240
3	412	115	1390	2060	2400	4180	5320	5980	3800	2940	1650	786
4	376	437	1150	3340	2140	3510	5230	6040	3780	2330	1560	632
5	798	624	1220	5330	2120	3490	4950	6040	3750	2100	1520	855
6	516	485	446	4060	2170	3500	4660	6320	3700	2250	1300	889
7	458	459	965	3390	2180	2930	4190	6270	3710	2200	1220	671
8	476	445	1060	2150	2160	3020	3150	5980	3300	1640	882	1390
9	392	545	1060	1750	2040	2840	3370	5480	3290	1400	1210	1240
10	352	565	951	1690	1910	2930	3530	5030	3090	1640	1400	842
11	338	498	1110	1760	2050	3550	12700	4500	3020	832	1250	1130
12	415	508	887	2170	2030	3940	10900	4170	3290	1520	1560	616
13	442	1740	425	2220	2000	3860	7440	4260	3300	1780	1310	1170
14	442	4080	1170	2430	3490	3620	5970	4520	3430	1780	1500	1340
15	359	1520	1270	2200	12800	3310	5540	4420	3470	1930	804	1140
16	372	1080	1650	2040	21700	4200	5450	4790	3540	2020	1220	1110
17	497	1710	1360	2240	9030	3490	5360	4790	3470	2100	1450	1210
18	607	1840	1350	2240	6250	3550	4910	4780	3430	1660	1320	1270
19	664	767	3360	2230	4770	3580	4790	4740	4110	1630	1560	654
20	534	295	15200	2220	4320	3150	4820	4900	4240	1820	1450	1220
21	447	1230	6630	2070	4950	3110	4990	5060	4490	1730	1470	1170
22	485	4030	4610	1800	4530	3010	4820	4790	4180	1640	800	1170
23	468	2420	4190	2160	4390	2740	5050	4710	4180	856	1160	1100
24	481	4460	2880	2340	4020	2310	5080	4760	4180	426	1390	1610
25	458	3430	1780	2410	3920	2860	4930	5250	4180	592	1470	1390
26	134	1220	1680	2370	3930	3260	4860	5640	2800	1200	1520	1590
27	114	860	1670	2320	3760	3110	5010	5860	2520	1450	1430	1280
28	973	827	2000	2210	2740	3710	5240	5630	2180	1620	1310	1290
29	377	943	2640	1990	---	3240	5250	4960	1710	1390	1100	1350
30	138	909	3060	1850	---	3300	5290	4570	2930	1520	1180	1350
31	110	---	2800	2160	---	3900	---	4570	---	1580	1420	---
TOTAL	13347	38265	72247	74480	122360	105830	161450	160170	105330	53416	40629	34025
MEAN	431	1276	2331	2403	4370	3414	5382	5167	3511	1723	1311	1134
MAX	973	4460	15200	5330	21700	4990	12700	6320	4490	2940	1650	1610
MIN	110	110	425	1690	1910	2310	3150	4170	1710	426	763	616
AC-FT	26470	75900	143300	147700	242700	209900	320200	317700	208900	106000	80590	67490

CAL YR 1981 TOTAL 351340 MEAN 961 MAX 15200 MIN 98 AC-FT 696880
WTR YR 1982 TOTAL 981549 MEAN 2689 MAX 21700 MIN 110 AC-FT 1947000

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 (0.6 km) downstream from Greenwood Creek, 2.4 mi (3.9 km) northwest of Lotus, and 3.3 mi (5.3 km) northwest of Coloma.

DRAINAGE AREA.--673 mi² (1,743 km²).

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. Altitude of gage is 635 ft (194 m), from topographic map.

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE.--11 years (water years 1952-62, prior to extensive regulation and transbasin diversion), 1,109 ft³/s (31.41 m³/s), 802,900 acre-ft/yr (990 hm³/yr); 20 years (water years 1963-82), 1,489 ft³/s (42.17 m³/s), 1,079,000 acre-ft/yr (1.33 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft³/s (2,030 m³/s) Dec. 23, 1955, gage height, 21.37 ft (6.514 m); minimum daily, 14 ft³/s (0.40 m³/s) on several days during July 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1862 and prior to beginning of record, 20.4 ft (6.22 m) from floodmarks, Nov. 21, 1950, discharge, 64,500 ft³/s (1,830 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 52,100 ft³/s (1,480 m³/s) Feb. 16, gage height, 18.69 ft (5.697 m); minimum daily, 133 ft³/s (3.77 m³/s) Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	538	136	920	4030	2560	3320	5580	5700	4640	2920	760	1230
2	482	133	1660	3700	2560	5550	4920	5900	3950	2920	1450	1220
3	369	137	1410	2570	2530	4790	6810	6180	3820	2940	1650	984
4	485	364	1260	6600	2260	3480	5970	6190	3780	2330	1560	526
5	610	573	1360	10300	2220	3320	5370	6200	3750	2100	1520	854
6	751	559	586	5260	2240	3230	5090	6250	3700	2250	1270	910
7	518	479	905	3970	2280	3020	4300	6360	3710	2200	1320	602
8	521	466	994	2900	2240	3000	3270	5990	3300	1640	841	1300
9	465	554	1060	2250	2130	2800	3390	5510	3290	1400	1010	1260
10	392	563	980	2300	2000	2740	3750	5010	3080	1640	1540	943
11	378	541	1290	2050	2110	3680	17200	4480	3020	832	1050	1080
12	406	564	1120	2440	2100	4340	13700	4200	3290	1520	1540	684
13	475	1610	619	2230	2150	4140	8340	4270	3300	1780	1270	955
14	463	4200	1040	2670	3490	3550	6810	4460	3430	1780	1600	1310
15	388	1950	1450	2380	16100	3730	6030	4480	3470	1930	730	1210
16	442	1290	1640	2270	33900	4640	5450	4610	3540	2020	1130	1100
17	483	1740	1510	2300	11300	4230	5430	4710	3470	2100	1440	904
18	542	2130	1400	2340	7250	4430	5080	4770	3430	1660	1260	1400
19	709	1120	4410	2410	5420	4310	5000	4680	4110	1630	1530	722
20	596	374	21100	2540	4580	3580	5010	5030	4240	1820	1420	819
21	501	1590	9530	2460	5290	3340	5010	5230	4490	1730	1430	1170
22	505	4960	5010	2150	4960	3170	5050	4960	4180	1640	937	1160
23	496	2600	4360	2270	4690	2940	5250	4980	4180	860	983	1180
24	504	5070	3140	2800	4230	2480	5220	5160	4180	430	1370	1590
25	493	3890	2010	2590	4070	2910	5080	5700	4180	590	1430	1370
26	213	1390	1830	2640	4040	3300	5010	6180	2800	1200	1490	1670
27	138	920	1820	2590	3840	3240	5230	6170	2520	1450	1410	1250
28	721	1040	2250	2490	2890	3530	5410	6140	2180	1620	1460	1310
29	706	1190	3750	2190	---	3890	5420	5380	1710	1390	946	1260
30	241	857	4920	1990	---	4320	5500	4840	2930	1520	1130	1590
31	141	---	4220	2120	---	8270	---	4750	---	1580	1510	---
TOTAL	14672	42994	89554	93800	145430	117270	178680	164390	105670	53422	39987	33563
MEAN	473	1433	2889	3026	5194	3783	5956	5303	3522	1723	1290	1119
MAX	751	5070	21100	10300	33900	8270	17200	6360	4640	2940	1650	1670
MIN	138	133	586	1990	2000	2460	3270	4200	1710	430	730	526
AC-FT	29100	85280	177600	186100	288500	232600	354400	326100	209600	106000	79310	66570

CAL YR 1981 TOTAL 385382 MEAN 1056 MAX 21100 MIN 133 AC-FT 764400
WTR YR 1982 TOTAL 1079432 MEAN 2957 MAX 33900 MIN 133 AC-FT 2141000

NOTE.--No gage-height record June 4 to Aug. 5.

SACRAMENTO RIVER BASIN

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-68, 1970 to current year.

CHEMICAL ANALYSES: Water years 1958-66, 1978 to November 1980.

BIOLOGICAL DATA: Water years 1979-80.

WATER TEMPERATURES: Water years 1960-68, 1970 to current year.

SEDIMENT RECORDS: Water years 1957-62.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1959 to September 1968, February 1970 to current year.

INSTRUMENTATION.--Temperature recorder December 1959 to September 1968, and since February 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 29.5°C July 20, 1960, Aug. 12, 22, 1977; minimum recorded, 1.0°C on several days in 1960 and 1962.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 18.5°C Oct. 1; minimum recorded, 3.5°C several days during January and February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.5	15.5	13.0	11.0	7.5	5.5	8.0	7.0	5.5	4.0	6.5	6.0
2	17.5	15.5	13.0	11.0	7.0	5.5	7.5	6.0	5.5	4.0	7.0	6.5
3	17.0	15.5	13.0	11.0	6.5	5.5	6.5	5.5	5.5	4.0	8.0	6.5
4	17.5	15.5	12.5	11.0	6.5	5.5	6.5	5.5	5.5	4.0	7.5	5.5
5	17.5	15.0	11.5	10.5	6.5	5.5	8.0	6.5	5.5	4.0	7.0	5.0
6	16.5	15.0	12.5	10.5	7.0	6.0	6.5	5.0	5.5	3.5	7.0	5.5
7	16.0	15.5	11.5	10.0	7.0	6.0	5.5	4.5	5.5	4.0	6.5	5.5
8	16.0	14.0	11.5	10.0	7.0	6.0	5.5	4.5	5.5	4.5	7.0	5.5
9	16.0	14.0	11.5	10.0	6.0	5.5	5.5	4.5	4.5	4.0	6.5	5.5
10	15.5	14.5	11.0	10.5	8.0	6.0	5.0	4.0	5.0	4.0	7.0	5.5
11	14.5	13.5	11.0	10.0	7.0	5.5	5.0	3.5	5.5	3.5	7.5	6.5
12	14.0	12.0	11.0	10.5	6.5	5.5	5.0	4.0	5.5	3.5	8.0	6.5
13	14.0	12.0	11.5	11.0	7.5	6.5	5.0	3.5	5.0	4.5	8.0	7.0
14	13.5	12.0	11.0	10.5	7.5	7.0	5.0	3.5	6.5	5.0	8.0	7.0
15	13.5	11.5	10.5	10.0	7.0	6.5	4.5	4.0	8.0	6.0	8.0	7.0
16	13.0	11.0	10.5	9.5	7.0	6.5	5.0	4.0	7.5	6.5	7.0	6.0
17	13.5	11.5	11.0	9.5	7.0	6.0	4.5	4.0	7.0	6.5	7.0	6.0
18	13.0	11.0	10.0	9.0	7.0	6.0	5.0	4.5	7.0	6.0	6.5	5.5
19	13.0	11.0	10.0	8.5	9.0	7.5	5.0	4.5	7.5	6.5	6.5	5.5
20	13.0	10.5	10.5	9.5	9.0	8.5	4.5	4.5	7.5	6.0	7.0	5.0
21	13.0	11.0	11.0	10.0	9.0	8.0	5.0	4.0	8.0	6.5	7.0	5.0
22	13.0	11.0	10.5	9.5	8.0	6.5	5.0	4.0	8.0	7.0	7.5	5.0
23	13.0	11.0	10.0	9.5	7.5	6.0	5.0	3.5	7.5	6.0	7.5	5.5
24	12.5	11.0	10.5	9.5	6.5	5.5	4.5	3.5	7.5	6.0	8.5	5.5
25	13.0	11.0	9.5	8.5	6.5	5.5	4.5	3.5	7.0	5.5	8.0	5.5
26	12.0	11.5	9.0	8.5	6.5	5.5	4.5	3.5	6.0	5.5	7.0	6.0
27	12.5	11.5	8.5	8.0	6.5	6.0	5.5	4.0	7.0	5.5	7.5	6.0
28	13.0	11.5	8.5	7.0	6.5	5.5	5.5	4.5	6.5	5.5	7.5	6.5
29	12.5	11.0	7.5	6.0	7.5	6.0	5.5	4.5	---	---	6.5	6.0
30	12.5	10.5	7.0	6.0	8.5	7.5	5.5	4.0	---	---	6.5	5.5
31	12.5	10.0	---	---	7.5	7.0	5.5	4.0	---	---	7.0	5.5
MONTH	18.5	10.0	13.0	6.0	9.0	5.5	8.0	3.5	8.0	3.5	8.5	5.0

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

[illegible]

SACRAMENTO RIVER BASIN

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 (1.1 km) downstream from South Fork American River, and 2.3 mi (3.7 km) northeast of Folsom.

DRAINAGE AREA.--1,861 mi² (4,820 km²).

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 Bureau of Reclamation).

REMARKS.--Reservoir is formed by concrete gravity-type dam with rolled-earth-wing dams, auxiliary dams, and dikes, completed May 14, 1950; storage began Feb. 25, 1955. Total capacity, 1,010,300 acre-ft (1.25 km³) between elevations 205.5 ft (62.64 m) invert of lower tier of river outlets and 466.0 ft (142.04 m) gross pool elevation, all of which is available for release. Spillway design flood pool elevation, 475.4 ft (144.90 m), capacity, 1,120,200 acre-ft (1.38 km³). Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,024,400 acre-ft (1.26 km³) June 15, 1963, elevation, 467.23 ft (142.412 m); minimum since storage pool first filled, 140,600 acre-ft (173 hm³) Nov. 20, 21, 1977, elevation, 347.57 ft (105.939 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 999,200 acre-ft (1.23 km³) June 1, elevation, 465.03 ft (141.741 m); minimum, 540,800 acre-ft (667 hm³) Nov. 11, elevation, 419.12 ft (127.748 m).

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

345	133,100	400	393,300
350	148,000	420	548,300
360	181,900	440	732,900
370	222,300	460	942,600
380	270,700	480	1,176,000
390	327,800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	596000	554900	623300	689100	619800	653600	803300	844900	999200	955100	928700	833200
2	594200	552500	622100	668100	621500	673900	783500	854600	999000	957600	926200	826500
3	592700	550700	620400	638800	624100	687800	778700	864200	997900	960300	930600	820300
4	591700	549200	617300	639100	625900	693600	767200	875200	996000	960700	935200	812500
5	590100	548300	614700	671800	627100	697100	746500	885700	993800	961800	939700	805100
6	588900	547400	610200	664700	628200	699300	727200	895400	993000	962800	936800	798400
7	587400	546100	606200	648300	629300	700500	719400	903700	989900	966100	934100	791300
8	585300	544100	607000	635600	630100	701200	710500	912600	985400	970800	929600	785100
9	583000	542000	609500	636100	631900	701200	710900	918600	982800	971800	925200	779300
10	581100	541100	612700	635400	634200	702700	718000	921100	979500	970300	922700	772900
11	579000	540800	615400	634300	637100	716200	801000	921700	975800	967600	918600	766400
12	576900	541900	617800	633200	641000	727700	804000	920000	974000	966200	916100	760200
13	575000	554100	620700	631300	643800	735300	766300	918800	972200	965600	912500	758300
14	573400	583000	624100	629400	667200	743900	759700	918700	970100	965100	909700	757200
15	571600	592500	628600	627000	749100	752200	768300	919400	967800	963700	905500	756600
16	570100	604800	630600	628300	791400	762200	772400	921300	966200	963200	901700	755700
17	568800	623500	630600	631700	713300	770500	774100	923300	965000	962800	898600	755300
18	567100	628300	630100	635300	666500	772600	773500	925300	963700	961700	895400	755200
19	565800	627100	675800	638200	649000	772800	772000	926200	964400	960300	892400	753000
20	565300	622700	782000	642900	652100	769100	770000	929200	965500	958500	889600	751900
21	565000	629400	801400	647700	654300	763300	766400	934900	966300	957400	887000	751100
22	565000	653200	767600	645200	655200	757700	770700	943900	965200	956000	882600	750500
23	564400	649400	724200	640800	653700	757900	778500	952900	963500	953800	878400	749800
24	563400	681100	674600	637700	648700	756600	787400	962800	961600	949700	875400	750100
25	561800	676400	652500	634100	643800	756000	795300	973500	961700	945800	872600	752300
26	559100	660800	643400	633600	646200	756800	802500	985700	961200	942400	867800	755200
27	557300	644200	648900	634200	649800	757500	809600	992100	959400	940400	862500	755600
28	558100	639200	652000	633600	650600	761100	819300	995200	957500	939200	858100	755700
29	559900	633000	662000	631200	---	768100	829400	995800	956400	937400	851600	755700
30	559100	625500	678600	627200	---	777700	837100	996600	955700	935700	845700	756100
31	557400	---	683300	622900	---	815700	---	997900	---	933200	839900	---
MAX	596000	681100	801400	689100	791400	815700	837100	997900	999200	971800	939700	833200
MIN	557300	540800	606200	622900	619800	653600	710500	844900	955700	933200	839900	749800
a	421.07	428.72	434.90	428.44	431.43	448.18	450.23	464.91	461.17	459.15	450.50	442.33
b	-42600	-68100	+57800	-60400	+27800	+165100	+21400	+160800	-42200	-22500	-93300	-83800
c	2180	780	250	580	1090	1220	2420	5760	5880	6990	6570	3920

CAL YR 1981 b +54700

WTR YR 1982 b +156100

- a Elevation, in feet NGVD, at end of month.
- b Change in contents, in acre-feet.
- c Evaporation, in acre-feet.

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 (640 m) downstream from Nimbus Dam, 2.4 mi (3.9 km) east of Fair Oaks, 8.1 mi (13.0 km) downstream from South Fork, and at mile 22.2 (35.7 km).

DRAINAGE AREA.--1,888 mi² (4,890 km²).

PERIOD OF RECORD.--November 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

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 (21.802 m) 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 (3.45 hm³) between normal operating elevations, 118.5 ft (36.12 m) and 125.0 ft (38.10 m) and by Nimbus powerplant. Many diversions above station for irrigation, municipal, and domestic water supply. Diversions of 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.

AVERAGE DISCHARGE (adjusted for change in contents, diversions, and evaporation from Folsom Lake since 1955).--78 years, 3,793 ft³/s (107.4 m³/s), 2,748,000 acre-ft/yr (3.39 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s (5,100 m³/s) Nov. 21, 1950, gage height, 31.85 ft (9.708 m) site and datum then in use; minimum, 3.6 ft³/s (0.10 m³/s) Aug. 16, 1924. Maximum discharge since construction of Folsom Dam in 1953, 115,000 ft³/s (3,260 m³/s) Dec. 23-25, 1964, gage height, 27.65 ft (8.428 m), present datum; minimum, 86 ft³/s (2.44 m³/s) Apr. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 91,100 ft³/s (2,580 m³/s) Feb. 16, gage height, 23.92 ft (7.291 m); minimum daily, 261 ft³/s (7.39 m³/s) Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2430	1520	5060	16300	7310	8130	24700	9890	8390	5180	3630	5020		
2	1560	1520	4740	25000	4860	8460	25000	9980	8380	3720	3220	5010		
3	1530	1520	4720	25000	4490	8580	25000	9970	8370	3530	438	4920		
4	1530	1520	4740	22700	4480	8360	25000	9970	8210	3510	261	4930		
5	1540	1510	4770	20000	4480	8450	25000	9970	8140	3540	463	4940		
6	1530	1510	4780	19800	4480	8530	22300	9880	7140	3460	3880	4930		
7	1530	1510	4810	19600	4480	8310	15200	9890	8210	2550	3970	4920		
8	1560	1500	2580	15500	4470	8440	14000	9920	8380	921	3960	4880		
9	1550	1510	2340	7700	3900	8150	9290	9920	7130	2620	3970	4880		
10	1540	1500	2390	7390	3350	8140	8360	9990	7650	3500	3980	4900		
11	1530	1500	2390	7210	3230	8160	19300	10100	7690	3550	3970	4910		
12	1540	1500	2380	7230	3220	8160	49400	10100	7190	3650	3960	4560		
13	1530	1510	2380	7210	3190	8140	45400	10100	7160	3630	3960	2670		
14	1530	1500	2380	7220	3220	8170	25100	9950	7150	3610	3950	2440		
15	1530	1490	2420	7150	10900	8210	15700	10000	7010	3630	3950	2380		
16	1500	1530	4580	4620	74900	8140	15600	10000	7040	3630	3960	2500		
17	1460	1590	4810	4300	84200	8240	15500	10000	7050	3630	3960	2500		
18	1510	4620	4740	4460	45800	12100	15600	10000	7050	3620	3950	2470		
19	1520	5130	9150	4590	26400	12100	15200	9970	7050	3620	3970	2480		
20	1520	5120	26400	4600	14800	12100	15500	9310	7050	3630	3950	2510		
21	1530	4810	36100	4720	14600	12300	15400	8380	7060	3630	3940	2510		
22	1520	10300	35600	7240	14500	11800	11700	7200	7080	3620	3960	2500		
23	1520	15800	35000	7460	14500	8510	10000	6950	7080	3630	3960	2460		
24	1520	15900	34700	7440	14500	8280	10000	7430	7000	3630	3960	2400		
25	1510	15800	19000	7480	13300	8290	9970	8290	5550	3620	4000	2400		
26	1510	15700	11400	7490	8900	8210	9920	8340	5270	3620	5040	2380		
27	1510	14300	8000	7490	8160	8130	9840	10700	5230	3630	5050	2400		
28	1510	8040	8000	7500	8120	8130	9890	11000	5240	3630	5040	2430		
29	1520	7760	9420	7450	---	8150	9920	10300	5220	3630	5020	2410		
30	1520	7680	15000	7370	---	8140	9920	8710	5210	3630	5040	2390		
31	1520	---	15000	7390	---	11500	---	8390	---	3620	5020	---		
TOTAL	48160	156700	329780	316610	412740	278510	532710	294600	211380	108621	117382	103030		
MEAN	1554	5223	10640	10210	14740	8984	17760	9503	7046	3504	3787	3434		
MAX	2430	15900	36100	25000	84200	12300	49400	11000	8390	5180	5050	5020		
MIN	1460	1490	2340	4300	3190	8130	8360	6950	5210	921	261	2380		
AC-FT	95530	310800	654100	628000	818700	552400	1057000	584300	419300	215400	232800	204400		
MEAN a	1012	6494	11809	9332	15332	11750	18234	12370	6618	3446	2573	2262		
AC-FT a	62240	386400	726100	573800	851500	722500	1085000	760600	393800	211900	158200	134600		
b	7127	6685	13911	5632	4031	3777	4108	9698	10843	11970	12090	10081		
CAL YR 1981	TOTAL	1039658	MEAN	2848	MAX	36100	MIN	477	AC-FT	2062000	MEAN a	3140	AC-FT a	2273000
WTR YR 1982	TOTAL	2910223	MEAN	7973	MAX	84200	MIN	261	AC-FT	5772000	MEAN a	7946	AC-FT a	5753000

a Adjusted for change in contents, diversions, and evaporation from Folsom Lake.

b Diversion, in acre-feet, from Folsom-Nimbus Dam complex furnished by Bureau of Reclamation.

11447650 SACRAMENTO RIVER AT FREEPORT, CA

LOCATION.--Lat 38°27'15", long 121°29'54", Sacramento County, Hydrologic Unit 18020109, on left bank 630 ft (192 m) downstream from drawbridge at Freeport, and 11 mi (18 km) 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 heights collected in the vicinity of "at Sacramento" gage November 1879 to May 1888, December 1890 to September 1963 are contained in reports of National Weather Service.

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. All at datum of low-water mark of Oct. 23, 1856, 0.12 ft (0.037 m) NGVD. Nov. 17, 1956, to Sept. 30, 1979, at site 1,000 ft (300 m) upstream from I Street Bridge. Auxiliary water-stage recorder on right bank 2.6 mi (4.2 km) upstream.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power development, diversions for irrigation, and return flow from irrigated areas. Flood flows bypass station through Yolo Bypass (stations 11426000, 11453000). Streamflow records are considered equivalent to those obtained at I Street Bridge.

AVERAGE DISCHARGE.--34 years (water years 1949-82), 23,980 ft³/s (679 m³/s), 17,374,000 acre-ft/yr (21.4 km³/yr).

EXTREMES FOR PERIOD OF RECORD (since 1949).--Maximum discharge, 104,000 ft³/s (2,950 m³/s) Nov. 21, 1950, elevation, 30.14 ft (9.187 m) site and datum then in use; minimum daily, 3,970 ft³/s (112 m³/s) Oct. 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known prior to Nov. 21, 1950, 103,000 ft³/s (2,920 m³/s) Jan. 17, 1909, elevation, 29.6 ft (9.02 m) site then in use at present datum, from reports of California Department of Water Resources.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 103,000 ft³/s (2,920 m³/s) Feb. 16, elevation, 21.27 ft (6.483 m); maximum elevation, 21.48 ft (6.547 m) Apr. 12; minimum daily, 8,140 ft³/s (231 m³/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11300	11400	66000	81600	56800	69300	72800	60100	36400	21800	18700	24700
2	10400	10400	61900	87100	53500	70400	83000	59000	36000	21300	19600	25200
3	10100	9640	58600	88700	49500	70900	87500	57900	34900	20200	17900	25000
4	9840	9460	55300	88100	47000	70200	88000	57000	32400	20100	16700	24800
5	10200	9700	52300	92700	44500	69600	87100	55900	30800	20300	16300	25600
6	9890	9610	50200	90400	42100	68900	85100	54000	28100	19100	17500	26200
7	10700	9610	48900	87000	40000	68200	79100	53000	27000	17700	19200	26500
8	11100	9350	46200	83900	38600	67400	75900	51200	28100	16800	19000	26600
9	11400	8960	43300	75000	37100	66600	72000	49000	28400	16000	19500	26000
10	10900	8710	42500	72000	35200	65300	69400	47000	26100	16100	19800	26100
11	10600	8880	42300	70200	33800	64800	73900	45200	26400	16200	20000	26000
12	10600	9960	42400	68600	32500	65800	93700	43800	26100	16300	19800	25900
13	10500	12600	40500	67400	31000	66500	92900	41500	26200	16200	19400	24600
14	10700	18400	38900	66200	30800	66000	87100	38100	25900	16100	20000	23400
15	9620	24600	39700	64300	39000	65400	81100	36000	26000	16000	20400	23900
16	9300	27900	42900	59000	86000	65100	83500	34000	26000	15800	21000	23800
17	9200	31300	45300	53000	98000	66100	79800	33000	25200	15600	21000	23500
18	8820	39300	45800	48600	91200	68500	82400	32800	24900	15000	21000	24000
19	9010	42700	48600	45200	83800	70100	81500	33300	24400	15900	21000	24700
20	9080	43900	70400	43000	79500	69500	79900	34500	23500	16700	21100	25700
21	9100	41800	96200	47200	80100	68300	77400	33700	23300	17400	21300	25500
22	8820	43100	98300	47100	79500	67100	74200	32500	22600	17500	21500	24900
23	8440	51600	97700	50600	79300	63000	70800	31700	22700	17300	22200	24800
24	8140	56300	96800	51200	79200	59300	68200	32600	22400	17400	21800	24500
25	8200	69300	90800	51100	78600	55800	65700	33000	21400	17600	21900	23800
26	8380	76500	80400	49400	75200	52300	63300	35400	19800	18400	22700	24500
27	8350	77900	74800	50800	71900	48300	61000	39400	19400	18400	23200	24400
28	9360	74200	73500	53300	70400	45000	59700	41400	19600	18400	23400	24100
29	10200	71500	73500	55400	---	43000	60500	41000	20100	18400	23500	23900
30	11800	69600	79100	57100	---	42600	60900	39000	20200	18400	24200	23100
31	12700	---	80700	57700	---	47900	---	37100	---	18200	24300	---
TOTAL	306750	988180	1923800	2002900	1664100	1947200	2297400	1313100	774300	546600	638900	745700
MEAN	9895	32940	62060	64610	59430	62810	76580	42360	25810	17630	20610	24860
MAX	12700	77900	98300	92700	98000	70900	93700	60100	36400	21800	24300	26600
MIN	8140	8710	38900	43000	30800	42600	59700	31700	19400	15000	16300	23100
AC-FT	608400	1960000	3816000	3973000	3301000	3862000	4557000	2605000	1536000	1084000	1267000	1479000
CAL YR 1981 TOTAL	7815720		MEAN	21410	MAX	98300	MIN	8140	AC-FT	15500000		
WTR YR 1982 TOTAL	15148930		MEAN	41500	MAX	98300	MIN	8140	AC-FT	30050000		

11447650 SACRAMENTO RIVER AT FREEPORT, CA

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959 to current year.

CHEMICAL ANALYSES: Water years 1959 to current year.

BIOLOGICAL DATA: Water years 1974-81.

WATER TEMPERATURES: Water years 1960 to current year.

SEDIMENT RECORDS: Water years 1957 to current year (prior to water year 1980 published as 11447500 Sacramento River at Sacramento).

TURBIDITY: Water years 1972 to current year (prior to water year 1980 published as 11447500 Sacramento River at Sacramento).

PERIOD OF DAILY RECORD.--

CHEMICAL ANALYSES: June 1960 to June 1963.

SPECIFIC CONDUCTANCE: June 1960 to June 1963, February 1974 to July 1975.

WATER TEMPERATURES: June 1960 to current year.

SEDIMENT RECORDS: October 1956 to current year.

INSTRUMENTATION.--Temperature recorder since June 1960.

REMARKS.--Temperature recorder located on right bank 1.9 mi (3.1 km) northwest of Freeport, and 7.4 mi (11.9 km) southwest of State Capitol Building in Sacramento. Records of sediment discharge from 1957 to 1979 were obtained at Sacramento and are considered equivalent.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 27.0°C Sept. 8, 1977; minimum recorded, 4.5°C Dec. 12-15, 1972.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,960 mg/L Dec. 24, 1964; minimum daily mean, 8 mg/L Dec. 29, 30, 1976, and several days during May and June 1981.

SEDIMENT DISCHARGE: Maximum daily, 525,000 tons (476,000 metric tons) Dec. 24, 1964; minimum daily, 151 tons (137 metric tons) Oct. 21, 22, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.0°C July 15; minimum recorded, 7.5°C Jan. 9, 10, 23-25.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 500 mg/L Nov. 19; minimum daily mean, 14 mg/L on several days during October and November.

SEDIMENT DISCHARGE: Maximum daily, 67,300 tons (61,100 metric tons) Dec. 21; minimum daily, 308 tons (279 metric tons) Oct. 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)
NOV 30...	1045	69800	111	7.3	10.5	45	9.9	<2	450	46	0
JAN 12...	1045	68800	117	7.7	8.0	28	11.2	K34	84	48	0
APR 01...	1100	72200	88	6.9	9.0	45	11.2	>1200	K2000	36	0
MAY 19...	1015	34400	97	7.9	15.5	10	9.6	K19	K8	41	0
JUL 21...	1000	19900	130	7.7	21.0	16	8.6	K27	44	47	0
SEP 29...	1030	26400	134	7.6	17.0	1.5	9.1	K73	70	51	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD AS CACO3)	ALKA- LITY LAB (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)
NOV 30...	10	5.0	6.0	22	.4	1.6	46	--	<5.0	4.2	.1
JAN 12...	11	5.1	7.1	24	.5	1.1	49	--	6.0	4.3	.1
APR 01...	8.1	3.8	4.5	21	.3	1.0	37	--	6.0	3.4	.1
MAY 19...	9.2	4.4	6.0	24	.4	.9	47	--	5.0	4.3	<.1
JUL 21...	10	5.3	8.1	27	.5	1.0	58	--	10	4.6	<.1
SEP 29...	11	5.7	8.4	26	.5	1.1	--	59	8.0	5.6	<.1

See footnotes at end of table.

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, OMTHO, DIS- SOLVED (MG/L AS P)
NOV 30...	16	72	--	.10	.21	<.07	.60	.09	.05	.07
JAN 12...	16	80	81	.11	.33	.13	.42	.08	.03	.03
APR 01...	14	64	63	.09	.16	.09	.44	.04	.03	.05
MAY 19...	16	66	74	.09	.10	.09	--	.08	.05	.03
JUL 21...	16	93	90	.13	.12	.12	.70	.08	.03	.05
SEP 29...	16	86	92 ¹	.12	.12	.10	.60	.15	.07	.05

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

K Results based on colony count outside the acceptable range (non-ideal colony count).

> Actual value is known to be greater than the value shown.

¹ Results based on Laboratory Alkalinity value.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	19.5	15.5	15.0	11.0	11.0	10.5	10.0	8.5	8.0	10.5	10.5
2	19.5	19.5	15.5	15.0	11.0	10.5	10.0	10.0	9.0	8.5	11.0	10.5
3	19.5	19.0	15.5	15.0	10.5	10.5	10.0	9.5	9.5	9.0	11.0	11.0
4	19.0	18.5	16.0	15.5	10.5	10.5	9.5	9.0	9.5	9.0	11.0	11.0
5	19.5	19.0	15.5	15.5	11.0	10.5	9.0	9.0	9.0	8.5	11.0	11.0
6	19.5	19.0	16.5	15.5	11.0	11.0	9.0	8.5	8.5	8.5	11.0	11.0
7	19.5	19.0	16.5	15.5	11.0	11.0	8.5	8.0	8.5	8.5	11.0	11.0
8	19.0	18.5	16.5	16.0	11.0	11.0	8.0	7.5	8.5	8.5	11.0	11.0
9	19.0	19.0	16.5	16.0	11.0	11.0	7.5	7.5	9.0	8.5	11.0	11.0
10	19.0	18.5	16.5	16.0	11.0	11.0	8.0	7.5	9.0	8.5	11.0	11.0
11	18.5	18.5	16.5	16.0	11.0	11.0	8.0	8.0	9.0	9.0	11.5	11.0
12	18.5	18.0	16.5	16.0	11.0	11.0	8.5	8.0	9.0	9.0	11.5	11.5
13	18.0	17.5	16.0	16.0	11.0	10.5	8.5	8.5	9.5	9.0	12.0	11.5
14	17.5	16.5	16.0	15.5	11.0	10.5	8.5	8.5	10.5	9.5	12.0	12.0
15	17.0	16.5	15.5	15.0	11.5	11.0	8.5	8.5	11.0	10.5	12.0	11.5
16	16.5	16.5	15.0	15.0	11.5	11.5	8.5	8.5	11.0	9.5	11.5	11.0
17	17.0	16.5	15.0	15.0	11.5	11.5	8.5	8.5	9.5	9.5	11.0	11.0
18	17.0	16.5	15.0	14.5	11.5	11.5	8.5	8.5	10.0	9.5	11.0	10.5
19	17.5	16.5	14.5	14.0	11.5	11.0	8.5	8.0	10.0	10.0	10.5	10.5
20	18.0	17.0	14.0	13.5	12.0	11.0	8.0	8.0	10.5	10.0	10.5	10.5
21	18.5	17.5	13.5	13.5	12.0	12.0	8.0	8.0	11.0	10.5	11.0	10.5
22	18.5	18.0	14.0	13.5	12.0	11.5	8.0	8.0	11.0	11.0	11.5	11.0
23	18.5	18.0	14.5	14.0	11.5	11.0	8.0	7.5	11.0	10.5	12.0	11.5
24	18.5	18.0	14.5	14.0	11.0	11.0	7.5	7.5	10.5	10.0	12.5	12.0
25	18.0	17.5	14.0	13.0	11.0	11.0	8.0	7.5	10.0	10.0	13.0	12.5
26	17.5	17.5	13.0	13.0	11.0	10.5	8.5	8.0	10.5	10.0	12.5	12.5
27	17.5	17.0	13.0	12.5	11.0	10.5	8.5	8.5	10.5	10.0	12.5	12.5
28	17.0	16.5	12.5	11.5	11.0	10.5	8.5	8.5	10.5	10.5	12.5	12.5
29	16.5	16.0	11.5	11.5	10.5	10.5	8.5	8.5	---	---	12.5	11.0
30	16.0	15.5	11.5	11.0	10.5	10.5	8.5	8.5	---	---	11.0	10.5
31	15.5	15.0	---	---	10.5	10.5	8.5	8.0	---	---	10.5	10.0
MONTH	20.0	15.0	16.5	11.0	12.0	10.5	10.5	7.5	11.0	8.0	13.0	10.0

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	9.5	15.0	14.5	17.0	17.0	19.0	18.5	23.0	22.0	20.0	20.0
2	9.5	9.5	15.0	14.5	17.0	17.0	19.5	18.5	22.5	22.0	20.5	20.0
3	9.5	9.5	15.5	15.0	17.0	17.0	19.5	19.0	22.5	21.5	20.0	20.0
4	10.5	9.5	15.5	15.0	17.0	17.0	20.0	19.0	22.0	21.5	20.0	19.5
5	10.5	10.5	15.5	15.0	17.5	17.0	20.5	19.5	22.0	21.0	20.0	19.5
6	10.5	10.5	15.5	15.0	17.5	17.0	21.0	20.0	22.5	21.5	20.0	19.5
7	11.0	10.5	16.0	15.5	18.0	17.5	21.0	20.5	22.0	21.5	20.0	19.5
8	11.0	11.0	16.0	15.5	18.0	17.5	21.5	20.5	22.0	21.0	20.0	19.5
9	11.5	11.0	16.0	15.5	18.5	18.0	22.5	21.5	21.5	21.0	20.0	19.5
10	12.0	11.5	15.5	15.5	19.0	18.5	22.5	21.5	21.5	21.0	20.0	19.5
11	13.0	12.0	15.5	15.0	19.0	18.5	22.5	21.5	21.5	21.0	19.5	19.0
12	13.0	11.5	15.5	15.0	18.5	18.0	23.0	22.0	21.5	20.5	19.0	19.0
13	11.5	11.0	15.5	15.0	18.0	18.0	23.0	22.0	22.0	21.0	19.5	19.0
14	11.0	10.5	15.5	15.5	18.5	18.0	23.5	22.5	21.5	21.0	19.0	19.0
15	11.0	11.0	16.0	15.5	19.5	18.5	24.0	22.5	21.5	20.5	19.0	18.5
16	11.0	11.0	16.5	16.0	20.0	19.5	23.0	22.5	21.5	20.5	19.0	18.0
17	11.5	11.0	16.5	16.0	20.5	20.0	22.5	21.5	21.5	20.5	18.0	18.0
18	12.0	11.5	16.0	16.0	20.0	20.0	22.5	21.5	22.0	21.0	18.0	18.0
19	12.5	12.0	16.5	16.0	20.0	20.0	22.5	21.5	21.5	21.0	18.0	17.5
20	13.0	12.5	16.5	16.0	20.0	20.0	22.5	21.5	21.5	20.5	18.0	17.5
21	13.5	13.0	16.5	16.5	20.0	20.0	22.5	21.5	21.5	20.5	18.0	17.5
22	14.0	13.5	17.0	16.5	20.0	20.0	22.5	21.5	21.5	21.0	18.5	17.5
23	14.5	14.0	17.5	17.0	20.5	20.0	22.5	21.5	22.0	21.0	18.5	18.0
24	14.5	14.5	18.0	17.5	20.0	20.0	22.5	21.5	22.0	21.0	19.0	18.0
25	15.0	14.5	18.0	18.0	20.0	20.0	22.0	21.5	21.5	21.0	19.0	18.5
26	15.0	15.0	18.0	17.5	20.5	20.0	22.0	21.5	21.0	20.5	18.5	18.0
27	15.0	15.0	18.0	17.0	21.0	20.5	22.5	21.5	21.0	20.5	18.5	18.0
28	15.0	15.0	17.0	17.0	20.5	20.0	22.5	21.5	20.5	20.0	18.0	18.0
29	15.0	14.5	17.0	17.0	20.0	19.5	23.0	21.5	20.0	20.0	18.0	17.5
30	15.0	14.5	17.0	17.0	19.5	19.0	23.0	22.0	20.0	20.0	17.0	16.5
31	---	---	17.0	17.0	---	---	23.0	22.0	20.0	20.0	---	---
MONTH	15.0	9.5	18.0	14.5	21.0	17.0	24.0	18.5	23.0	20.0	20.5	16.5

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11300	28	854	11400	15	462	66000	129	23000
2	10400	22	618	10400	14	393	61900	125	20900
3	10100	17	464	9640	14	364	58600	121	19100
4	9840	16	425	9460	16	409	55300	118	17600
5	10200	15	413	9700	18	471	52300	114	16100
6	9890	14	374	9610	20	519	50200	110	14900
7	10700	14	404	9610	21	545	48900	112	14800
8	11100	15	450	9350	18	454	46200	114	14200
9	11400	15	462	8960	16	387	43300	116	13600
10	10900	15	441	8710	16	376	42500	118	13500
11	10600	16	458	8880	16	384	42300	119	13600
12	10600	17	487	9960	20	538	42400	121	13900
13	10500	18	510	12600	34	1160	40500	122	13300
14	10700	19	549	18400	89	4420	38900	127	13300
15	9620	20	519	24600	109	7240	39700	132	14100
16	9300	17	427	27900	204	15400	42900	142	16400
17	9200	16	397	31300	230	19400	45300	155	19000
18	8820	16	381	39300	388	41200	45800	179	22100
19	9010	17	414	42700	500	57600	48600	213	27900
20	9080	18	441	43900	466	55200	70400	255	48500
21	9100	19	467	41800	336	37900	96200	259	67300
22	8820	16	381	43100	214	24900	98300	214	56800
23	8440	14	319	51600	256	35700	97700	162	42700
24	8140	14	308	56300	301	45800	96800	137	35800
25	8200	14	310	69300	348	65100	90800	122	29900
26	8380	15	339	76500	239	49400	80400	112	24300
27	8350	15	338	77900	191	40200	74800	106	21400
28	9360	15	379	74200	170	34100	73500	107	21200
29	10200	16	441	71500	156	30100	73500	113	22400
30	11800	16	510	69600	118	22200	79100	132	28200
31	12700	15	514	---	---	---	80700	156	34000
TOTAL	306750	---	13794	988180	---	592322	1923800	---	753800

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	81600	164	37200	56800	100	15300	69300	83	15500
2	87100	171	40200	53500	89	12900	70400	82	15600
3	88700	167	40800	49500	81	10300	70900	81	15500
4	88100	157	37300	47000	76	9640	70200	81	15400
5	92700	142	35500	44500	72	8650	69600	80	15000
6	90400	123	30000	42100	69	7840	68900	79	14700
7	87000	106	24900	40000	68	7340	68200	78	14400
8	83900	91	20600	38600	68	7090	67400	77	14000
9	75000	79	16000	37100	68	6810	66600	77	13800
10	72000	74	14400	35200	70	6650	65300	76	13400
11	70200	76	14400	33800	74	6750	64800	75	13100
12	68600	89	16500	32500	78	6840	65800	74	13100
13	67400	97	17700	31000	86	7200	66500	73	13100
14	66200	97	17300	30800	94	7820	66000	73	13000
15	64300	85	14800	39000	104	11000	65400	72	12700
16	59000	80	12700	86000	114	27600	65100	72	12700
17	53000	77	11000	98000	141	37300	66100	71	12700
18	48600	76	9970	91200	185	45600	68500	71	13100
19	45200	76	9280	83800	176	39800	70100	70	13200
20	43000	79	9170	79500	116	24900	69500	70	13100
21	47200	82	10500	80100	103	22300	68300	69	12700
22	47100	84	10700	79500	97	20800	67100	69	12500
23	50600	86	11700	79300	94	20100	63000	69	11700
24	51200	88	12200	79200	92	19700	59300	68	10900
25	51100	90	12400	78600	90	19100	55800	67	10100
26	49400	92	12300	75200	88	17900	52300	68	9600
27	50800	95	13000	71900	87	16900	48300	69	9000
28	53300	97	14000	70400	86	16300	45000	73	8870
29	55400	105	15700	---	---	---	43000	77	8940
30	57100	118	18200	---	---	---	42600	85	9780
31	57700	121	18900	---	---	---	47900	109	14100
TOTAL	2002900	---	578520	1664100	---	460930	1947200	---	395290
DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	72800	258	50700	60100	97	15700	36400	50	4910
2	83000	132	29600	59000	91	14500	36000	52	5050
3	87500	78	18400	57900	86	13400	34900	53	4990
4	88000	72	17100	57000	82	12600	32400	52	4550
5	87100	81	19000	55900	77	11600	30800	51	4240
6	85100	88	20200	54000	72	10500	28100	50	3790
7	79100	67	14300	53000	70	10000	27000	49	3570
8	75900	62	12700	51200	69	9540	28100	49	3720
9	72000	62	12100	49000	78	10300	28400	48	3680
10	69400	71	13300	47000	82	10400	26100	47	3310
11	73900	103	20600	45200	74	9030	26400	47	3350
12	93700	117	29600	43800	70	8280	26100	46	3380
13	92900	103	25800	41500	69	7730	26200	46	3250
14	87100	91	21400	38100	67	6890	25900	39	2730
15	81100	92	20100	36000	65	6320	26000	34	2390
16	83500	97	21900	34000	64	5880	26000	31	2180
17	79800	97	20900	33000	63	5610	25200	31	2110
18	82400	92	20500	32800	60	5310	24900	30	2020
19	81500	84	18500	33300	54	4860	24400	29	1910
20	79900	73	15700	34500	53	4940	23500	27	1710
21	77400	64	13400	33700	54	4910	23300	23	1450
22	74200	63	12600	32500	57	5000	22600	21	1280
23	70800	69	13200	31700	59	5050	22700	20	1230
24	68200	74	13600	32600	57	5020	22400	19	1150
25	65700	73	12900	33000	57	5080	21400	19	1100
26	63300	68	11600	35400	61	5830	19800	19	1020
27	61000	63	10400	39400	66	7020	19400	20	1050
28	59700	80	12900	41400	57	6370	19600	22	1160
29	60500	114	18600	41000	50	5530	20100	24	1300
30	60900	108	17800	39000	47	4950	20200	26	1420
31	---	---	---	37100	48	4810	---	---	---
TOTAL	2297400	---	559400	1313100	---	242960	774300	---	79000

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	21800	27	1590	18700	28	1410	24700	27	1800
2	21300	29	1670	19600	30	1590	25200	29	1970
3	20200	30	1640	17900	31	1500	25000	31	2090
4	20100	32	1740	16700	31	1400	24800	34	2280
5	20300	34	1860	16300	32	1410	25600	35	2420
6	19100	34	1750	17500	34	1610	26200	38	2690
7	17700	32	1530	19200	32	1660	26500	39	2790
8	16800	31	1410	19000	30	1540	26600	41	2940
9	16000	29	1250	19500	28	1470	26000	43	3020
10	16100	27	1170	19800	26	1390	26100	40	2820
11	16200	25	1090	20000	25	1350	26000	37	2600
12	16300	24	1060	19800	27	1440	25900	34	2380
13	16200	23	1010	19400	29	1520	24600	31	2060
14	16100	22	956	20000	31	1670	23400	28	1770
15	16000	21	907	20400	32	1760	23900	30	1940
16	15800	18	768	21000	30	1700	23800	31	1990
17	15600	18	758	21000	27	1530	23500	32	2030
18	15000	18	729	21000	22	1250	24000	34	2200
19	15900	18	773	21000	20	1130	24700	34	2270
20	16700	18	812	21100	19	1080	25700	35	2430
21	17400	17	799	21300	20	1150	25500	35	2410
22	17500	18	850	21500	21	1220	24900	34	2290
23	17300	20	934	22200	24	1440	24800	34	2280
24	17400	22	1030	21800	28	1650	24500	33	2180
25	17600	23	1090	21900	28	1660	23800	34	2180
26	18400	24	1190	22700	28	1720	24500	35	2320
27	18400	24	1190	23200	28	1750	24400	36	2370
28	18400	25	1240	23400	29	1830	24100	37	2410
29	18400	26	1290	23500	30	1900	23900	38	2450
30	18400	27	1340	24200	30	1960	23100	37	2310
31	18200	28	1380	24300	28	1840	---	---	---
TOTAL	546600	---	36806	638900	---	47530	745700	---	64690
YEAR 15148930			3830042						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED.	SED.	SED.	SED.
						SUSP. SIEVE DIAM. % FINER THAN .062 MM	SUSP. SIEVE DIAM. % FINER THAN .125 MM	SUSP. SIEVE DIAM. % FINER THAN .250 MM	SUSP. SIEVE DIAM. % FINER THAN .500 MM
NOV									
30...	1015	69800	10.5	105	19800	71	87	98	100
APR									
01...	1030	71800	9.0	229	44400	51	64	91	100
MAY									
19...	0935	34200	15.5	54	4990	80	92	98	100
JUL									
21...	0930	19200	21.0	16	829	90	100	--	--

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
OCT						
03...	1025	4280	18.5	11	127	5.0
06...	1755	11600	19.5	14	438	5.0
08...	1750	11900	19.0	11	353	5.0
10...	1805	7120	--	11	211	4.0
11...	1815	5940	18.5	10	160	5.0
15...	1415	14100	18.0	27	1030	8.0
16...	1600	12000	18.0	21	680	6.0
18...	1815	8500	17.5	19	436	6.0
21...	1330	2190	18.0	15	89	4.0
23...	1645	1750	--	8	38	3.0
30...	1700	6160	16.5	13	216	6.0
NOV						
03...	1625	11900	18.0	17	546	23
07...	1240	3360	--	16	145	70
14...	1735	11000	16.0	63	1870	36
15...	1630	24700	16.5	217	14500	70
17...	1445	32500	15.5	240	21100	65
19...	1710	43200	15.5	569	66400	180
22...	1430	41300	15.0	196	21900	60
25...	1345	69900	13.0	384	72500	45
28...	1530	73000	13.0	183	36100	32
29...	1525	71600	12.5	167	32300	29
30...	1015	69800	10.5	105	19800	38
30...	1035	69800	10.5	114	21500	36
30...	1045	69800	10.5	114	21500	45
DEC						
01...	1530	65400	12.0	149	26300	27
06...	1750	50000	11.0	120	16200	18
11...	1505	40800	12.0	129	14200	19
18...	1730	46300	12.5	203	25400	23
22...	1310	98300	11.5	231	61300	55
23...	1610	96800	12.0	170	44400	45
27...	1540	74100	12.0	115	23000	45
30...	1455	79700	10.5	147	31600	40
JAN						
05...	1550	92500	10.0	152	38000	34
09...	1325	74200	9.5	87	17400	30
12...	1045	68800	8.0	--	--	28
14...	1430	66400	9.0	106	19000	22
16...	1430	58700	9.0	86	13600	23
19...	1605	44400	9.0	86	10300	21
21...	1515	41400	9.5	120	13400	22
25...	1730	51100	9.0	79	10900	21
27...	1710	50800	9.0	105	14400	17
30...	1250	57300	10.0	130	20100	24
FEB						
07...	1800	40000	10.5	76	8210	18
12...	1750	32800	10.5	88	7790	16
17...	1750	98500	11.0	164	43600	31
18...	1730	88100	10.5	228	54200	55
20...	1730	79800	--	121	26100	35
23...	1730	79100	11.0	104	22200	40
MAR						
03...	1550	71000	11.5	92	17600	29
13...	1745	66500	12.0	80	14400	14
23...	1450	61900	13.0	78	13000	14
25...	1640	54800	14.0	75	11100	15
29...	1800	43700	11.0	94	11100	19
31...	1700	50900	9.5	130	17900	29
APR						
01...	1020	71700	9.0	257	49800	45
01...	1030	71800	9.0	229	44400	40
01...	1100	72200	9.0	--	--	45
02...	1415	83000	--	124	27800	40
06...	1415	85300	--	100	23000	25
07...	1545	77900	11.0	72	15100	24
08...	1850	75400	--	71	14500	21
12...	1840	93700	12.5	132	33400	29
15...	1410	80600	--	104	22600	28
16...	1305	83500	--	110	24800	26
20...	1230	79900	15.0	82	17700	25
24...	0745	68400	15.5	94	17400	21
27...	1420	61100	--	36	5940	20
29...	1950	61200	17.0	135	22300	26
MAY						
02...	1820	58700	--	104	16500	18
04...	1505	56700	18.0	93	14200	17
08...	1130	51200	17.5	79	10900	16
09...	1605	49000	17.0	94	12400	17
12...	1500	43800	--	81	9580	14

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
MAY						
18...	1900	33600	17.5	68	6170	15
19...	0935	34200	15.5	54	4990	12
19...	1000	34300	15.5	62	5740	15
19...	1015	--	15.5	54	--	10
21...	1400	35100	18.5	64	6070	17
23...	2030	30900	20.0	69	5760	15
24...	2025	31300	--	65	5490	15
27...	1805	41800	20.0	77	8690	15
29...	2015	41100	--	55	6100	14
JUN						
02...	1910	35600	--	61	5860	15
04...	1730	30600	--	60	4960	16
09...	1955	27400	20.0	56	4140	17
13...	0710	26700	20.0	56	4040	12
14...	1950	27500	20.5	42	3120	13
15...	1450	26300	--	39	2770	12
20...	2010	22000	20.5	33	1960	11
21...	1820	22100	20.0	27	1610	9.0
23...	1110	25600	--	8	553	14
23...	2010	20400	--	25	1380	9.0
24...	1650	26000	--	23	1610	8.0
25...	1640	24100	21.5	22	1430	8.0
28...	1430	19400	--	27	1410	9.0
JUL						
06...	1740	19400	--	37	1940	12
07...	1420	21200	22.0	47	2690	19
11...	1615	19400	--	27	1410	8.0
12...	2020	16600	--	32	1430	11
13...	2030	16900	--	24	1100	9.0
16...	2050	17600	23.0	22	1050	8.0
17...	1405	17100	22.0	22	1020	8.0
21...	0930	19200	21.0	16	829	7.0
21...	0945	19600	21.0	20	1060	9.0
21...	1000	19900	21.0	16	860	16
22...	1900	16600	--	24	1080	9.0
23...	1720	21000	--	26	1470	8.0
26...	1530	20600	24.0	28	1560	8.0
28...	1415	17000	--	40	1840	13
AUG						
02...	1650	18600	22.0	37	1860	11
06...	1850	17700	23.0	42	2010	14
11...	1950	20600	--	31	1720	12
16...	1240	24100	22.5	44	2860	14
18...	1845	18500	22.0	28	1400	12
23...	1955	20800	23.0	38	2130	13
24...	0505	24100	22.0	34	2210	11
30...	1515	24000	22.0	42	2720	12
31...	1910	23200	21.0	38	2380	12
SEP						
09...	1850	27000	21.0	61	4450	18
14...	1830	21200	19.0	40	2290	11
19...	1810	23300	18.0	51	3210	16
20...	1730	26300	19.0	52	3690	13
22...	1900	24600	19.0	50	3320	13
24...	2050	23300	19.0	49	3080	12
26...	2050	25100	--	54	3660	14
29...	1005	26200	17.0	35	2480	11
29...	1030	26400	17.0	--	--	1.5
29...	2030	23800	--	37	2380	11

SACRAMENTO RIVER BASIN

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA

LOCATION.--Lat 39°55'39", long 122°50'33", in SE4SE4 sec.34, T.13 N., R.9 W., Lake County, Hydrologic Unit 18020116, on left bank 1.6 mi (2.6 km) downstream from Widow Creek, and 3.5 mi (5.6 km) south of Kelseyville.

DRAINAGE AREA.--36.6 mi² (94.8 km²).

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 (449.714 m) National Geodetic Vertical Datum of 1929. Prior to July 16, 1955, at site 600 ft (183 m) upstream at different datum.

REMARKS.--Records good. No regulation or diversion above station.

AVERAGE DISCHARGE.--36 years, 73.3 ft³/s (2.076 m³/s), 53,110 acre-ft/yr (65.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft³/s (249 m³/s) Dec. 21, 1955, gage height, 12.80 ft (3.901 m); maximum gage height, 13.48 ft (4.109 m) Jan. 5, 1965; minimum daily, 0.18 ft³/s (0.005 m³/s) Aug. 15-23, 25, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft³/s (68.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 16	2145	2,690 76.2	9.61 2.929	Mar. 31	0500	4,730 134	11.23 3.423
Dec. 19	2200	3,510 99.4	10.4 3.170	Apr. ?	1245	2,520 71.4	9.42 2.871
Feb. 15	2100	3,130 88.6	10.1 3.063	Apr. 11	0015	*5,520 156	11.68 3.560

Minimum daily, 3.2 ft³/s (0.091 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	14	81	284	103	571	596	80	32	21	7.2	5.1
2	3.2	12	71	248	96	482	1200	77	31	20	7.2	5.1
3	3.8	11	64	223	90	275	790	73	29	19	7.4	5.0
4	3.9	10	58	1330	84	212	496	69	29	18	8.2	4.8
5	3.9	9.6	53	681	78	173	384	66	30	17	8.0	4.7
6	4.0	10	51	362	74	150	313	63	29	16	7.4	4.5
7	7.8	9.8	59	260	71	138	256	61	28	15	7.0	4.4
8	7.0	9.4	49	208	67	157	219	59	27	16	6.1	4.3
9	5.2	9.1	82	176	65	134	191	58	26	15	6.3	4.4
10	5.5	9.6	119	156	63	143	1190	58	25	14	6.9	4.5
11	6.0	10	79	142	60	152	2400	57	25	13	6.9	4.7
12	5.4	55	82	130	58	135	830	53	25	13	7.1	4.2
13	5.2	553	86	118	76	125	657	51	25	13	6.0	4.3
14	5.3	233	84	110	214	121	628	50	24	12	6.2	4.5
15	5.2	815	82	102	1290	111	426	48	22	12	6.8	4.6
16	5.0	1300	76	95	945	118	328	46	21	12	6.6	6.5
17	5.0	643	68	91	372	137	265	44	20	12	6.0	11
18	4.9	188	272	91	252	128	223	43	20	11	5.8	14
19	4.9	117	1590	96	197	112	194	42	20	11	5.5	12
20	4.8	87	1550	107	165	105	172	40	20	11	5.3	9.0
21	4.8	723	543	98	144	99	154	39	19	11	4.9	8.2
22	4.8	305	318	87	128	94	140	38	18	10	4.6	7.4
23	4.8	861	225	95	117	90	129	37	18	9.4	4.7	7.0
24	4.9	466	173	99	108	86	119	35	17	9.2	4.5	7.7
25	5.0	217	145	94	101	83	112	34	18	9.6	4.5	9.3
26	5.3	184	130	194	105	81	105	33	18	9.2	4.8	8.3
27	16	228	130	153	111	78	98	33	18	8.7	4.9	8.1
28	150	148	110	205	97	124	93	32	18	8.8	5.3	8.2
29	75	116	503	149	---	167	88	31	21	8.4	5.7	7.9
30	28	94	295	129	---	1330	84	32	22	7.9	5.9	7.8
31	18	---	287	115	---	2310	---	32	---	7.6	5.4	---
TOTAL	415.8	7447.7	7515	6428	5331	8221	12880	1514	695	390.8	189.1	201.5
MEAN	13.4	248	242	207	190	265	429	48.8	23.2	12.6	6.10	6.72
MAX	150	1300	1590	1330	1290	2310	2400	80	32	21	8.2	14
MIN	3.2	9.1	49	87	58	78	84	31	17	7.6	4.5	4.2
AC-FT	825	14770	14910	12750	10570	16310	25550	3000	1380	775	375	400

CAL YR 1981 TOTAL 26712.6 MEAN 73.2 MAX 1590 MIN 1.2 AC-FT 52980
WTR YR 1982 TOTAL 51228.9 MEAN 140 MAX 2400 MIN 3.2 AC-FT 101600

11450000 CLEAR LAKE AT LAKEPORT, CA

LOCATION.--Lat 39°02'21", long 122°54'44", in NE¼NE¼ sec.25, T.14 N., R.10 W., Lake County, Hydrologic Unit 18020116, on private pier at 410 Esplanada Street in Lakeport.

DRAINAGE AREA.--528 mi² (1,368 km²).

PERIOD OF RECORD.--1874-1900 (incomplete), January 1913 to April 1982 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,318.65 ft (401.925 m) National Geodetic Vertical Datum of 1929. 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 0.06 ft (0.018 m) lower. Mar. 18, 1949, to Sept. 30, 1967, at private pier at foot of Fourth Street at datum 0.06 ft (0.018 m) lower. Gage relocated at same datum Apr. 20, 1982 and published as "at Clearlake" for 1982. Data will be published as "at Clearlake" for 1983.

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 (2.304 m), limits stipulated by court decree of 1920, about 319,000 acre-ft (393 hm³). Water is released down natural channel of Cache Creek from which it is diverted for irrigation (station 11451000).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 11.12 ft (3.389 m) Jan. 28, 1914; minimum observed, -3.50 ft (-1.067 m) Sept. 24-27, 1920.

EXTREMES FOR CURRENT YEAR.--Maximum daily mean gage height, 9.16 ft (2.792 m) Apr. 5; minimum daily mean gage height, 1.27 ft (0.387 m) Oct. 26.

GAGE HEIGHT, IN FEET, OCTOBER 1981 TO APRIL 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.48	1.39	3.79	6.52	6.53	7.21	8.44					
2	1.46	1.39	3.81	6.56	6.56	7.22	8.76					
3	1.44	1.39	3.83	6.63	6.60	7.21	9.02					
4	1.42	1.39	3.85	6.90	6.63	7.26	9.14					
5	1.41	1.39	3.86	7.60	6.64	7.31	9.16					
6	1.39	1.38	3.88	7.58	6.66	7.36	9.14					
7	1.42	1.37	3.90	7.52	6.67	7.40	9.11					
8	1.41	1.37	3.91	7.50	6.69	7.45	8.72					
9	1.40	1.37	3.92	7.45	6.71	7.49	8.55					
10	1.39	1.38	3.95	7.40	6.72	7.55	8.56					
11	1.37	1.38	3.97	7.33	6.74	7.60	8.59					
12	1.38	1.42	4.02	7.27	6.86	7.65	9.09					
13	1.36	1.47	4.07	7.19	7.35	7.68	8.70					
14	1.35	1.63	4.12	7.11	7.57	7.69	8.72					
15	1.34	1.71	4.15	7.03	7.88	7.72	8.69					
16	1.33	1.97	4.20	6.96	8.05	7.79	8.66					
17	1.32	2.19	4.24	6.87	7.96	7.68	8.63					
18	1.31	2.31	4.41	6.79	8.00	7.59	8.59					
19	1.31	2.34	4.93	6.72	7.99	7.52	8.61					
20	1.31	2.38	5.65	6.68	7.93	7.42						
21	1.31	2.54	6.05	6.73	7.84	7.32						
22	1.30	2.74	6.30	6.67	7.74	7.23						
23	1.29	2.97	6.39	6.60	7.65	7.14						
24	1.29	3.27	6.43	6.53	7.57	7.15						
25	1.28	3.44	6.41	6.45	7.48	7.17						
26	1.27	3.54	6.37	6.40	7.38	7.19						
27	1.31	3.67	6.32	6.40	7.31	7.20						
28	1.36	3.71	6.29	6.42	7.23	7.22						
29	1.38	3.74	6.36	6.40	---	7.30						
30	1.40	3.77	6.46	6.43	---	7.48						
31	1.40	---	6.47	6.48	---	8.03						
MEAN	1.36	2.20	4.91	6.87	7.25	7.43						
MAX	1.48	3.77	6.47	7.60	8.05	8.03						
MIN	1.27	1.37	3.79	6.40	6.53	7.14						

SACRAMENTO RIVER BASIN

11450150 CLEAR LAKE AT CLEARLAKE, CA

LOCATION.--Lat 38°57'24", long 122°38'30", in NE¼SE¼NW¼ sec.28, T.13 N., R.7 W., Lake County, Hydrologic Unit 18020116, on private pier 300 ft (91.4 m) southwest of intersection of Mullen Drive and Lakeshore Drive in Clearlake.

DRAINAGE AREA.--528 mi² (1,368 km²).

PERIOD OF RECORD.--April to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,318.21 (401.790 m) National Geodetic Vertical Datum of 1929.

REMARKS.--This natural lake is regulated by gates on a dam at outlet, completed in 1915.

EXTREMES FOR PERIOD.--Maximum daily mean gage height, 8.19 ft (2.496 m) Apr. 20; minimum daily mean gage height, 2.09 ft (0.637 m) Sept. 30.

GAGE HEIGHT, IN FEET, APRIL TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	7.06	6.46	5.24	3.89	2.61
2							---	7.07	6.44	5.24	3.83	2.60
3							---	7.07	6.38	5.19	3.78	2.61
4							---	7.06	6.37	5.15	3.72	2.55
5							---	7.06	6.27	5.09	3.64	2.52
6							---	7.07	6.23	5.06	3.60	2.49
7							---	7.09	6.19	5.03	3.55	2.48
8							---	7.10	6.16	4.97	3.51	2.46
9							---	7.04	6.13	4.94	3.51	2.46
10							---	7.01	6.11	4.90	3.47	2.42
11							---	7.01	6.08	4.85	3.41	2.36
12							---	7.00	6.03	4.80	3.33	2.36
13							---	6.99	5.99	4.78	3.30	2.32
14							---	6.99	5.95	4.72	3.26	2.30
15							---	6.95	5.92	4.69	3.23	2.26
16							---	6.94	5.90	4.61	3.19	2.25
17							---	6.96	5.86	4.54	3.14	2.24
18							---	6.87	5.78	4.50	3.09	2.30
19							---	6.84	5.76	4.46	3.04	2.31
20							8.19	6.82	5.73	4.42	3.01	2.27
21							8.13	6.80	5.70	4.38	2.98	2.26
22							8.04	6.79	5.65	4.33	2.95	2.25
23							7.92	6.75	5.60	4.28	2.93	2.22
24							7.79	6.72	5.56	4.23	2.90	2.23
25							7.66	6.72	5.52	4.18	2.87	2.28
26							7.55	6.69	5.47	4.14	2.84	2.32
27							7.43	6.63	5.45	4.10	2.78	2.22
28							7.33	6.60	5.39	4.06	2.73	2.19
29							7.18	6.56	5.31	4.02	2.74	2.17
30							7.08	6.51	5.28	3.97	2.67	2.09
31							---	6.50	---	3.95	2.63	---
MEAN							---	6.88	5.89	4.61	3.21	2.35
MAX							---	7.10	6.46	5.24	3.89	2.61
MIN							---	6.50	5.20	3.95	2.63	2.09

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 (152 m) downstream from Clear Lake Dam, 1.9 mi (3.1 km) downstream from Copsey Creek, and 2.5 mi (4.0 km) northeast of Lower Lake.

DRAINAGE AREA.--528 mi² (1,368 km²).

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder and rain gage. Datum of gage is 1,280.34 ft (390.248 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow completely regulated by Clear Lake (station 11450000) 500 ft (152 m) upstream.

AVERAGE DISCHARGE (unadjusted).--38 years, 355 ft³/s (10.05 m³/s), 257,200 acre-ft/yr (317 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/s (227 m³/s) Feb. 24, 1958, gage height, 9.40 ft (2.865 m); no flow Nov. 8-20, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,050 ft³/s (115 m³/s) Apr. 10, gage height, 7.47 ft (2.277 m); minimum daily, 2.3 ft³/s (0.065 m³/s) Feb. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	4.3	6.0	1890	3.3	2420	3080	126	570	433	463	178
2	83	4.3	5.8	1930	3.2	2450	3280	126	541	396	481	179
3	86	4.1	5.7	1880	3.1	1270	3430	132	526	369	512	188
4	86	5.2	5.7	2190	3.1	14	3410	125	518	386	521	184
5	86	6.5	5.7	2130	2.9	14	3410	125	489	427	519	162
6	86	6.6	5.6	1960	2.9	15	3390	174	475	482	518	146
7	77	6.4	5.5	2120	2.8	15	3350	230	471	530	504	163
8	65	6.2	5.5	2450	2.3	17	3270	274	471	558	481	180
9	62	6.4	5.4	2480	2.7	19	3220	311	489	566	452	184
10	57	6.4	5.5	2440	2.7	20	3630	317	519	566	417	182
11	51	6.4	5.5	2410	2.7	23	3810	291	526	570	403	172
12	44	6.2	5.5	2350	2.7	25	3630	288	497	590	418	146
13	35	6.6	5.5	2310	2.7	26	3680	331	464	598	434	125
14	34	6.1	5.5	2280	2.7	29	3710	378	475	625	401	105
15	34	6.2	5.3	2240	3.0	29	3660	423	538	656	377	92
16	34	9.5	5.3	2200	894	28	3590	464	586	651	415	76
17	34	7.8	5.3	2150	2370	574	3570	482	623	626	443	62
18	34	6.2	5.3	2120	2610	2180	3480	440	644	609	448	54
19	17	5.8	7.6	2080	2620	2410	3420	467	612	580	447	48
20	3.4	5.7	7.8	2150	2600	2440	3310	478	582	543	414	42
21	3.2	6.0	8.9	2140	2660	2420	3270	500	582	529	345	36
22	3.2	5.7	444	2030	2660	2340	3220	504	573	549	293	64
23	3.4	5.7	971	2000	2610	889	3150	504	559	568	318	62
24	3.5	5.7	1200	1960	2560	14	3030	538	534	557	353	44
25	3.3	5.7	1440	1920	2460	15	2940	562	523	535	349	17
26	14	5.9	1650	1940	2320	15	2890	601	542	514	310	17
27	24	6.2	1790	1910	2270	15	2820	606	563	512	280	11
28	15	6.2	1800	1920	2240	17	2620	595	563	503	261	5.6
29	3.4	6.2	1860	1580	---	19	2660	592	543	481	235	6.9
30	3.4	6.0	1860	4.2	---	831	1690	609	484	485	210	6.0
31	4.3	---	1860	3.6	---	2660	---	600	---	475	185	---
TOTAL	1173.1	182.2	14998.9	61167.8	30916.8	23253	97620	12193	16082	16477	12207	2937.5
MEAN	37.8	6.07	484	1973	1104	750	3254	393	536	532	394	97.9
MAX	86	9.5	1860	2480	2660	2660	3810	609	644	656	521	188
MIN	3.2	4.1	5.3	3.6	2.3	14	1690	125	464	369	185	5.6
AC-FT	2330	361	29750	121300	61320	46120	193600	24180	31900	32680	24210	5830
a	4.46	10.43	5.14	5.85	3.04	7.58	9.29	0.06	0.23	0.30	0.02	0.11

CAL YR 1981 TOTAL 75189.0 MEAN 206 MAX 1860 MIN 3.2 AC-FT 149100
WTR YR 1982 TOTAL 289208.3 MEAN 792 MAX 3810 MIN 2.3 AC-FT 573600

a Precipitation, in inches.

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA

LOCATION.--Lat 39°09'56", long 122°37'08", in SE¼NW¼ sec.10, T.15 N., R.7 W., Lake County, Hydrologic Unit 18020116, on right bank 0.5 mi (0.8 km) upstream from Spanish Creek, 0.9 mi (1.4 km) upstream from Hough Springs, and 10 mi (16 km) northeast of Clearlake Oaks.

DRAINAGE AREA.--60.2 mi² (155.9 km²).

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,840 ft (561 m), from topographic map. Datum of gage lowered 2.0 ft (0.610 m) on Jan. 13, 1980. Recording rain gage (relocation) 4.7 mi (7.6 km) northwest of gage. Altitude of gage is 2,050 ft (625 m), from topographic map.

REMARKS.--Records good, except those for periods of no gage height record, which are fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--11 years, 96.6 ft³/s (2.736 m³/s), 69,990 acre-ft/yr (86.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,980 ft³/s (226 m³/s) Jan. 16, 1974, gage height, 11.23 ft (3.423 m) present datum from floodmarks, from rating curve extended above 2,400 ft³/s (68.0 m³/s) on basis of slope-area measurement of maximum flow; no flow for many days in 1972, 1976-77.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 23	1400	2,610 73.9	7.01 2.137	Feb. 15	Unknown	3,160 89.5	7.58 2.310
Dec. 19	2045	*4,130 117	8.48 2.585	Mar. 31	Unknown	4,030 114	8.39 2.557
Dec. 29	1715	1,910 54.1	6.25 1.905	Apr. 11	0230	2,660 75.3	7.06 2.152

Minimum daily, 0.30 ft³/s (0.008 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	6.9	164	751	305	523	1600	107	32	18	3.6	1.4
2	.31	6.0	146	595	255	480	1550	98	32	16	3.3	1.4
3	.43	5.4	131	474	228	372	1200	90	30	14	3.2	1.4
4	.40	5.0	119	508	200	305	920	84	29	14	3.1	1.5
5	.38	4.9	108	678	180	256	710	79	29	13	2.9	1.4
6	.95	24	101	646	163	234	588	73	29	13	2.8	1.4
7	2.0	103	118	526	150	215	475	72	28	12	2.7	1.3
8	1.6	68	104	443	139	212	405	67	27	12	2.7	1.3
9	1.1	45	128	405	127	199	369	66	25	10	2.4	1.2
10	1.4	38	164	389	119	386	914	67	24	9.8	2.3	1.2
11	1.2	31	132	405	111	320	2020	67	23	9.3	2.3	1.2
12	1.1	200	164	411	107	260	1280	66	24	8.8	2.4	1.2
13	1.1	620	242	392	140	220	1010	65	23	8.3	2.4	1.2
14	1.1	310	316	351	600	190	1040	62	22	7.9	2.2	1.2
15	1.1	720	270	324	2250	200	791	57	20	7.3	2.2	1.3
16	1.1	1200	231	299	1300	250	600	54	19	6.5	2.2	1.4
17	1.1	600	195	277	770	270	485	54	18	6.5	2.1	1.6
18	1.1	400	732	255	555	230	422	52	17	6.0	2.0	2.0
19	1.1	300	2310	240	441	200	374	50	17	6.0	2.0	2.2
20	1.1	270	2470	280	364	182	328	48	20	6.0	1.8	2.2
21	1.1	1180	1230	310	308	170	289	47	20	5.6	1.6	2.2
22	1.1	840	795	255	258	155	257	45	17	5.4	1.5	2.2
23	1.1	2400	583	230	216	145	228	42	16	5.2	1.4	2.2
24	1.1	873	441	265	197	135	208	40	15	5.0	1.3	2.2
25	1.1	469	353	245	176	131	182	39	15	4.9	1.3	2.0
26	1.1	364	296	220	159	125	162	37	14	4.7	1.3	1.8
27	7.4	355	334	390	155	132	148	35	15	4.3	1.2	1.8
28	70	295	268	335	144	300	135	34	14	4.1	1.2	1.8
29	36	233	825	450	---	700	122	34	15	3.9	1.4	1.8
30	15	189	846	530	---	1700	114	34	17	3.7	1.4	1.6
31	8.9	---	637	355	---	3300	---	33	---	3.6	1.4	---
TOTAL	163.87	12155.2	14953	12234	10117	12497	18926	1798	646	254.8	65.6	48.6
MEAN	5.29	405	482	395	361	403	631	58.0	21.5	8.22	2.12	1.62
MAX	70	2400	2470	751	2250	3300	2020	107	32	18	3.6	2.2
MIN	.30	4.9	101	220	107	125	114	33	14	3.6	1.2	1.2
AC-FT	325	24110	29660	24270	20070	24790	37540	3570	1280	505	130	96
a	5.03	15.10	9.96	10.14	4.94	11.20	8.14	.19	.83	0	0	0

CAL YR 1981 TOTAL 43033.66 MEAN 118 MAX 2470 MIN .16 AC-FT 85360
WTR YR 1982 TOTAL 83859.07 MEAN 230 MAX 3300 MIN .30 AC-FT 166300

a Precipitation, in inches.

11451760 CACHE CREEK AT RUMSEY, CA

LOCATION.--Lat 38°53'25", long 122°14'13", T.12 N., R.3 W., Yolo County, Hydrologic Unit 18020116, in Canada De Capay Grant, on downstream side of bridge on Arbuckle Road, 800 ft (244 m) north of Rumsey.

DRAINAGE AREA.--964 mi² (2,497 km²).

PERIOD OF RECORD.--October 1960 to September 1962, June 1965 to September 1973, December 1975 to current year. Prior to September 1973, published as "above Rumsey."

GAGE.--Water-stage recorder. Altitude of gage is 420 ft (128 m), from topographic map. Prior to September 1973, at site 3.0 mi (4.8 km) upstream at different datum.

REMARKS.--Flow partly regulated by Clear Lake (station 11450000) beginning in 1915. Flow also regulated by Indian Valley Reservoir beginning in June 1974, capacity, 296,000 acre-ft (365 km³).

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--16 years (water years 1961-62, 1966-73, 1977-82), 715 ft³/s (20.25 m³/s), 518,000 acre-ft/yr (639 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft³/s (1,230 m³/s), Jan. 24, 1970, gage height, 19.59 ft (5.971 m), site and datum then in use, from rating curve extended above 14,000 ft³/s (396 m³/s) on basis of slope-area measurement at gage height 21.42 ft (6.529 m); no flow many days in 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 5, 1965, reached a stage of 21.42 ft (6.529 m) from flood-marks, site and datum then in use, discharge, 59,000 ft³/s (1,670 m³/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 9,780 ft³/s (277 m³/s) Mar. 31; minimum daily, 37 ft³/s (1.05 m³/s) Oct. 22-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	51	145	3400	692	3520	6660	817	702	521	679	392
2	93	51	130	3380	1140	3480	8060	680	670	490	689	462
3	95	51	119	3070	959	2590	7960	623	634	415	728	407
4	95	51	110	5670	308	578	7980	586	625	411	748	426
5	93	51	104	6770	261	911	7620	529	602	436	744	409
6	92	51	99	4190	242	961	7400	508	570	489	742	377
7	101	51	95	3630	238	1010	6540	603	563	545	730	378
8	88	51	93	3640	235	1010	4900	610	559	591	699	417
9	80	51	91	3490	287	985	4730	671	560	612	666	429
10	78	51	102	3440	324	1020	6250	673	597	612	618	431
11	70	51	102	3320	321	1060	8910	649	609	616	587	428
12	64	51	98	3200	311	1020	5780	570	606	645	589	412
13	58	78	122	3070	333	973	7190	566	545	646	618	379
14	52	434	245	2960	513	976	7110	617	536	668	606	366
15	52	158	222	2840	3940	778	6870	628	583	715	545	347
16	53	621	176	2760	5920	384	5790	649	643	857	566	340
17	55	444	148	2680	5240	622	5390	682	678	855	624	325
18	56	228	633	2590	5050	2570	4990	651	701	824	630	248
19	57	146	5470	2540	4830	2910	4580	606	689	814	644	221
20	53	119	5280	2700	4020	2880	4180	628	640	773	630	165
21	40	762	2010	2740	3980	2850	4050	643	637	742	566	146
22	37	825	1430	2560	3890	2790	3980	651	634	748	479	122
23	37	936	1950	2510	3750	2000	3910	640	618	793	466	118
24	37	1240	1970	2510	3660	320	3780	634	596	794	514	114
25	38	329	2210	2450	3590	287	3650	665	590	771	556	115
26	39	214	2460	2780	3320	281	3540	704	597	743	552	124
27	43	492	2660	3240	2860	274	3420	742	634	733	520	123
28	96	494	2560	2970	2750	279	3230	726	636	747	498	118
29	94	241	3760	2740	---	358	3110	722	637	712	479	109
30	69	177	3590	604	---	2200	2840	729	599	712	443	108
31	56	---	3140	640	---	9780	---	741	---	705	424	---
TOTAL	2066	8550	41344	94884	62964	51657	164400	20143	18490	20735	18579	8496
MEAN	66.6	285	1334	3061	2249	1666	5480	650	616	669	599	283
MAX	101	1240	5470	6770	5920	9780	8910	817	702	857	748	431
MIN	37	51	91	440	235	274	2840	508	536	411	424	108
AC-FT	4100	16960	82010	188200	124900	102500	326100	39950	36670	41130	36850	16850
CAL YR 1981 TOTAL	181861	MEAN	498	MAX	5470	MIN	30	AC-FT	360700			
WTR YR 1982 TOTAL	512308	MEAN	1404	MAX	9780	MIN	37	AC-FT	1016000			

SACRAMENTO RIVER BASIN

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 (11 m) upstream from highway bridge, 0.5 mi (0.8 km) south of Yolo, and 7.3 mi (11.7 km) downstream from Moore Dam.

DRAINAGE AREA.--1,139 mi² (2,950 km²).

PERIOD OF RECORD.--January 1903 to current year. Records for water year 1903 incomplete, yearly estimate published in WSP 1315-A.

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 (233 m) upstream at same datum.

REMARKS.--Records good. Some regulation by Clear Lake (station 11450000) beginning in 1915 and Indian Valley Reservoir beginning in 1974, capacity, 296,000 acre-ft (365 hm³). Diversions for irrigation of about 30,000 acres (121 km²) between Capay and Yolo, from data furnished by Clear Lake Water Co.

AVERAGE DISCHARGE.--80 years, 521 ft³/s (14.75 m³/s), 377,500 acre-ft/yr (465 hm³/yr),

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,400 ft³/s (1,170 m³/s) Feb. 25, 1958, gage height, 85.35 ft (26.015 m) present datum; maximum stage observed, 88.44 ft (26.957 m) present datum, Mar. 10, 1904; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,000 ft³/s (453 m³/s) Apr. 11, gage height, 72.37 ft (22.058 m); no flow Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	1.0	197	3050	619	3210	8120	2820	56	38	24	27
2	2.1	.82	161	3250	.991	4070	6820	580	67	39	20	24
3	1.4	.70	138	2910	1160	3160	9200	500	58	37	16	24
4	1.1	.51	122	6440	666	1420	7970	445	47	31	17	25
5	1.2	.38	108	10400	400	821	7560	260	44	32	18	22
6	1.2	.36	95	5470	353	972	7240	150	60	36	22	22
7	2.3	.42	83	3600	327	974	6830	78	62	32	24	23
8	6.1	.48	75	3500	313	980	4580	81	57	26	24	21
9	9.2	.56	71	3450	298	956	4040	81	54	24	21	18
10	7.9	.60	68	3400	376	950	4290	68	51	28	20	18
11	5.9	.50	70	3260	384	1030	12000	84	50	27	17	23
12	3.9	.82	76	3170	377	983	6940	81	43	27	18	25
13	2.7	3.1	73	3020	379	933	7790	61	45	23	20	24
14	1.6	105	85	2950	461	918	8150	58	46	19	24	21
15	.92	352	185	2870	1900	870	7790	68	36	19	24	23
16	.86	851	188	2770	7680	595	7390	68	36	19	22	23
17	1.0	994	155	2700	5920	733	4940	67	44	23	22	22
18	1.4	516	144	2650	5410	1680	4450	85	50	28	22	19
19	1.8	224	3660	2620	5160	2800	4210	95	42	27	24	21
20	1.6	133	7950	2910	4460	2840	4020	80	33	27	25	21
21	1.9	116	2680	3090	3880	2820	3830	59	33	29	24	20
22	2.1	1060	1260	2710	3850	2760	3760	57	30	28	24	19
23	1.1	474	1350	2560	3750	2670	3700	65	37	22	20	18
24	.43	1480	1540	2590	3650	864	3620	63	38	21	17	19
25	.17	641	1740	2530	3580	431	3550	59	42	30	14	29
26	.07	334	1960	2540	3450	381	3410	58	36	27	13	34
27	0	311	2260	3350	2850	347	3270	60	32	22	13	39
28	.77	594	2360	3190	2700	333	3130	49	30	23	15	42
29	2.4	424	2660	3040	---	372	3070	49	32	30	21	48
30	2.5	262	4380	1710	---	635	3010	50	33	30	24	46
31	1.5	---	2980	613	---	11200	---	52	---	26	27	---
TOTAL	67.77	8881.25	38874	102313	65344	53708	168680	6431	1324	850	636	760
MEAN	2.19	296	1254	3300	2334	1733	5623	207	44.1	27.4	20.5	25.3
MAX	9.2	1480	7950	10400	7680	11200	12000	2820	67	39	27	48
MIN	0	.36	68	613	298	333	3010	49	30	19	13	18
AC-FT	134	17620	77110	202900	129600	106500	334600	12760	2630	1690	1260	1510
CAL YR 1981 TOTAL	83959.99			MEAN 230	MAX 7950	MIN 0	AC-FT 166500					
WTR YR 1982 TOTAL	447869.02			MEAN 1227	MAX 12000	MIN 0	AC-FT 888300					

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 (91 m) upstream from Sacramento and Woodland railroad bridge, 6 mi (10 km) upstream from Sacramento Bypass, 6 mi (10 km) downstream from Fremont weir, and 7 mi (11 km) east of Woodland.

PERIOD OF RECORD.--October 1939 to September 1977, October 1977 to current year (high flows only). Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 3.41 ft (1.039 m) 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 (0.222 m) higher. Prior to Sept. 30, 1977, a supplementary water-stage recorder 6 mi (10 km) downstream at different datum recorded low flow.

REMARKS.--Records good. 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 (28.3 m³/s) are computed.

AVERAGE DISCHARGE.--38 years (water years 1939-77), 3,765 ft³/s (106.6 m³/s), 2,728,000 acre-ft/yr (3.36 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 272,000 ft³/s (7,700 m³/s) Feb. 6, 1942, gage height, 32.00 ft (9.754 m); no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 109,000 ft³/s (3,090 m³/s) Dec. 22, gage height, 28.53 ft (8.696 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	5200	54900	2460	12600	9510	3450				
2		---	2650	59700	2350	13400	17400	1940				
3		---	1350	53100	2600	16100	33900	1360				
4		---	1090	45100	2530	17000	47800	1060				
5		---	---	61800	1620	13900	46200	---				
6		---	---	70600	1190	7990	37800	---				
7		---	---	56200	---	5900	29700	---				
8		---	---	44600	---	4970	22200	---				
9		---	---	35200	---	3990	15500	---				
10		---	---	27900	---	2920	9450	---				
11		---	---	21700	---	2600	15900	---				
12		---	---	16200	---	3190	47000	---				
13		---	---	10100	---	3850	69200	---				
14		---	---	6970	---	3400	80800	---				
15		---	---	6190	1160	2650	78000	---				
16		---	---	5750	8980	2380	73700	---				
17		---	---	5430	58500	2840	67300	---				
18		1640	---	5140	72800	3400	61000	---				
19		1850	1080	4870	74900	4430	52000	---				
20		1710	8320	4800	67700	4620	40400	---				
21		1450	89900	5020	56400	4130	30300	---				
22		1240	106000	5040	49800	3830	22100	---				
23		1840	97100	5010	47500	3720	12000	---				
24		2030	85300	5010	45300	3000	5840	---				
25		2850	71200	4990	42500	1640	4660	---				
26		11800	57100	4850	36500	1200	4300	---				
27		27700	46900	4860	28100	---	4190	---				
28		25200	41400	4980	20400	---	4090	---				
29		20300	35000	4760	---	---	3810	---				
30		11700	40700	4370	---	---	3750	---				
31		---	47900	2980	---	4470	---	---				
TOTAL		---	---	648120	---	---	949800	---				
MEAN		---	---	20910	---	---	31660	---				
MAX		---	---	70600	---	---	80800	---				
MIN		---	---	2980	---	---	3750	---				
AC-FT		---	---	1286000	---	---	1884000	---				

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 (11.9 km) west of Winters.

DRAINAGE AREA.--566 mi² (1,466 km²).

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 Bureau of Reclamation).

REMARKS.--Reservoir is formed by concrete arch-gravity dam completed November 1956. Usable capacity, 1,592,000 acre-ft (1.96 km³) between elevations 253.25 ft (77.101 m) invert of outlet valves, and 440 ft (134.1 m) crest of glory-hole spillway. Dead storage, 10,340 acre-ft (12.7 hm³). Water is released down Putah Creek and is diverted into Putah South diversion canal for irrigation of about 46,000 acres (186 km²) in the lower Sacramento Valley. Total diverted during current year was 180,200 acre-ft (222 hm³). Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,733,000 acre-ft (2.14 km³) Jan. 24, 1970, elevation, 446.67 ft (136.415 m); minimum since irrigation pool first filled, 738,600 acre-ft (911 hm³) Nov. 40, 1977, elevation, 388.04 ft (118.275 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,689,500 acre-ft (2.08 km³) Apr. 11, elevation, 444.47 ft (135.474 m); minimum, 1,148,500 acre-ft (1.42 hm³) Nov. 9-11, elevation, 414.87 ft (126.452 m).

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

380	632,400
390	765,700
400	911,200
410	1,068,000
420	1,236,000
430	1,414,000
450	1,800,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1166400	1150200	1229400	1373000	1507000	1613100	1672500	1622200	1595400	1555700	1511000	1464800
2	1165900	1150000	1230100	1377500	1507600	1618900	1681800	1621800	1594000	1554400	1509100	1463500
3	1164900	1149700	1230100	1383500	1508500	1619500	1681200	1621000	1594000	1553000	1507200	1462200
4	1163800	1149500	1230400	1429400	1508900	1618900	1676100	1620100	1590700	1551900	1505700	1461000
5	1163200	1149200	1230800	1447300	1509700	1619700	1669400	1619700	1589600	1550700	1504200	1459900
6	1162800	1149000	1231000	1453800	1510000	1619700	1661600	1619300	1588400	1549400	1502300	1458400
7	1162200	1148900	1231100	1457000	1511000	1619700	1656700	1618700	1587100	1548100	1501000	1457500
8	1161500	1148700	1231600	1460300	1511500	1620100	1651200	1618300	1585900	1546700	1499700	1456200
9	1160800	1148500	1232200	1463100	1512300	1620700	1647300	1617400	1585200	1545600	1498600	1454900
10	1160100	1148500	1232500	1465500	1512900	1620800	1664500	1616400	1583600	1544300	1497100	1453200
11	1159500	1148500	1233000	1467700	1513200	1620800	1689500	1616000	1582500	1542900	1495600	1451600
12	1159100	1149000	1233900	1469400	1513600	1620300	1687300	1615800	1580900	1541600	1493900	1450100
13	1158300	1152700	1234400	1471100	1515300	1620300	1682400	1615400	1579800	1539900	1492000	1449000
14	1157600	1155600	1235100	1472400	1520600	1620300	1677500	1614700	1578600	1537200	1490300	1447900
15	1156900	1161000	1236100	1473900	1555700	1620300	1671200	1613900	1577300	1536700	1489000	1446600
16	1155900	1172300	1236800	1475000	1573800	1621200	1664900	1613300	1576300	1535400	1487700	1446200
17	1155400	1180600	1237700	1475900	1580900	1621200	1658800	1611900	1574800	1534000	1486400	1445500
18	1154900	1183000	1239400	1477400	1585000	1620800	1653500	1611200	1573100	1532700	1485100	1445300
19	1154200	1183500	1289400	1479100	1588000	1620800	1648900	1610600	1571500	1531200	1483600	1444700
20	1153600	1184500	1320600	1484100	1591700	1620500	1644800	1610000	1570200	1529500	1482300	1444000
21	1152900	1196900	1328600	1486400	1592800	1620500	1641100	1608900	1568900	1528100	1481000	1443600
22	1152200	1201200	1332400	1488200	1594400	1620300	1637700	1607700	1567500	1526300	1479800	1443100
23	1151600	1210800	1334300	1489000	1596100	1619900	1633700	1606500	1566200	1524400	1478400	1442900
24	1150900	1216300	1336100	1489900	1597500	1619500	1630900	1605800	1565000	1522900	1476900	1441800
25	1150200	1219900	1338100	1492000	1598200	1619100	1628400	1604200	1563300	1521000	1475600	1441600
26	1149500	1222200	1339900	1494600	1600400	1619100	1625900	1602900	1561800	1519800	1473900	1441200
27	1149700	1225600	1341800	1495900	1601900	1618500	1625100	1601700	1560600	1518500	1471600	1440900
28	1152200	1227000	1342200	1499500	1604000	1618100	1624500	1600400	1559300	1517000	1470000	1440500
29	1151900	1228000	1355900	1501600	---	1618700	1624000	1598800	1558200	1515500	1468700	1439200
30	1150400	1228700	1361300	1503300	---	1640100	1623200	1597900	1557000	1513600	1467400	1438500
31	1150400	---	1367100	1504900	---	1675500	---	1596500	---	1512300	1466100	---
MAX	1166400	1228700	1367100	1504900	1604000	1675500	1689500	1622200	1595400	1555700	1511000	1464800
MIN	1149500	1148500	1229400	1373000	1507000	1613100	1623200	1596500	1557000	1512300	1466100	1438500
a	414.98	419.58	427.41	434.89	440.09	443.76	441.08	439.70	437.64	435.28	432.81	431.32
b	-16600	+78300	+138400	+137800	+99100	+71500	-52300	-26700	-39500	-46200	-27600	
c	3542	1519	988	1373	2103	2874	5144	10550	9560	10550	8969	6415

CAL YR 1981 b +61800

WTR YR 1982 b +271500

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

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 (2 km) downstream from Cold Canyon, 1.3 mi (2.1 km) downstream from Monticello Dam, and 6 mi (10 km) west of Winters.

DRAINAGE AREA.--574 mi² (1,487 km²).

PERIOD OF RECORD.--July 1930 to current year.

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 (48.997 m) National Geodetic Vertical Datum of 1929 (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft (0.3 m) higher.

REMARKS.--Records good. Flow regulated by Lake Berryessa (station 11453900) beginning January 1957.

AVERAGE DISCHARGE (adjusted for change in contents and evaporation from Lake Berryessa).--52 years, 526 ft³/s (14.90 m³/s), 381,100 acre-ft/yr (470 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,000 ft³/s (2,290 m³/s) Feb. 27, 1940, gage height, 30.5 ft (9.30 m) present datum, from rating curve extended above 30,000 ft³/s (850 m³/s); no flow Sept. 6-15, 1950, July 26 to Sept. 1, Sept. 6-9, 1955. Maximum discharge since construction of Monticello Dam in 1957, 16,300 ft³/s (462 m³/s) Jan. 24, 1970, gage height, 18.85 ft (5.745 m); minimum daily, 6.1 ft³/s (0.17 m³/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, 9,930 ft³/s (281 m³/s) Apr. 12, gage height, 16.63 ft (5.069 m); minimum daily, 18 ft³/s (0.510 m³/s) Nov. 15

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	296	72	132	110	47	235	7870	865	666	569	641	546
2	296	76	121	115	59	680	7840	811	669	559	642	515
3	308	79	101	109	61	1530	9020	776	640	536	648	512
4	296	73	111	565	59	1590	8220	740	606	488	662	489
5	296	82	152	255	79	1050	7180	700	616	471	609	455
6	292	109	153	90	97	704	6320	664	610	496	661	461
7	285	109	129	63	96	736	5440	627	603	527	637	471
8	281	109	131	55	55	761	4710	598	616	572	579	472
9	285	67	151	41	58	776	4150	559	631	572	562	507
10	265	57	151	38	77	942	4090	531	637	592	568	494
11	224	62	131	35	43	1130	8890	493	645	624	591	491
12	219	73	153	32	59	1070	9510	477	652	634	585	441
13	229	56	153	31	60	928	8480	449	610	612	603	423
14	229	23	115	39	49	764	7880	575	599	638	616	505
15	226	18	105	40	127	755	7020	625	633	673	521	576
16	220	28	89	35	135	759	6160	580	669	663	494	412
17	217	96	90	50	71	1130	5420	548	656	617	507	248
18	219	140	82	50	58	1250	4780	557	647	551	522	227
19	228	140	161	52	53	915	4230	572	653	566	576	177
20	240	125	153	67	50	794	3760	580	610	652	587	140
21	259	147	55	44	47	778	3350	640	579	720	575	154
22	283	95	49	48	45	756	3010	634	570	723	544	176
23	298	56	100	57	43	729	2710	616	570	693	559	231
24	277	67	136	56	42	706	2460	627	589	624	578	233
25	228	82	154	55	41	690	2180	669	602	612	572	181
26	117	157	139	46	42	670	1800	721	591	600	625	118
27	67	110	127	34	48	651	1350	721	572	577	547	98
28	72	89	108	37	59	657	992	700	569	619	647	141
29	72	137	121	36	---	673	949	665	569	681	577	203
30	71	145	55	36	---	1120	910	632	569	686	571	235
31	72	---	85	36	---	7030	---	605	---	652	578	---
TOTAL	6965	2679	3693	2357	1760	32959	150681	19557	18428	18799	18184	10322
MEAN	225	89.3	119	76.0	62.9	1063	5023	631	614	606	587	344
MAX	306	157	161	565	135	7030	9510	865	669	723	662	576
MIN	67	18	49	31	41	235	910	449	569	471	494	98
AC-FT	13820	5310	7330	4680	3490	65370	298900	38790	36550	37290	36070	20470

CAL YR 1981 TOTAL 135893 MEAN 372 MAX 923 MIN 18 AC-FT 269500 MEAN a 556 AC-FT a 402800
WTR YR 1982 TOTAL 136384 MEAN 785 MAX 9510 MIN 18 AC-FT 568000 MEAN a 1250 AC-FT a 903100

a Adjusted for change in contents and evaporation from Lake Berryessa.

SACRAMENTO RIVER BASIN

11455420 SACRAMENTO RIVER AT RIO VISTA, CA

LOCATION.--Lat 38°09'35", long 121°41'05", in Los Ulpinos Land Grant, Solano County, Hydrologic Unit 18020109, at center of lift span on drawbridge at Rio Vista.

PERIOD OF RECORD.--

SEDIMENT RECORDS: Water years 1979 to September 1982 (discontinued).

TURBIDITY: Water years 1979 to September 1982 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
JAN									
07...	1220	8.0	117	38	49	86	98	99	100
MAY									
05...	1110	15.5	46	96	99	100	--	--	--
JUN									
01...	1030	17.0	25	97	100	--	--	--	--

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)	DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
OCT					NOV				
01...	0720	17.5	22	12	20...	0655	13.5	213	120
02...	0720	18.0	19	11	21...	0700	13.0	176	95
03...	0720	17.0	18	9.0	22...	0700	13.5	165	85
04...	0720	17.0	14	7.0	23...	0650	13.0	144	55
05...	0725	16.5	14	8.0	24...	0655	14.0	164	55
06...	0725	17.5	17	7.0	26...	0700	12.0	311	75
07...	0725	17.5	15	8.0	27...	0700	11.0	347	65
08...	0725	16.5	19	9.0	28...	0715	10.0	216	50
09...	0725	16.5	26	10	29...	0725	--	152	39
10...	0725	17.0	22	9.0	30...	0725	--	62	39
11...	0725	16.0	21	8.0	DEC				
12...	0715	15.0	33	14	01...	0725	11.0	71	33
13...	0720	16.0	30	14	02...	0730	--	60	29
14...	0710	15.0	18	11	03...	0720	--	51	24
15...	0705	15.0	24	15	04...	0725	10.0	41	22
16...	0710	16.0	24	14	05...	0730	11.0	38	19
19...	0700	13.0	185	100	06...	0730	10.0	37	17
26...	1110	16.5	18	17	07...	0730	10.0	37	18
27...	0700	16.5	23	12	08...	0730	11.5	45	18
28...	0655	16.0	33	14	09...	0710	10.0	52	19
30...	0705	14.5	17	8.0	10...	0710	11.0	52	17
31...	0710	14.0	19	7.0	11...	0700	10.5	51	19
NOV					12...	0700	10.5	40	20
01...	0715	14.0	0	--	13...	0700	11.0	19	16
02...	0700	14.5	16	7.0	14...	0700	12.5	25	17
04...	1045	15.0	25	7.0	15...	0700	--	31	18
05...	0715	15.0	18	6.0	16...	0700	10.0	30	17
06...	0720	15.0	14	6.0	17...	0700	11.5	33	17
07...	0725	14.5	13	6.0	20...	0715	--	41	19
08...	0725	14.0	15	5.0	21...	0715	12.5	147	39
09...	0720	14.0	20	7.0	22...	0700	11.5	347	90
10...	0710	15.0	20	7.0	23...	0700	10.0	445	160
11...	0700	14.5	36	9.0	24...	0710	10.0	281	140
12...	0700	15.0	31	9.0	29...	1100	10.0	92	55
13...	0700	15.5	20	7.0	30...	0720	9.5	83	40
15...	0700	15.0	28	12	31...	0720	--	108	45
16...	0655	15.0	60	20	JAN				
17...	0700	14.5	46	28	01...	0725	8.5	81	45
17...	0715	12.0	38	22	02...	0720	8.0	88	40
18...	0700	13.5	42	21	03...	0720	7.5	106	50

11455420 SACRAMENTO RIVER AT RIO VISTA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDEU (MG/L)	TUR- BID- ITY (NTU)	DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDEU (MG/L)	TUR- BID- ITY (NTU)
JAN					MAR				
05...	0730	8.0	398	--	01...	0650	10.5	38	26
06...	0710	--	178	95	02...	0655	10.5	46	38
07...	0705	--	294	130	03...	0650	--	84	45
07...	1220	8.0	117	132	04...	0650	--	74	40
07...	1300	8.0	0	--	05...	0635	--	84	45
08...	0700	--	187	100	06...	0635	--	84	45
09...	0705	--	100	60	07...	0630	10.5	73	40
10...	0705	--	100	65	08...	0625	11.0	69	34
11...	0705	--	61	33	09...	0625	10.5	58	26
12...	0705	--	53	30	10...	0630	11.0	59	20
12...	1045	8.0	72	26	11...	0625	12.0	41	21
13...	0705	7.0	75	50	12...	0640	11.0	70	19
14...	0710	7.0	74	50	13...	0640	11.0	23	16
15...	0710	8.0	60	45	15...	0645	9.5	25	17
16...	0715	8.0	46	34	15...	1030	9.5	54	19
17...	0710	7.0	42	29	16...	0645	10.0	29	19
17...	0720	7.5	47	32	17...	0645	9.0	28	17
18...	0715	7.5	43	31	18...	0645	9.5	38	19
20...	0715	7.5	45	24	19...	0650	9.5	38	19
21...	0720	--	49	26	20...	0705	9.0	39	21
22...	0710	--	58	27	21...	0715	9.0	52	20
23...	0720	7.0	56	24	22...	0650	10.0	46	19
24...	0720	--	79	30	23...	0650	10.5	41	17
25...	0725	--	75	29	24...	0645	11.0	34	16
26...	0725	--	57	24	25...	0650	11.5	68	18
27...	0720	--	48	29	26...	0715	12.0	62	17
28...	0730	--	39	27	27...	0715	12.0	32	15
29...	0730	--	40	30	28...	0715	11.0	54	19
30...	0715	--	40	28	29...	0705	10.0	28	16
31...	1020	--	85	28	30...	0630	10.0	28	15
FEB					31...	0645	10.0	37	16
01...	0730	7.5	66	40	APR				
02...	0730	--	48	32	01...	0645	--	56	36
03...	0710	--	51	31	02...	0620	--	125	60
04...	0700	--	44	26	03...	0625	--	245	120
05...	0700	--	49	25	04...	0615	--	295	140
06...	0700	--	78	34	05...	0615	--	200	100
07...	0700	--	48	24	06...	0630	--	135	70
08...	0700	--	56	21	07...	0630	--	117	55
09...	0700	8.0	41	24	08...	0630	10.5	70	50
10...	0700	--	31	20	09...	0635	10.5	67	36
11...	0700	--	22	17	10...	0635	11.5	40	21
12...	0725	--	28	17	11...	0625	12.5	48	19
13...	0720	--	27	16	12...	0617	12.5	83	31
14...	0710	8.5	22	14	13...	0610	12.0	192	70
15...	0720	--	20	12	14...	0605	12.0	193	80
16...	0705	--	36	18	15...	0605	11.0	174	75
17...	0710	10.0	116	40	16...	0615	--	184	80
18...	0700	11.0	456	--	17...	0605	12.5	181	75
19...	0730	11.0	204	95	18...	0630	13.0	130	40
20...	0735	11.0	185	100	19...	0605	13.0	129	60
21...	0735	--	188	130	20...	0605	13.5	126	60
22...	0740	10.5	161	100	21...	0605	--	100	45
23...	0745	--	137	80	22...	0600	14.5	76	40
24...	0735	9.5	126	65	23...	0555	14.5	56	29
25...	0715	--	95	50	24...	0555	14.0	45	21
26...	0735	10.0	82	40	25...	0610	--	38	22
27...	0720	--	58	32	26...	0615	13.5	28	19
28...	0715	--	56	26	27...	0620	--	31	18
					28...	0615	--	31	18

SACRAMENTO RIVER BASIN

11455420 SACRAMENTO RIVER AT RIO VISTA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)	DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
APR					JUL				
29...	0615	15.0	28	17	11...	0640	19.5	18	8.0
30...	0555	14.5	49	20	12...	0645	20.0	14	8.0
MAY					13...	0640	21.0	13	8.0
01...	0555	--	57	22	14...	0625	20.5	15	9.0
02...	0600	--	54	20	15...	0620	--	21	9.0
03...	0600	--	72	20	16...	0630	20.5	22	10
04...	0600	15.0	60	19	17...	0630	20.0	30	12
05...	0600	14.5	59	16	18...	0625	19.5	34	11
05...	1110	15.5	46	20	19...	0615	19.0	38	14
05...	1130	15.5	46	21	20...	0615	18.5	41	15
06...	0550	--	89	22	21...	0615	18.5	39	17
07...	0655	14.0	91	21	22...	0615	20.0	24	11
08...	0610	13.5	57	17	23...	0615	19.5	30	12
09...	0605	13.0	31	15	24...	0625	18.5	24	12
10...	0610	14.0	22	13	25...	0635	18.5	22	14
11...	0600	13.5	24	13	26...	0640	--	21	13
12...	0605	13.5	22	13	27...	0625	19.0	14	10
13...	0615	13.0	20	12	28...	0625	19.5	23	10
14...	0605	14.0	32	14	29...	0625	21.0	25	10
15...	0605	13.5	23	13	30...	0640	20.5	27	13
16...	0630	14.5	26	14	31...	0635	21.0	28	13
17...	0615	15.0	39	16	AUG				
18...	0605	14.5	56	17	03...	0930	--	23	12
19...	0550	15.0	56	17	03...	1945	23.0	27	12
20...	0605	15.5	68	17	04...	0645	21.0	38	15
21...	0605	--	64	17	05...	0640	20.5	30	13
22...	0605	--	55	15	06...	0645	21.0	30	15
23...	0550	17.0	46	16	07...	0645	21.5	29	13
24...	0550	--	29	12	08...	0645	22.0	19	12
25...	0550	17.5	25	14	09...	0700	20.0	29	14
26...	0550	17.0	27	14	10...	0650	19.5	24	12
27...	0550	--	33	15	11...	0655	19.5	17	8.0
28...	0550	--	28	14	13...	0655	19.0	20	11
29...	0540	--	32	12	14...	0705	19.5	35	15
30...	0535	--	44	15	15...	0645	20.0	37	16
31...	0535	--	52	16	16...	0645	20.5	34	16
JUN					17...	0645	20.5	30	13
01...	0530	--	48	16	18...	0645	20.0	45	19
01...	1030	17.0	25	14	19...	0640	19.5	47	17
01...	1045	17.0	24	14	20...	0645	20.5	26	12
02...	0530	--	48	14	21...	0645	20.0	40	12
03...	0530	--	57	15	23...	0650	21.0	20	10
04...	0545	15.5	52	12	24...	0655	19.5	22	13
05...	0550	16.0	43	13	25...	0645	--	20	10
06...	0550	--	30	12	26...	0650	19.0	18	10
07...	0555	--	22	10	27...	0650	18.5	31	15
08...	0550	--	19	9.0	28...	0650	20.0	31	14
09...	0600	16.0	17	9.0	29...	0650	19.5	34	13
10...	0610	--	17	9.0	30...	0650	18.5	42	15
11...	0530	--	22	11	31...	0650	19.0	29	11
12...	0600	16.0	15	8.0	SEP				
13...	0545	--	17	9.0	01...	0650	--	40	14
14...	0615	16.0	17	9.0	02...	0630	19.0	38	14
15...	0615	17.0	20	9.0	03...	0630	--	29	12
16...	0620	17.5	26	10	04...	0630	21.5	43	18
17...	0615	17.0	44	11	05...	0630	22.0	33	14
18...	0610	17.0	43	11	06...	0635	--	30	12
19...	0600	17.5	39	12	07...	0635	--	15	7.0
20...	0600	17.5	44	14	08...	0645	21.5	17	9.0
21...	0600	17.5	44	12	09...	0645	--	18	9.0
22...	0550	--	19	9.0	10...	0650	19.5	13	7.0
23...	0555	16.5	16	7.0	11...	0650	19.5	20	9.0
24...	0620	17.0	17	8.0	12...	0650	20.0	37	13
25...	0625	18.0	15	6.0	13...	0640	20.0	33	13
26...	0620	18.0	16	8.0	14...	0640	--	42	14
27...	0620	19.0	21	8.0	15...	0645	18.5	37	14
28...	0620	--	18	8.0	16...	0645	18.0	35	12
29...	0600	17.5	29	10	17...	0640	18.5	31	12
30...	0615	18.0	28	10	18...	0645	19.0	34	10
JUL					19...	0640	18.5	18	9.0
01...	0615	18.0	29	11	20...	0640	17.5	15	7.0
02...	0615	17.5	28	10	21...	0645	17.5	20	9.0
03...	0630	17.5	27	10	22...	0640	18.5	10	--
04...	0600	17.0	31	11					
05...	0610	17.5	24	11					
06...	0550	18.5	21	10					
07...	0615	19.0	22	11					
08...	0615	18.0	16	7.0					
09...	0625	18.5	--	8.0					
10...	0625	18.0	19	10					

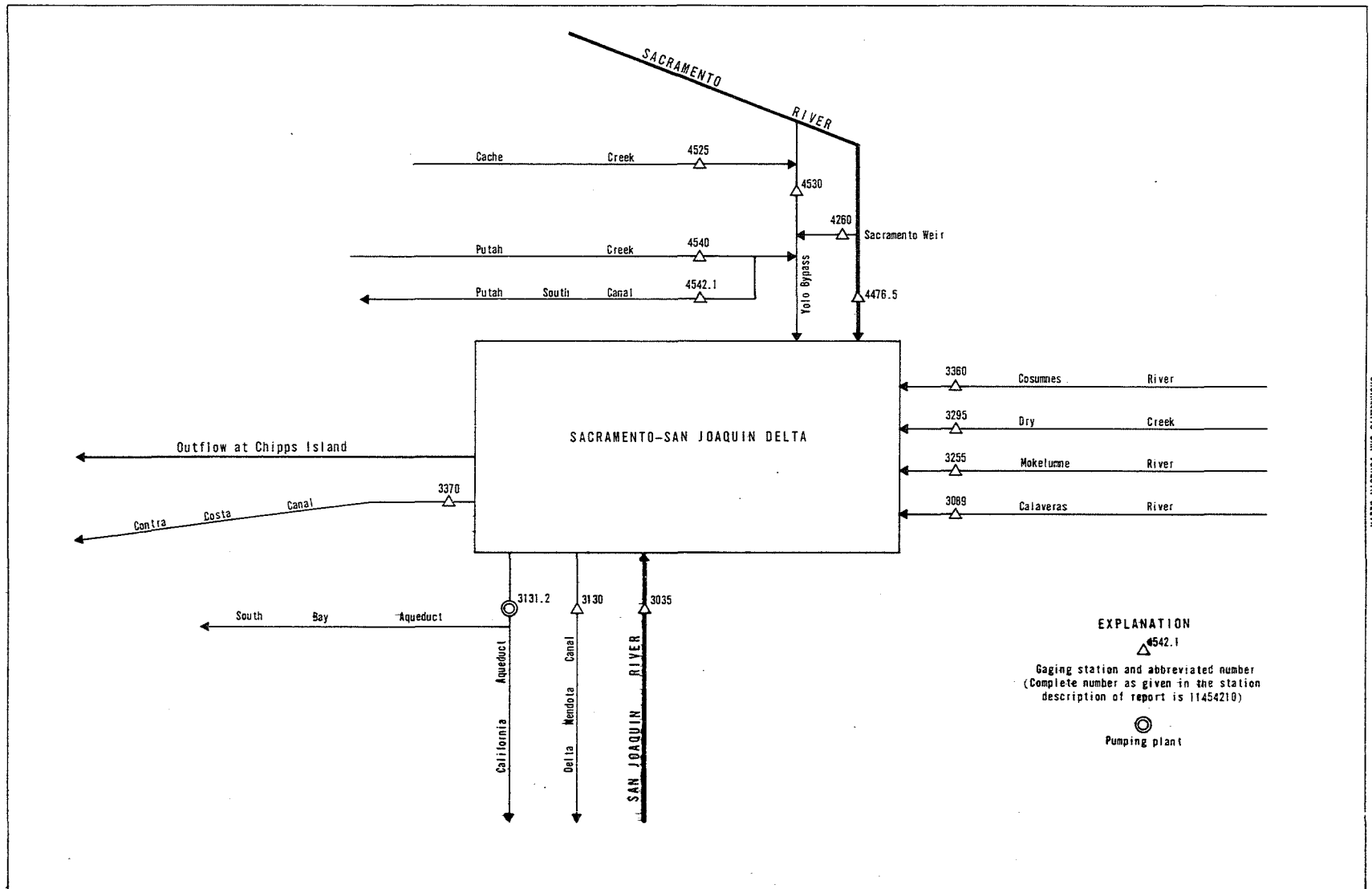


FIGURE 12. -- Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin.

LOCATION.--See schematic diagram of inflows and diversions, Sacramento-San Joaquin Delta.

DRAINAGE AREA.--Total drainage area of inflow streams tabulated below is 39,699 mi² (102,820 km²).

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.

COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals furnished by Bureau of Reclamation, California Aqueduct by California Department of Water Resources.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

Inflows, in thousands of acre-feet												
Month												Water year
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
11303500 SAN JOAQUIN RIVER NEAR VERNALIS												
85.25	93.07	113.9	239.1	369.1	618.7	1366	1147	451.3	378.9	247.0	364.7	5470
11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM												
4.96	2.15	2.24	51.47	63.30	28.41	83.10	11.03	14.10	14.79	15.28	10.68	301.5
11325500 MOKELUMNE RIVER AT WOODBRIDGE												
4.70	5.65	62.23	130.6	111.1	141.8	184.1	216.6	99.03	60.92	33.81	28.64	1079
11329500 DRY CREEK NEAR GALT												
.03	5.06	15.34	70.57	58.71	67.96	89.53	7.41	2.25	.92	.39	.39	318.5
11336000 COSUMNES RIVER AT MCCONNELL												
.41	45.03	102.8	163.5	147.0	176.1	258.5	78.52	18.00	6.17	.52	2.33	998.9
11426000 SACRAMENTO WEIR SPILL												
0	2.06	35.54	9.28	224.5	1.74	121.5	0	0	0	0	0	394.6
11447650 SACRAMENTO RIVER AT FREEPORT												
608.4	1960	3816	3973	3301	3862	4557	2605	1536	1084	1267	1479	30050
114530000 YOLO BYPASS NEAR WOODLAND ^{1/}												
--	220.8	1464	1286	1236	305.7	1884	7.8	--	--	--	--	6404
11454000 PUTAH CREEK NEAR WINTERS												
13.82	5.31	7.33	4.68	3.49	65.37	298.9	38.79	36.55	37.29	36.07	20.47	568.0
Total	717.6	2339	5619	5928	5514	5268	8843	4112	2157	1583	1600	45587

Diversions, in thousands of acre-feet												
Month												Water year
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
11313000 DELTA-MENDOTA CANAL												
129.7	85.40	48.24	110.9	210.1	253.3	205.4	183.4	174.6	179.7	268.2	122.3	1971
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)												
224.8	187.9	266.1	210.6	311.4	383.6	363.4	177.1	45.56	59.47	219.3	182.7	2632
11337000 CONTRA COSTA CANAL												
8.78	5.08	2.43	3.01	2.79	2.97	3.18	8.18	10.15	10.46	11.20	6.96	75.19
11454210 PUTAH SOUTH CANAL												
12.14	2.60	2.63	2.24	2.27	6.75	5.55	29.44	32.06	32.94	32.41	19.21	180.2
Total	375.4	281.0	319.4	326.8	526.6	646.6	577.4	398.1	262.4	282.6	531.1	4858

1. Flow not computed below 1,000 ft³/s.

NOTE.--Minor inflow streams and diversions are not included.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low- or flood-flow analyses, depending on the type of data collected.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum discharge at crest-stage stations.

Discharge measurements made at partial-record stations during water year 1982

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 SE¼NE¼ sec.34, T.36 N., R.5 W., Shasta County, Hydrologic Unit 18020005, 0.1 mi (0.2 km) upstream from mouth, 0.5 mi (0.8 km) south- west of Delta, and 25 mi (40 km) north of Redding.	17.3	1975-82	11-16-81 5-3-82	1,000 63.4
*11433430	Buckeye Canyon Creek tributary near Green- wood, CA	Lat 38°55'20", long 120°57'30", in SW¼NE¼ sec.3, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 3.3 mi (5.3 km) northwest of Greenwood, and 3.5 mi (5.6 km) northeast of Cool.	0.08	1972-82d	2-16-82	1.98
*11433440	Wildcat Canyon Creek near Cool, CA	Lat 38°55'11", long 120°58'11", in NE¼SE¼ sec.4, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 3.3 mi (5.3 km) northeast of Cool and 3.5 mi (5.6 km) northwest of Greenwood.	0.30	1972-82d	4-8-82	0.60
*11433450	Browns Bar Canyon Creek near Cool, CA	Lat 38°54'38", long 120°58'41", in NE¼NW¼ sec.9, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 2.7 mi (4.3 km) northeast of Cool and 3.8 mi (6.1 km) northwest of Greenwood.	0.75	1972-82d	2-16-82 4-8-82	15.7 2.12

* Also a crest-stage partial-record station.
d Discontinued.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations during water year 1982

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (feet)	Discharge (ft ³ /s)
Sacramento River basin							
*11433430	Buckeye Canyon Creek tributary near Greenwood, CA	Lat 38°55'20", long 120°57'30", in SW¼NE¼ sec.3, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 3.3 mi (5.3 km) northwest of Greenwood and 3.5 mi (5.6 km) northeast of Cool.	0.08	1972-73e, 1974-82	4-11-82	0.89	5.3
*11433440	Wildcat Canyon Creek near Cool, CA	Lat 38°55'11", long 120°58'11", in NE¼SE¼ sec.4, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 3.3 mi (5.3 km) northeast of Cool and 3.5 mi (5.6 km) northeast of Greenwood.	0.30	1972-73e, 1974-82	4-11-82	1.15	31
*11433450	Browns Bar Canyon Creek near Cool, CA	Lat 38°54'38", long 120°58'41", in NE¼NW¼ sec.9, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 2.7 mi (4.3 km) northeast of Cool and 3.8 mi (6.1 km) northwest of Greenwood.	0.75	1972-73e, 1974-82	2-15-82	2.03	65
11433900	Paymaster Creek near Cool, CA	Lat 38°53'33", long 120°59'58", in SE¼NW¼ sec.17, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 1.1 mi (1.8 km) northeast of Cool.	0.19	1972-73e, 1974-82	11-21-81	1.75	26

* Also a low-flow partial-record station.

b Estimated.

e Published as miscellaneous measurement.

BUTTE COUNTY

Sacramento Valley (5-21)

SITE NUMBER 392451121451101 LOCAL NUMBER 018N002E16F01M

2 MI WEST OF BIGGS. STOCK WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN, DEPTH 60 FT, PERFORATED 20-60 FT. ALTITUDE OF LSD 80 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1947 TO CURRENT YEAR.

HIGHEST WATER LEVEL 2.6 FEET BELOW LAND SURFACE DATUM APR 24, 1980.

LOWEST WATER LEVEL 9.1 FEET BELOW LAND SURFACE DATUM OCT 30, 1953.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
OCT 13, 1981	5.9

SITE NUMBER 393646121471601 LOCAL NUMBER 020N002E06Q01M

2 MI SOUTH OF DURHAM. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN, DEPTH 383 FT, PERFORATED 10-44 FT. ALTITUDE OF LSD 135 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 5.7 FEET BELOW LAND SURFACE DATUM MAR 15, 1974.

LOWEST WATER LEVEL 31.4 FEET BELOW LAND SURFACE DATUM OCT 18, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13, 1981	20.7	OCT 15, 1981	20.7	MAR 17, 1982	10.7

COLUSA COUNTY

Sacramento Valley (5-21)

SITE NUMBER 390327122054201 LOCAL NUMBER 014N002W16N02M

4 MI NORTHWEST OF ARBUCKLE. CABLE TOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN, DEPTH 136 FT, PERFORATED 124-136 FT. ALTITUDE OF LSD 120 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 30.4 FEET BELOW LAND SURFACE DATUM JAN 13, 1959.

LOWEST WATER LEVEL 74. FEET BELOW LAND SURFACE DATUM JUN 19, 1973.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1981	64.1	MAR 10, 1982	58.2

GROUND WATER

GLENN COUNTY

Sacramento Valley (5-21)

SITE NUMBER 392730121593001 LOCAL NUMBER 019N001W32G01M

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM
3 IN. DEPTH 1333 FT. SCREENED 1328-1333 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO
CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 0.35 FEET BELOW LAND SURFACE DATUM APR 16, 1982.

LOWEST WATER LEVEL 5.31 FEET BELOW LAND SURFACE DATUM NOV 26, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	4.51	NOV 10, 1981	4.25	DEC 20, 1981	1.87	FEB 01, 1982	2.57
02	4.50	11	4.22	21	1.68	02	2.53
03	4.50	12	4.09	22	2.06	03	2.51
04	4.52	13	3.77	23	2.25	04	2.53
05	4.56	14	3.83	24	2.26	05	2.62
06	4.52	15	3.82	25	2.17	06	2.63
07	4.47	16	3.30	26	2.22	07	2.55
08	4.49	17	2.81	27	2.49	08	2.53
09	4.51	18	3.22	28	2.77	09	2.51
10	4.44	19	3.54	29	2.81	10	2.48
11	4.42	20	3.66	30	2.58	11	2.58
12	4.43	21	3.64	31	2.52	12	2.61
13	4.46	22	3.58	JAN 01, 1982	2.56	13	2.50
14	4.50	23	3.38	02	2.61	14	2.22
15	4.50	24	3.09	06	2.36	15	1.96
16	4.51	25	3.18	07	2.73	16	1.56
17	4.52	26	3.20	08	2.75	17	1.10
18	4.50	27	3.22	09	2.77	18	0.96
19	4.48	28	3.10	10	2.75	19	1.12
20	4.46	29	3.38	11	2.75	20	1.18
21	4.46	30	3.51	12	2.79	21	1.12
22	4.48	DEC 01	3.52	13	2.87	22	1.16
23	4.46	02	3.52	14	2.91	24	1.45
24	4.40	03	3.49	15	2.90	25	1.78
25	4.36	04	3.49	16	2.92	26	1.94
26	4.38	05	3.50	17	2.89	27	1.97
27	4.34	06	3.48	18	2.83	28	1.97
28	4.25	07	3.48	19	2.75	MAR 01	1.90
29	4.28	08	3.44	20	2.61	02	1.65
30	4.38	09	3.40	21	2.58	03	1.67
31	4.38	10	3.44	22	2.73	04	1.82
NOV 01	4.35	11	3.39	23	2.79	05	1.85
02	4.29	12	3.40	24	2.71	06	1.86
03	4.24	13	3.38	25	2.60	07	1.80
04	4.21	14	3.29	26	2.56	08	1.83
05	4.23	15	3.23	27	2.52	09	1.84
06	4.26	16	3.26	28	2.47	10	1.78
07	4.28	17	3.31	29	2.43	11	1.65
08	4.28	18	3.21	30	2.56	12	1.65
09	4.25	19	2.66	31	2.57	13	1.69

GLENN COUNTY--Continued

Sacramento Valley (5-21)

Site Number 392730121593001 Local Number 019N001W32G01M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 14, 1982	1.64	MAY 03, 1982	1.00	JUN 22, 1982	1.19	AUG 11, 1982	1.97
15	1.56	04	1.07	23	1.22	12	1.98
16	1.55	05	1.11	24	1.22	13	1.99
17	1.52	06	1.08	25	1.26	14	2.02
18	1.55	07	1.04	26	1.27	15	2.01
19	1.70	08	0.99	27	1.23	16	2.05
20	1.70	09	1.03	28	1.22	17	2.06
21	1.67	10	1.03	29	1.22	18	2.07
22	1.64	11	1.03	30	1.21	19	2.10
23	1.61	12	1.02	JUL 01	1.34	20	2.16
24	1.59	13	1.04	02	1.32	21	2.17
25	1.61	14	1.02	03	1.33	22	2.16
26	1.62	15	1.02	04	1.34	23	2.17
27	1.64	16	1.02	05	1.36	24	2.19
28	1.54	17	0.95	06	1.38	25	2.21
29	1.51	18	0.97	07	1.39	26	2.22
30	1.54	19	0.95	08	1.43	27	2.29
31	1.28	20	0.94	09	1.47	28	2.28
APR 01	0.96	21	0.93	10	1.46	29	2.31
02	1.03	22	0.90	11	1.47	30	2.32
03	1.05	23	0.90	12	1.49	31	2.37
04	1.07	24	0.88	13	1.51	SEP 01	2.42
05	1.12	25	0.84	14	1.49	02	2.42
06	1.15	26	0.80	15	1.45	03	2.43
07	1.22	27	0.82	16	1.48	04	2.44
08	1.25	28	0.86	17	1.52	05	2.43
09	1.25	29	0.86	18	1.55	06	2.46
10	1.20	30	0.90	19	1.58	07	2.43
11	0.84	31	0.89	20	1.61	08	2.46
12	0.63	JUN 01	0.91	21	1.63	09	2.51
13	0.54	02	0.91	22	1.61	10	2.51
14	0.53	03	0.98	23	1.60	11	2.56
15	0.43	04	0.95	24	1.60	12	2.56
16	0.35	05	0.96	25	1.63	13	2.59
17	0.47	06	0.97	26	1.65	14	2.61
18	0.63	07	0.99	27	1.69	15	2.65
19	0.80	08	0.98	28	1.73	16	2.67
20	0.96	09	1.00	29	1.72	17	2.69
21	1.12	10	1.01	30	1.80	18	2.67
22	1.19	11	1.03	31	1.77	19	2.66
23	1.21	12	1.03	AUG 01	1.73	20	2.66
24	1.19	13	1.05	02	1.71	21	2.66
25	1.18	14	1.06	03	1.76	22	2.67
26	1.20	15	1.06	04	1.83	23	2.72
27	1.11	16	1.08	05	1.88	24	2.75
28	1.06	17	1.07	06	1.87	25	2.71
29	1.05	18	1.09	07	1.88	26	2.72
30	1.02	19	1.13	08	1.91	27	2.73
MAY 01	1.00	20	1.14	09	1.92	28	2.75
02	1.00	21	1.16	10	1.95	29	2.78

DATE	WATER LEVEL
SEP 30, 1982	2.82

GROUND WATER

GLENN COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 392730121593002 LOCAL NUMBER 019N001W32602M

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 968 FT, SCREENED 963-968 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 4.90 FEET BELOW LAND SURFACE DATUM APR 16, 1982.

LOWEST WATER LEVEL 12.02 FEET BELOW LAND SURFACE DATUM SEP 08, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	11.59	NOV 10, 1981	10.38	DEC 20, 1981	6.94	JAN 31, 1982	7.47
02	11.55	11	10.32	21	6.70	FEB 01	7.46
03	11.51	12	10.21	22	7.02	02	7.44
04	11.49	13	10.02	23	7.24	03	7.44
05	11.49	14	9.74	24	7.27	04	7.46
06	11.41	15	9.80	25	7.19	05	7.55
07	11.34	16	9.00	26	7.60	06	7.55
08	11.31	17	8.15	27	7.63	07	7.48
09	11.28	18	8.97	28	8.04	08	7.44
10	11.19	19	9.55	29	8.18	09	7.42
11	11.13	20	9.66	30	7.84	10	7.39
12	11.11	21	9.64	31	7.79	11	7.46
13	11.10	22	9.50	JAN 01, 1982	7.86	12	7.52
14	11.11	23	9.37	02	7.92	13	7.42
15	11.09	24	8.59	03	8.08	14	7.00
16	11.07	25	8.82	06	7.49	15	6.51
17	11.05	26	9.02	07	7.84	16	6.06
18	11.01	27	9.06	08	7.99	17	5.32
19	10.96	28	8.79	09	8.09	18	5.16
20	10.92	29	9.18	10	8.11	19	5.30
21	10.90	30	9.37	11	8.09	20	5.40
22	10.90	DEC 01	9.40	12	8.10	21	5.34
23	10.83	02	9.38	13	8.19	22	5.39
24	10.76	03	9.39	14	8.26	23	5.48
25	10.69	04	9.34	15	8.25	24	5.80
26	10.69	05	9.39	16	8.26	25	6.32
27	10.64	06	9.38	17	8.23	26	6.63
28	10.52	07	9.34	18	8.11	27	6.72
29	10.43	08	9.28	19	8.07	28	6.81
30	10.58	09	9.24	20	7.85	MAR 01	6.79
31	10.59	10	9.21	21	7.63	02	6.20
NOV 01	10.55	11	9.15	22	7.76	03	6.34
02	10.49	12	9.18	23	7.81	04	6.62
03	10.43	13	9.12	24	7.76	05	6.70
04	10.39	14	8.92	25	7.64	06	6.72
05	10.40	15	8.83	26	7.57	07	6.68
06	10.41	16	8.93	27	7.44	08	6.70
07	10.43	17	9.00	28	7.32	09	6.71
08	10.42	18	8.86	29	7.19	10	6.66
09	10.39	19	8.00	30	7.42	11	6.51

GLENN COUNTY--Continued

Sacramento Valley (5-21)

Site Number 392730121593002 Local Number 019N001W32G02M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 12, 1982	6.49	MAY 01, 1982	6.00	JUN 20, 1982	7.65	AUG 09, 1982	9.43
13	6.59	02	6.02	21	7.67	10	9.51
14	6.56	03	6.02	22	7.73	11	9.57
15	6.42	04	6.10	23	7.78	12	9.59
16	6.41	05	6.17	24	7.79	13	9.63
17	6.38	06	6.10	25	7.85	14	9.67
18	6.40	07	6.14	26	7.86	15	9.66
19	6.56	08	6.11	27	7.83	16	9.66
20	6.56	09	6.13	28	7.80	17	9.69
21	6.53	10	6.15	29	7.81	18	9.71
22	6.51	11	6.13	30	7.78	19	9.76
23	6.50	12	6.19	JUL 01	7.95	20	9.87
24	6.50	13	6.22	02	7.97	21	9.89
25	6.56	14	6.23	03	7.98	27	10.03
26	6.58	15	6.26	04	8.00	28	10.11
27	6.59	16	6.21	05	8.06	29	10.15
28	6.50	17	6.23	06	8.12	30	10.15
29	6.48	18	6.22	07	8.18	31	10.17
30	6.50	19	6.21	08	8.26	SEP 01	10.21
31	6.06	20	6.24	09	8.32	02	10.24
APR 01	5.42	21	6.28	10	8.32	03	10.24
02	5.60	22	6.26	11	8.37	04	10.26
03	5.69	23	6.34	12	8.42	05	10.26
04	5.65	24	6.33	13	8.48	06	10.29
05	5.83	25	6.38	14	8.47	07	10.28
06	5.92	26	6.38	15	8.45	08	10.31
07	6.02	27	6.43	16	8.48	09	10.34
08	6.09	28	6.46	17	8.51	10	10.33
09	6.14	29	6.53	18	8.53	11	10.33
10	6.14	30	6.65	19	8.57	12	10.32
11	5.74	31	6.68	20	8.64	13	10.33
12	5.14	JUN 01	6.76	21	8.71	14	10.34
13	5.12	02	6.82	22	8.70	15	10.40
14	5.11	03	6.97	23	8.68	16	10.40
15	5.00	04	6.98	24	8.73	17	10.39
16	4.90	05	7.03	25	8.79	18	10.32
17	5.02	06	7.11	26	8.78	19	10.27
18	5.22	07	7.19	27	8.85	20	10.25
19	5.48	08	7.19	28	8.91	21	10.23
20	5.78	09	7.26	29	8.92	22	10.21
21	6.06	10	7.31	30	9.01	23	10.24
22	6.24	11	7.37	31	9.03	24	10.25
23	6.33	12	7.41	AUG 01	9.04	25	10.19
24	6.31	13	7.43	02	9.04	26	10.16
25	6.30	14	7.48	03	9.13	27	10.14
26	6.32	15	7.50	04	9.20	28	10.12
27	6.18	16	7.52	05	9.30	29	10.10
28	6.06	17	7.57	06	9.29	30	10.08
29	6.09	18	7.59	07	9.33		
30	6.08	19	7.64	08	9.39		

GROUND WATER

GLENN COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 392730121593003 LOCAL NUMBER 019N001W32G03M

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN. DEPTH 595 FT. SCREENED 590-595 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 9.33 FEET BELOW LAND SURFACE DATUM MAR 06, 1980.

LOWEST WATER LEVEL 22.49 FEET BELOW LAND SURFACE DATUM AUG 01, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	18.52	NOV 10, 1981	17.11	DEC 20, 1981	12.76	JAN 31, 1982	10.96
02	18.40	11	17.08	21	12.57	FEB 01	10.97
03	18.30	12	16.99	22	12.89	02	10.97
04	18.21	13	16.86	23	12.95	03	10.97
05	18.16	14	16.74	24	12.75	04	10.98
06	18.06	15	16.76	25	12.49	05	11.07
07	17.95	16	16.36	26	12.36	07	11.10
08	17.87	17	15.60	27	12.42	08	11.10
09	17.82	18	16.34	28	12.52	09	11.12
10	17.72	19	16.52	29	12.43	10	11.13
11	17.62	20	16.52	30	12.04	11	11.22
12	17.60	21	16.42	31	11.84	12	11.33
13	17.56	22	16.27	JAN 01, 1982	11.81	13	11.30
14	17.56	23	16.08	02	11.74	14	11.22
15	17.53	24	15.66	03	11.76	15	10.99
16	17.50	25	15.64	06	11.15	16	10.48
17	17.48	26	15.64	07	11.32	17	10.08
18	17.42	27	15.56	08	11.32	18	10.14
19	17.38	28	15.35	09	11.26	19	10.35
20	17.34	29	15.40	10	11.16	20	10.42
21	17.31	30	15.44	11	11.06	21	10.28
22	17.30	DEC 01	15.36	12	11.02	22	10.24
23	17.26	02	15.26	13	11.04	23	10.24
24	17.22	03	15.11	14	11.06	24	10.32
25	17.15	04	15.03	15	11.05	25	10.58
26	17.15	05	14.94	16	11.05	26	10.63
27	17.14	06	14.87	17	11.04	27	10.58
28	17.03	07	14.81	18	11.01	28	10.52
29	17.01	08	14.74	19	10.99	MAR 01	10.40
30	17.13	09	14.66	20	10.88	02	10.03
31	17.14	10	14.63	21	10.76	03	10.08
NOV 01	17.13	11	14.55	22	10.94	04	10.23
02	17.10	12	14.52	23	11.00	05	10.26
03	17.07	13	14.47	24	10.98	06	10.27
04	17.06	14	14.34	25	10.92	07	10.23
05	17.06	15	14.25	26	10.89	08	10.24
06	17.08	16	14.26	27	10.87	09	10.26
07	17.11	17	14.27	28	10.82	10	10.23
08	17.12	18	14.18	29	10.74	11	10.16
09	17.11	19	13.58	30	10.90	12	10.16

GLENN COUNTY--Continued

Sacramento Valley (5-21)

Site Number 392730121593003 Local Number 019N001W32G03M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 13, 1982	10.23	MAY 02, 1982	10.50	JUN 21, 1982	16.25	AUG 10, 1982	20.60
14	10.23	03	10.56	22	16.40	11	20.69
15	10.17	04	10.69	23	16.51	12	20.88
16	10.19	05	10.78	24	16.66	13	21.01
17	10.20	06	10.90	25	17.01	14	21.15
18	10.24	07	10.99	26	17.45	15	21.26
19	10.38	08	11.09	27	17.87	16	21.18
20	10.42	09	11.22	28	18.18	17	21.06
21	10.43	10	11.38	29	18.46	18	20.94
22	10.44	11	11.53	30	18.64	19	20.87
23	10.45	12	11.73	JUL 01	18.87	20	20.85
24	10.47	13	11.97	02	18.98	21	20.85
25	10.52	14	12.19	03	18.94	22	20.83
26	10.56	15	12.40	04	18.78	23	20.87
27	10.62	16	12.59	05	18.55	24	21.01
28	10.60	17	12.69	06	18.26	25	21.24
29	10.61	18	12.82	07	18.06	26	21.41
30	10.66	19	12.94	08	17.98	27	21.54
31	10.50	20	13.08	09	17.97	28	21.34
APR 01	10.20	21	13.30	10	18.04	29	21.18
02	10.34	22	13.62	11	18.16	30	21.05
03	10.43	23	14.00	12	18.23	31	20.89
04	10.44	24	14.35	13	18.26	SEP 01	20.68
05	10.61	25	14.64	14	18.28	02	20.48
06	10.64	26	14.94	15	18.30	03	20.32
07	10.68	27	15.32	16	18.35	04	20.28
08	10.70	28	15.64	17	18.41	05	20.29
09	10.70	29	15.88	18	18.50	06	20.25
10	10.68	30	16.05	19	18.70	07	20.21
11	10.34	31	16.16	20	18.98	08	20.28
12	10.04	JUN 01	16.27	21	19.30	09	20.23
13	10.02	02	16.36	22	19.66	10	20.06
14	10.00	03	16.44	23	19.96	11	19.92
15	9.91	04	16.44	24	20.25	12	19.73
16	9.78	05	16.40	25	20.58	13	19.52
17	9.88	06	16.34	26	20.75	14	19.32
18	9.98	07	16.31	27	20.68	15	19.17
19	10.08	08	16.26	28	20.56	16	19.14
20	10.18	09	16.20	29	20.47	17	19.17
21	10.27	10	16.12	30	20.44	18	19.07
22	10.30	11	16.07	31	20.51	19	18.87
23	10.30	12	15.99	AUG 01	20.75	20	18.66
24	10.27	13	15.94	02	21.05	21	18.48
25	10.27	14	15.87	03	21.30	22	18.28
26	10.29	15	15.81	04	21.40	23	18.13
27	10.27	16	15.81	05	21.31	24	17.95
28	10.27	17	15.88	06	21.17	25	17.73
29	10.34	18	15.96	07	21.06	26	17.56
30	10.39	19	16.06	08	20.97	27	17.42
MAY 01	10.42	20	16.13	09	20.77	28	17.28

DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 29, 1982	17.18	SEP 30, 1982	17.10

SITE NUMBER 393111122155901 LOCAL NUMBER 019N004W12E01M

3.6 MI WEST OF WILLOWS. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 162 FT, PERFORATED 150-162 FT. ALTITUDE OF LSD 174 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1964 TO CURRENT YEAR.

HIGHEST WATER LEVEL 25.1 FEET BELOW LAND SURFACE DATUM SEP 21, 1982.

LOWEST WATER LEVEL 113. FEET BELOW LAND SURFACE DATUM AUG 11, 1975.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1981	34.7	JAN 21, 1982	32.4	MAY 18, 1982	30.9	SEP 21, 1982	25.1
09	34.7	FEB 18	31.2	JUN 24	28.4		
NOV 17	34.2	MAR 09	31.4	JUL 20	27.4		
DEC 16	34.0	APR 22	28.9	AUG 19	26.3		

GROUND WATER

LAKE COUNTY

Kelseyville Valley (5-15)

SITE NUMBER 385952122523301 LOCAL NUMBER 013N009W05R05M

NEAR FINLEY. DRILLED IRRIGATION WATER-TABLE WELL. DIAM 8 IN, DEPTH 185 FT, PERFORATED 72-165 FT.
ALTITUDE OF LSD 1355 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 8.5 FEET BELOW LAND SURFACE DATUM MAR 29, 1982.

LOWEST WATER LEVEL 49.0 FEET BELOW LAND SURFACE DATUM NOV 03, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1981	32.8	MAR 29, 1982	8.5

SITE NUMBER 385935122520401 LOCAL NUMBER 013N009W09F02M

NEAR KELSEYVILLE. DRILLED IRRIGATION WATER-TABLE WELL. DIAM 12 IN, DEPTH 48 FT, PERFORATED 40-48 FT.
ALTITUDE OF LSD 1358 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.8 FEET BELOW LAND SURFACE DATUM APR 01, 1980.

LOWEST WATER LEVEL 41.9 FEET BELOW LAND SURFACE DATUM OCT 08, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20, 1981	32.1	MAR 29, 1982	5.8

SITE NUMBER 390355122565601 LOCAL NUMBER 014N010W15H01M

NEAR LAKEPORT. DRILLED IRRIGATION WATER-TABLE WELL. DIAM 12 IN, DEPTH 108 FT, PERFORATED 96-108 FT.
ALTITUDE OF LSD 1445 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
RECORDS AVAILABLE 1963 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4. FEET BELOW LAND SURFACE DATUM JAN 27, 1969.

LOWEST WATER LEVEL 57.1 FEET BELOW LAND SURFACE DATUM NOV 02, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19, 1981	40.5	MAR 29, 1982	9.8

LASSEN COUNTY

Honey Lake Valley (6-4)

SITE NUMBER 402106120231201 LOCAL NUMBER 029N014E22Q01M

0.7 MI EAST OF STANDISH. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DEPTH 91 FT. ALTITUDE OF LSD 4023 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 3.5 FEET BELOW LAND SURFACE DATUM APR 12, 1958.

LOWEST WATER LEVEL 51.1 FEET BELOW LAND SURFACE DATUM APR 01, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1981	28.4	APR 30, 1982	12.6

Madeline Plains Basin (6-2)

SITE NUMBER 405156120275201 LOCAL NUMBER 035N013E26J02M

1.8 MI NORTHWEST OF RAVENDALE. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH UNKNOWN. ALTITUDE OF LSD 5296 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1967 TO CURRENT YEAR.

HIGHEST WATER LEVEL 12.3 FEET BELOW LAND SURFACE DATUM OCT 09, 1980.

LOWEST WATER LEVEL 50.5 FEET BELOW LAND SURFACE DATUM APR 01, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
APR 30, 1982	49.3

Big Valley (5-4)

SITE NUMBER 410754120043001 LOCAL NUMBER 038N008E17K01M

3.2 MI EAST OF BIEBER. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN. DEPTH 180 FT. PERFORATED 150-180 FT. ALTITUDE OF LSD 4150 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 3.3 FEET BELOW LAND SURFACE DATUM MAR 17, 1970.

LOWEST WATER LEVEL 21.7 FEET BELOW LAND SURFACE DATUM OCT 24, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1981	18.8	APR 29, 1982	7.1

GROUND WATER

MODOC COUNTY

Surprise Valley (6-1)

SITE NUMBER 411722120061501 LOCAL NUMBER 040N016E36G02M

2 MI SOUTH OF EAGLEVILLE. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL. DIAM 14 IN, DEPTH 400 FT. PERFORATED 63-400 FT. ALTITUDE OF LSD 4625 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 60.2 FEET BELOW LAND SURFACE DATUM MAR 27, 1973.

LOWEST WATER LEVEL 105.0 FEET BELOW LAND SURFACE DATUM NOV 01, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1981	105.0	APR 27, 1982	73.2

Alturas Basin (5-2)

SITE NUMBER 412516120434601 LOCAL NUMBER 041N011E05L03M

9.2 MI SOUTHWEST OF ALTURAS. CABLE TOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN, DEPTH 47 FT. ALTITUDE OF LSD 4320 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1965 TO CURRENT YEAR.

HIGHEST WATER LEVEL 5.8 FEET BELOW LAND SURFACE DATUM APR 27, 1982.

LOWEST WATER LEVEL 10.0 FEET BELOW LAND SURFACE DATUM OCT 12, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12, 1981	10.0	APR 27, 1982	5.8

SITE NUMBER 412318120342001 LOCAL NUMBER 041N012E15Q01M

6.8 MI SOUTH OF ALTURAS. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL. DIAM 16 IN, DEPTH 300 FT. ALTITUDE OF LSD 4400 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1978 TO CURRENT YEAR.

HIGHEST WATER LEVEL 37.20 FEET BELOW LAND SURFACE DATUM APR 01, 1980.

LOWEST WATER LEVEL 46.0 FEET BELOW LAND SURFACE DATUM OCT 12, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12, 1981	46.0	APR 27, 1982	38.5

Surprise Valley (6-1)

SITE NUMBER 413714120110601 LOCAL NUMBER 043N016E06R02M

2 MI SOUTHEAST OF LAKE CITY. CABLE TOOL IRRIGATION WATER-TABLE WELL. DIAM 12 IN, DEPTH 300 FT. PERFORATED 50-300 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 5.8 FEET BELOW LAND SURFACE DATUM OCT 28, 1982.

LOWEST WATER LEVEL 73.7 FEET BELOW LAND SURFACE DATUM OCT 17, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28, 1981	67.0	APR 27, 1982	49.5

MODOC COUNTY--Continued

Surprise Valley (6-1)

SITE NUMBER 413300120101401 LOCAL NUMBER 043N016E32K01M

1.6 MI NORTH OF CEDARVILLE. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL. DIAM 8 IN, DEPTH 290 FT, PERFORATED 140-160 FT. ALTITUDE OF LSD 4645 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1971 TO CURRENT YEAR.

HIGHEST WATER LEVEL 94.0 FEET BELOW LAND SURFACE DATUM MAR 16, 1977.

LOWEST WATER LEVEL 134.0 FEET BELOW LAND SURFACE DATUM OCT 28, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28, 1981	134.0	APR 27, 1982	123.0

Goose Lake Valley (5-1)

SITE NUMBER 414402120224501 LOCAL NUMBER 045N014E17P01M

6.4 MI WEST OF DAVIS CREEK. CABLE TOOL UNUSED WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 18 IN, DEPTH 222 FT. ALTITUDE OF LSD 4798 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 45.1 FEET BELOW LAND SURFACE DATUM MAR 15, 1972.

LOWEST WATER LEVEL 68.8 FEET BELOW LAND SURFACE DATUM OCT 29, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1981	68.8	APR 28, 1982	59.3

Surprise Valley (6-1)

SITE NUMBER 415254120082201 LOCAL NUMBER 046N016E04Q01M

2 MI NORTH OF FORT BIDWELL. UNUSED WATER-TABLE WELL. DIAM 14 IN, DEPTH 200 FT. ALTITUDE OF LSD 4600 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1967 TO CURRENT YEAR.

HIGHEST WATER LEVEL 67.0 FEET BELOW LAND SURFACE DATUM APR 24, 1973.

LOWEST WATER LEVEL 89.5 FEET BELOW LAND SURFACE DATUM OCT 16, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
APR 27, 1982	83.0

NEVADA COUNTY

Martis Valley (6-67)

SITE NUMBER 391914120122501 LOCAL NUMBER 017N016E16L01M

0.2 MI SOUTHWEST OF TRUCKEE. CABLE TOOL PUBLIC SUPPLY WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 85 FT, CASED TO 85 FT, PERFORATED 30-85 FT. ALTITUDE OF LSD 5880 FT. RECORDS AVAILABLE 1961 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.2 FEET BELOW LAND SURFACE DATUM MAY 21, 1979.

LOWEST WATER LEVEL 39.9 FEET BELOW LAND SURFACE DATUM JUL 06, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 10, 1981	20.5	JUL 02, 1982	14.4

GROUND WATER

PLACER COUNTY

Sacramento Valley (5-21)

SITE NUMBER 385054121232301 LOCAL NUMBER 012N005E35E02M

5.6 MI NORTHEAST OF PLEASANT GROVE. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN, DEPTH 352 FT. ALTITUDE OF LSD 90 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1949 TO CURRENT YEAR.

HIGHEST WATER LEVEL 28.7 FEET BELOW LAND SURFACE DATUM APR 06, 1950.

LOWEST WATER LEVEL 108.3 FEET BELOW LAND SURFACE DATUM OCT 06, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1981	108.3	MAR 25, 1982	93.4

SACRAMENTO COUNTY

Sacramento Valley (5-21)

SITE NUMBER 382039121131901 LOCAL NUMBER 006N007E28E01M

3.2 MI WEST OF CLAY. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN, DEPTH 225 FT. ALTITUDE OF LSD 75 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 34.4 FEET BELOW LAND SURFACE DATUM FEB 11, 1953.

LOWEST WATER LEVEL 124.8 FEET BELOW LAND SURFACE DATUM AUG 31, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14, 1981	118.6	JAN 26, 1982	111.6	APR 27, 1982	107.2	AUG 30, 1982	123.6
28	118.9	FEB 23	110.2	MAY 26	113.5	SEP 27	120.2
NOV 24	116.0	MAR 23	108.9	JUN 29	118.7		
DEC 30	113.2	30	108.5	JUL 29	121.3		

SITE NUMBER 382627121172801 LOCAL NUMBER 007N006E23P01M

4.8 MI NORTHEAST OF ELK GROVE. CABLE TOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 12 TO 8 IN, DEPTH 144 FT, 12 IN CSG 0-42 FT, 8 IN CSG 42-144 FT. ALTITUDE OF LSD 77 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1968 TO CURRENT YEAR.

HIGHEST WATER LEVEL 77.3 FEET BELOW LAND SURFACE DATUM MAR 25, 1969.

LOWEST WATER LEVEL 105.9 FEET BELOW LAND SURFACE DATUM AUG 31, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28, 1981	102.3	JAN 26, 1982	97.4	APR 27, 1982	93.6	JUL 29, 1982	102.2
NOV 24	99.4	FEB 23	96.2	MAY 26	97.5	AUG 30	102.3
DEC 30	98.1	MAR 30	94.9	JUN 29	101.6	SEP 27	99.3

SITE NUMBER 383143121200001 LOCAL NUMBER 008N006E21N02M

4 MI NORTHEAST OF FLORIN. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 175 FT. ALTITUDE OF LSD 65 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1962 TO CURRENT YEAR.

HIGHEST WATER LEVEL 61.6 FEET BELOW LAND SURFACE DATUM MAR 15, 1963.

LOWEST WATER LEVEL 82.9 FEET BELOW LAND SURFACE DATUM OCT 20, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1981	82.7	OCT 20, 1981	82.9	MAR 01, 1982	78.1	APR 23, 1982	78.0

SHASTA COUNTY

Redding Basin (5-6)

SITE NUMBER 402318122233001 LOCAL NUMBER 029N005W11A02M

4 MI SOUTH OF OLINDA. CABLE TOOL IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN. DEPTH 360 FT. PERFORATED 110-150 FT. ALTITUDE OF LSD 518 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 27.4 FEET BELOW LAND SURFACE DATUM MAR 09, 1981.

LOWEST WATER LEVEL 120.5 FEET BELOW LAND SURFACE DATUM AUG 04, 1970.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
OCT 14, 1981	59.1

Honey Lake Valley (6-4)

SITE NUMBER 402334120353401 LOCAL NUMBER 029N012E11B01M

1 MI SOUTHEAST OF SUSANVILLE. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN. DEPTH 120 FT. PERFORATED 105-120 FT. ALTITUDE OF LSD 4125 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.8 FEET BELOW LAND SURFACE DATUM FEB 16, 1973.

LOWEST WATER LEVEL 17.7 FEET BELOW LAND SURFACE DATUM JUN 28, 1972.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20, 1981	13.1	OCT 21, 1981	13.1	APR 30, 1982	6.1

Redding Basin (5-6)

SITE NUMBER 403242122185001 LOCAL NUMBER 031N004W16H01M

4 MI SOUTHEAST OF REDDING. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 5 IN. DEPTH 140 FT. PERFORATED 70-140 FT. ALTITUDE OF LSD 512 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1968 TO CURRENT YEAR.

HIGHEST WATER LEVEL 97.8 FEET BELOW LAND SURFACE DATUM APR 01, 1969.

LOWEST WATER LEVEL 135.1 FEET BELOW LAND SURFACE DATUM SEP 22, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1981	118.0	JAN 22, 1982	111.2	APR 23, 1982	101.2	JUL 21, 1982	112.0
NOV 17	114.3	FEB 18	108.8	MAY 18	105.5	AUG 20	114.5
DEC 15	110.6	MAR 24	103.1	JUN 23	110.5	SEP 20	113.5

Fall River Valley (5-5)

SITE NUMBER 410342121281001 LOCAL NUMBER 037N004E11A01M

4 MI WEST OF MCARTHUR. DOMESTIC WATER-TABLE WELL. DIAM 6 IN. DEPTH 185 FT. PERFORATED 74-94 FT. ALTITUDE OF LSD 3310 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1959 TO CURRENT YEAR.

HIGHEST WATER LEVEL 26.5 FEET BELOW LAND SURFACE DATUM MAY 09, 1978.

LOWEST WATER LEVEL 56.3 FEET BELOW LAND SURFACE DATUM OCT 06, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1981	56.3	OCT 08, 1981	55.3	APR 26, 1982	26.6

GROUND WATER

SIERRA COUNTY

Sierra Valley (5-12)

SITE NUMBER 393448120221001 LOCAL NUMBER 020N014E13Q02M

0.4 MI NORTHWEST OF SIERRAVILLE. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 31 FT.
 ALTITUDE OF LSD 4986 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
 RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 0.3 FEET ABOVE LAND SURFACE DATUM MAR 31, 1962.

LOWEST WATER LEVEL 6.3 FEET BELOW LAND SURFACE DATUM MAR 21, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1981	5.1	APR 27, 1982	2.3

SISKIYOU COUNTY

Shasta Valley (1-4)

SITE NUMBER 412818122261801 LOCAL NUMBER 042N005W20J01M

1.6 MI NORTHWEST OF EDGEWOOD. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN, DEPTH 40 FT.
 ALTITUDE OF LSD 2882 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
 RECORDS AVAILABLE 1953 TO CURRENT YEAR.

HIGHEST WATER LEVEL 2.0 FEET BELOW LAND SURFACE DATUM OCT 03, 1972.

LOWEST WATER LEVEL 9.10 FEET BELOW LAND SURFACE DATUM MAR 27, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
OCT 07, 1981	6.8

Scott River Valley (1-5)

SITE NUMBER 413348122495001 LOCAL NUMBER 043N009W24F01M

4 MI EAST OF GREENVIEW. CABLE TOOL IRRIGATION WATER-TABLE WELL. DIAM 16 IN, DEPTH 204 FT,
 PERFORATED 18-200 FT. ALTITUDE OF LSD 2735 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT
 OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 1.8 FEET BELOW LAND SURFACE DATUM APR 10, 1974.

LOWEST WATER LEVEL 20.0 FEET BELOW LAND SURFACE DATUM OCT 07, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1981	20.0	APR 22, 1982	3.9

Shasta Valley (1-4)

SITE NUMBER 413823122311401 LOCAL NUMBER 044N006W27B01M

0.8 MI SOUTH OF GRENADA. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL. DIAM 6 IN, DEPTH 110 FT,
 PERFORATED 50-110 FT. ALTITUDE OF LSD 2560 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT
 OF WATER RESOURCES. RECORDS AVAILABLE 1975 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.9 FEET BELOW LAND SURFACE DATUM APR 20, 1982.

LOWEST WATER LEVEL 15.6 FEET BELOW LAND SURFACE DATUM NOV 01, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1981	12.6	APR 20, 1982	10.9

SISKIYOU COUNTY--Continued

Butte Valley (1-3)

SITE NUMBER 414641122001201 LOCAL NUMBER 045N001W06A01M

1.2 MI SOUTH OF MT. HEBRON. CABLE TOOL IRRIGATION WATER-TABLE WELL. DIAM 16 IN, DEPTH 40 FT. ALTITUDE OF LSD 4257 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1971 TO CURRENT YEAR.

HIGHEST WATER LEVEL 24.7 FEET BELOW LAND SURFACE DATUM OCT 28, 1971.

LOWEST WATER LEVEL 73.8 FEET BELOW LAND SURFACE DATUM OCT 29, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1981	73.8	APR 21, 1982	39.0

SITE NUMBER 415428121534001 LOCAL NUMBER 047N001E20D01M

4 MI SOUTH OF DORRIS. CABLE TOOL IRRIGATION WATER-TABLE WELL. DIAM 16 IN, DEPTH 240 FT, PERFORATED 60-240 FT. ALTITUDE OF LSD 4240 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1971 TO CURRENT YEAR.

HIGHEST WATER LEVEL 21.6 FEET BELOW LAND SURFACE DATUM MAR 30, 1972.

LOWEST WATER LEVEL 38.8 FEET BELOW LAND SURFACE DATUM OCT 08, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08, 1981	38.8	APR 21, 1982	31.9

SITE NUMBER 415339121574901 LOCAL NUMBER 047N001W27B01M

4.8 MI NORTHEAST OF MACDOEL. CABLE TOOL UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 2 IN, DEPTH 40 FT, PERFORATED 30-40 FT. ALTITUDE OF LSD 4233 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1951 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.8 FEET BELOW LAND SURFACE DATUM APR 17, 1975.

LOWEST WATER LEVEL 15.1 FEET BELOW LAND SURFACE DATUM NOV 26, 1951.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
OCT 08, 1981	11.2

GROUND WATER

SOLANO COUNTY

Sacramento Valley (5-21)

SITE NUMBER 381218121524101 LOCAL NUMBER 004N001E09M01M

NEAR DENVERTON. DRILLED STOCK WATER-TABLE WELL IN TEHAMA FORMATION OF PLIOCENE AGE. DIAM 6 IN, DEPTH 285 FT. PERFORATED 174-176, 242-252, 269-285 FT. ALTITUDE OF LSD 95 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1975 TO CURRENT YEAR.

HIGHEST WATER LEVEL 60.4 FEET BELOW LAND SURFACE DATUM JUL 17, 1975.

LOWEST WATER LEVEL 62.7 FEET BELOW LAND SURFACE DATUM OCT 02, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	61.6	MAR 05, 1982	61.0

SITE NUMBER 381543122052601 LOCAL NUMBER 005N002W21P03M

NEAR FAIRFIELD. DRILLED DOMESTIC WATER-TABLE WELL IN ALLUVIUM OF QUATERNARY AGE. DIAM 10 IN, DEPTH 204 FT. ALTITUDE OF LSD 60 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1959 TO CURRENT YEAR.

HIGHEST WATER LEVEL 2.0 FEET BELOW LAND SURFACE DATUM FEB 26, 1980.

LOWEST WATER LEVEL 47.5 FEET BELOW LAND SURFACE DATUM OCT 03, 1960.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28, 1981	10.8	JAN 28, 1982	3.9	MAR 22, 1982	4.3	JUL 28, 1982	7.3
NOV 23	10.9	FEB 23	3.9	APR 28	4.7	AUG 24	8.9
DEC 28	8.7	MAR 10	5.1	MAY 25	6.6	SEP 28	9.4

SITE NUMBER 382103121470901 LOCAL NUMBER 006N002E19J01M

6 MI EAST OF ELMIRA. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 5 IN, DEPTH 182 FT. ALTITUDE OF LSD 23 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1974 TO CURRENT YEAR.

HIGHEST WATER LEVEL 7.1 FEET BELOW LAND SURFACE DATUM MAR 04, 1982.

LOWEST WATER LEVEL 30.4 FEET BELOW LAND SURFACE DATUM OCT 05, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1981	15.9	MAR 04, 1982	7.1

SITE NUMBER 382419121513301 LOCAL NUMBER 007N001E33R01M

4 MI SOUTHWEST OF DIXON. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 86 FT. ALTITUDE OF LSD 86 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES, U.S. GEOLOGICAL SURVEY, U.S. BUREAU OF RECLAMATION. RECORDS AVAILABLE 1941 TO CURRENT YEAR.

HIGHEST WATER LEVEL 0.8 FEET BELOW LAND SURFACE DATUM FEB 19, 1969.

LOWEST WATER LEVEL 29.4 FEET BELOW LAND SURFACE DATUM JUL 15, 1949.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24, 1981	9.5	JAN 28, 1982	3.0	APR 28, 1982	3.1	JUL 28, 1982	5.4
NOV 24	8.7	FEB 22	2.6	MAY 26	3.6	AUG 24	6.0
DEC 28	6.3	MAR 22	3.5	JUN 28	5.2	SEP 27	8.2

SUTTER COUNTY

Sacramento Valley (5-21)

SITE NUMBER 385501121361901 LOCAL NUMBER 012N003E02G01M

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 1081 FT, CASED TO 1081 FT, SCREENED 1066-1071 FT. ALTITUDE OF LSD 32.54 FT. RECORDS AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 16.46 FEET BELOW LAND SURFACE DATUM APR 16, 1982.

LOWEST WATER LEVEL 33.88 FEET BELOW LAND SURFACE DATUM SEP 09, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	32.07	NOV 10, 1981	27.37	DEC 20, 1981	23.47	JAN 29, 1982	21.65
02	31.96	11	27.28	21	22.91	30	21.59
03	31.84	12	27.12	22	22.69	31	21.51
04	31.72	13	26.90	23	22.74	FEB 01	21.38
05	31.62	14	26.74	24	22.84	02	21.20
06	31.50	15	26.65	25	22.90	03	21.12
07	31.30	16	26.54	26	22.95	04	21.29
08	31.14	17	26.51	27	23.03	05	21.48
09	31.00	18	26.50	28	23.06	06	21.70
10	30.84	19	26.32	29	22.97	07	21.67
11	30.70	20	26.11	30	22.85	08	21.60
12	30.60	21	26.00	31	22.64	09	21.57
13	30.48	22	25.93	JAN 01, 1982	22.47	10	21.48
14	30.40	23	25.83	02	22.43	11	21.46
15	30.32	24	25.68	03	22.49	12	21.49
16	30.18	25	25.40	04	22.47	13	21.42
17	30.08	26	24.94	05	22.47	14	21.31
18	29.96	27	24.65	06	22.48	15	21.16
19	29.84	28	24.62	07	22.46	16	20.84
20	29.70	29	24.73	08	22.43	17	20.18
21	29.56	30	24.89	09	22.39	18	19.80
22	29.46	DEC 01	25.00	10	22.38	19	19.73
23	29.32	02	25.01	11	22.42	20	19.73
24	29.14	03	25.03	12	22.42	21	19.78
25	28.96	04	25.02	13	22.41	22	19.85
26	28.87	05	24.97	14	22.46	23	19.90
27	28.74	06	24.94	15	22.46	24	19.87
28	28.56	07	24.90	16	22.40	25	19.61
29	28.44	08	24.84	17	22.36	26	19.80
30	28.41	09	24.79	18	22.20	27	19.82
31	28.36	10	24.79	19	22.06	28	19.84
NOV 01	28.28	11	24.72	20	22.16	MAR 01	19.80
02	28.13	12	24.66	21	22.25	02	19.75
03	27.99	13	24.66	22	22.22	03	19.73
04	27.84	14	24.64	23	22.07	04	19.67
05	27.73	15	24.57	24	21.92	05	19.65
06	27.67	16	24.49	25	21.84	06	19.22
07	27.60	17	24.41	26	21.85	07	19.04
08	27.55	18	24.28	27	21.74	08	19.00
09	27.46	19	24.02	28	21.70	09	19.02

GROUND WATER

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

Site Number 385501121361901 Local Number 012N003E02G01M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 10, 1982	18.99	APR 29, 1982	17.10	JUN 18, 1982	21.52	AUG 07, 1982	25.12
11	18.88	30	17.05	19	21.57	08	25.14
12	18.78	MAY 01	17.00	20	21.59	09	25.14
13	18.69	02	16.97	21	21.60	10	25.18
14	18.60	03	16.95	22	21.66	11	25.25
15	18.55	04	16.91	23	21.78	12	25.31
16	18.51	05	16.89	24	21.87	13	25.36
17	18.42	06	16.91	25	21.95	14	25.42
18	18.36	07	16.89	26	22.03	15	25.51
19	18.39	08	16.83	27	22.16	16	25.58
20	18.42	09	16.80	28	22.25	17	25.60
21	18.41	10	16.81	29	22.23	18	25.68
22	18.41	11	16.84	30	22.31	19	25.76
23	18.38	12	16.88	JUL 01	22.41	20	25.81
24	18.35	13	16.93	02	22.47	21	25.82
25	18.34	14	17.01	03	22.66	22	25.82
26	18.31	15	17.11	04	22.78	23	25.82
27	18.30	16	17.24	05	22.81	24	25.86
28	18.27	17	17.35	06	22.90	25	25.90
29	18.27	18	17.48	07	23.02	26	25.93
30	18.29	19	17.65	08	23.10	27	25.98
31	18.22	20	17.82	09	23.11	28	25.98
APR 01	18.00	21	17.99	10	23.14	29	26.04
02	17.80	22	18.17	11	23.26	30	26.19
03	17.65	23	18.34	12	23.48	31	26.27
04	17.47	24	18.50	13	23.52	SEP 01	26.33
05	17.35	25	18.64	14	23.44	02	26.36
06	17.32	26	18.78	15	23.39	03	26.31
07	17.38	27	18.97	16	23.46	04	26.34
08	17.43	28	19.19	17	23.56	05	26.35
09	17.44	29	19.36	18	23.67	06	26.36
10	17.42	30	19.54	19	23.74	07	26.39
11	17.30	31	19.72	20	23.82	08	26.43
12	17.12	JUN 01	19.89	21	23.90	09	26.47
13	16.84	02	20.04	22	23.96	10	26.48
14	16.60	03	20.16	23	24.03	11	26.49
15	16.48	04	20.35	24	24.12	12	26.52
16	16.46	05	20.49	25	24.21	13	26.56
17	16.50	06	20.61	26	24.30	14	26.57
18	16.58	07	20.71	27	24.40	15	26.57
19	16.64	08	20.80	28	24.51	16	26.58
20	16.72	09	20.88	29	24.59	17	26.58
21	16.82	10	20.95	30	24.69	18	26.55
22	16.93	11	21.05	31	24.75	19	26.49
23	16.99	12	21.13	AUG 01	24.79	20	26.45
24	17.04	13	21.21	02	24.87	21	26.40
25	17.08	14	21.29	03	24.95	22	26.36
26	17.12	15	21.35	04	25.01	23	26.32
27	17.14	16	21.38	05	25.06	24	26.28
28	17.14	17	21.43	06	25.09	25	26.20
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 26, 1982	26.08	SEP 28, 1982	25.88	29	25.78	SEP 30, 1982	25.69
27	25.98						

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 385501121361902 LOCAL NUMBER 012N003E02G02M

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
 DIAM 3 IN, DEPTH 721 FT, CASED TO 711 FT, SCREENED 706-711 FT. ALTITUDE OF LSD 32.54 FT. RECORDS
 AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 13.32 FEET BELOW LAND SURFACE DATUM APR 17, 1982.

LOWEST WATER LEVEL 26.94 FEET BELOW LAND SURFACE DATUM SEP 08, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	25.94	NOV 10, 1981	22.74	JAN 05, 1982	17.90	MAR 01, 1982	15.55
02	25.88	11	22.68	17	17.80	02	15.55
03	25.80	12	22.54	18	17.64	03	15.57
04	25.72	14	22.24	19	17.68	04	15.53
05	25.65	15	22.19	20	17.74	05	15.47
06	25.54	16	22.12	21	17.76	06	15.47
07	25.38	17	22.09	22	17.74	07	15.44
08	25.28	18	22.08	23	17.64	08	15.42
09	25.18	19	21.94	24	17.53	09	15.44
10	25.06	20	21.80	25	17.50	10	15.40
11	24.96	21	21.67	26	17.49	11	15.32
12	24.88	22	21.60	27	17.37	12	15.28
13	24.79	23	21.53	28	17.38	13	15.24
14	24.73	24	21.45	29	17.36	14	15.15
15	24.66	25	21.28	30	17.28	15	15.13
16	24.59	26	20.92	31	17.20	16	15.08
17	24.53	27	20.58	FEB 01	17.17	17	15.00
18	24.45	28	20.45	02	17.13	18	14.99
19	24.36	29	20.44	03	17.05	19	15.05
20	24.29	30	20.48	04	17.04	20	15.04
21	24.21	DEC 01	20.52	05	17.08	21	15.01
22	24.16	02	20.56	06	17.09	22	14.99
23	24.08	03	20.59	07	17.04	23	14.98
24	23.96	04	20.58	08	17.01	24	14.97
25	23.84	05	20.57	09	16.98	25	14.97
26	23.76	06	20.54	10	16.94	26	14.98
27	23.66	07	20.52	11	16.93	27	15.00
28	23.49	08	20.46	12	16.96	28	14.96
29	23.44	09	20.39	13	16.90	29	14.92
30	23.42	10	20.38	14	16.81	30	14.91
31	23.38	11	20.30	15	16.68	31	14.82
NOV 01	23.30	12	20.24	16	16.54	APR 01	14.70
02	23.20	13	20.23	17	16.15	02	14.56
03	23.12	14	20.21	22	15.47	05	14.15
04	23.04	15	20.14	23	15.53	06	14.10
05	22.99	16	20.09	24	15.53	07	14.09
06	22.95	17	20.03	25	15.54	08	14.13
07	22.91	18	19.90	26	15.56	09	14.15
08	22.86	19	19.70	27	15.58	10	14.12
09	22.80	JAN 04, 1982	17.89	28	15.59	11	14.03

GROUND WATER

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

Site Number 385501121361902 Local Number 012N003E02G02M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 12, 1982	13.99	MAY 26, 1982	15.05	JUL 08, 1982	18.84	AUG 20, 1982	21.45
13	13.79	27	15.21	09	18.90	21	21.47
14	13.56	28	15.37	10	18.96	22	21.48
15	13.42	29	15.52	11	19.01	23	21.52
16	13.33	30	15.66	12	19.06	24	21.54
17	13.32	31	15.83	13	19.13	25	21.59
18	13.34	JUN 01	16.00	14	19.18	26	21.62
19	13.36	02	16.15	15	19.20	27	21.62
20	13.42	03	16.37	16	19.26	28	21.61
21	13.53	04	16.47	17	19.37	29	21.63
22	13.64	05	16.56	18	19.44	30	21.65
24	13.77	06	16.66	19	19.52	31	21.69
25	13.80	07	16.78	20	19.60	SEP 01	21.73
26	13.84	08	16.90	21	19.70	02	21.74
27	13.88	09	17.00	22	19.77	03	21.75
28	13.89	10	17.11	23	19.84	04	21.76
29	13.87	11	17.24	24	19.92	05	21.78
30	13.83	12	17.32	25	20.02	06	21.80
MAY 01	13.82	13	17.40	26	20.10	07	21.81
02	13.80	14	17.45	27	20.18	08	21.80
03	13.79	15	17.52	28	20.28	09	21.82
04	13.78	16	17.59	29	20.32	10	21.82
05	13.79	17	17.65	30	20.50	11	21.84
06	13.81	18	17.75	31	20.53	12	21.83
07	13.79	19	17.87	AUG 01	20.55	13	21.83
08	13.75	20	17.93	02	20.56	14	21.83
09	13.75	21	17.97	03	20.62	15	21.83
10	13.76	22	18.05	04	20.70	16	21.84
11	13.78	23	18.12	05	20.77	17	21.84
12	13.81	24	18.16	06	20.81	18	21.83
13	13.85	25	18.24	07	20.86	19	21.81
14	13.87	26	18.30	08	20.92	20	21.79
15	13.93	27	18.33	09	20.94	21	21.76
16	14.00	28	18.37	10	20.99	22	21.74
17	14.07	29	18.41	11	21.05	23	21.73
18	14.17	30	18.45	12	21.10	24	21.70
19	14.28	JUL 01	18.49	13	21.14	25	21.63
20	14.40	02	18.51	14	21.19	26	21.56
21	14.51	03	18.56	15	21.25	27	21.50
22	14.61	04	18.60	16	21.30	28	21.42
23	14.74	05	18.64	17	21.33	29	21.38
24	14.85	06	18.69	18	21.36	30	21.35
25	14.95	07	18.76	19	21.40		

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 385501121361903 LOCAL NUMBER 012N003E02G03M

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
DIAM 3 IN, DEPTH 321 FT, CASED TO 311 FT, SCREENED 306-311 FT. ALTITUDE OF LSD 32.54 FT.
RECORDS AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 2.39 FEET BELOW LAND SURFACE DATUM APR 16, 1982.

LOWEST WATER LEVEL 11.31 FEET BELOW LAND SURFACE DATUM DEC 24, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	10.35	NOV 10, 1981	11.20	DEC 20, 1981	6.72	JAN 30, 1982	5.19
02	10.39	11	11.15	21	6.26	31	5.15
03	10.43	12	11.03	22	5.78	FEB 01	5.11
04	10.48	13	10.70	23	5.39	02	5.08
05	10.60	14	11.05	24	5.15	03	5.02
06	10.55	15	10.82	25	4.95	04	5.11
07	10.52	16	10.56	26	4.78	05	5.36
08	10.60	17	10.70	27	4.82	06	5.42
09	10.64	18	10.60	28	4.82	07	5.36
10	10.59	19	10.36	29	4.65	08	5.42
11	10.62	20	10.24	30	4.68	09	5.47
12	10.68	21	10.04	31	4.46	10	5.48
13	10.74	22	9.88	JAN 01, 1982	4.34	11	5.72
14	10.82	23	9.64	02	4.35	12	5.84
15	10.82	24	9.53	04	4.11	13	5.76
16	10.88	25	9.24	05	3.98	14	5.70
17	10.92	26	8.58	06	3.99	15	5.70
18	10.90	27	8.20	07	4.00	16	5.66
19	10.90	28	7.88	08	3.94	17	5.08
20	10.91	29	7.81	09	3.84	18	4.60
21	10.95	30	7.68	10	3.82	19	4.28
22	11.03	DEC 01	7.50	11	3.87	20	4.04
23	11.00	02	7.41	12	4.00	21	3.84
24	10.91	03	7.37	13	4.21	22	3.82
25	10.93	04	7.28	14	4.24	23	3.83
26	11.05	05	7.26	15	4.29	24	3.76
27	10.99	06	7.24	16	4.44	25	3.78
28	10.97	07	7.24	17	4.44	26	3.82
29	11.15	08	7.15	18	4.50	27	3.87
30	11.28	09	7.20	19	4.58	28	3.87
31	11.24	10	7.29	20	4.42	MAR 01	3.86
NOV 01	11.15	11	7.24	21	4.78	02	3.88
02	11.06	12	7.26	22	5.11	03	3.96
03	11.00	13	7.36	23	5.18	04	3.96
04	10.98	14	7.38	24	5.06	05	3.91
05	11.06	15	7.35	25	4.93	06	3.97
06	11.10	16	7.36	26	5.01	07	3.90
07	11.18	17	7.37	27	5.13	08	4.04
08	11.18	18	7.30	28	4.96	09	4.12
09	11.16	19	7.28	29	5.14	10	4.09

GROUND WATER

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

Site Number 385501121361903 Local Number 012N003E02G03M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 11, 1982	4.00	APR 30, 1982	3.88	JUN 19, 1982	7.33	AUG 08, 1982	8.38
12	4.01	MAY 01	4.01	20	7.33	09	8.37
13	3.92	02	4.14	21	7.32	10	8.34
14	3.83	03	4.23	22	7.32	11	8.35
15	3.94	04	4.33	23	7.33	12	8.36
16	3.89	05	4.48	24	7.32	13	8.40
17	3.88	06	4.60	25	7.35	14	8.46
18	3.98	07	4.57	26	7.35	15	8.53
19	4.14	08	4.60	27	7.33	16	8.58
20	4.10	09	4.76	28	7.30	17	8.58
21	4.07	10	4.91	29	7.31	18	8.59
22	4.05	11	5.01	30	7.35	19	8.66
23	4.08	12	5.14	JUL 01	7.45	20	8.74
24	4.11	13	5.27	02	7.43	21	8.71
25	4.19	14	5.32	03	7.47	22	8.62
26	4.31	15	5.40	04	7.44	23	8.57
27	4.44	16	5.45	05	7.44	24	8.53
28	4.42	17	5.45	06	7.42	25	8.50
29	4.46	18	5.53	07	7.49	26	8.50
30	4.68	19	5.62	08	7.53	27	8.51
31	4.60	20	5.70	09	7.49	28	8.45
APR 01	4.44	21	5.74	10	7.47	29	8.49
02	4.20	22	5.80	11	7.44	30	8.49
03	3.96	23	5.88	12	7.43	31	8.49
04	3.74	24	5.93	13	7.45	SEP 01	8.50
05	3.52	25	5.97	14	7.48	02	8.46
06	3.33	26	6.04	15	7.51	03	8.43
07	3.37	27	6.12	16	7.64	04	8.44
08	3.39	28	6.20	17	7.75	05	8.41
09	3.41	29	6.20	18	7.85	06	8.45
10	3.34	30	6.25	19	7.91	07	8.43
11	3.24	31	6.28	20	7.96	08	8.50
12	3.20	JUN 01	6.33	21	8.04	09	8.60
13	2.90	02	6.38	22	8.03	10	8.62
14	2.62	03	6.56	23	7.96	11	8.69
15	2.46	04	6.66	24	7.94	12	8.70
16	2.39	05	6.75	25	7.98	13	8.74
17	2.40	06	6.82	26	7.98	14	8.77
18	2.43	07	6.92	27	7.97	15	8.80
19	2.40	08	6.98	28	7.94	16	8.84
20	2.49	09	6.95	29	7.87	17	8.89
21	2.70	10	6.96	30	7.99	18	8.84
22	2.84	11	7.00	31	8.01	19	8.79
23	2.98	12	7.05	AUG 01	8.03	20	8.73
24	3.13	13	7.16	02	8.07	21	8.68
25	3.27	14	7.18	03	8.21	22	8.67
26	3.45	15	7.20	04	8.30	23	8.70
27	3.60	16	7.21	05	8.37	24	8.70
28	3.72	17	7.15	06	8.34	25	8.60
29	3.77	18	7.23	07	8.37	26	8.60
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 27, 1982	8.56	SEP 28, 1982	8.58	SEP 29, 1982	8.62	SEP 30, 1982	8.71

SITE NUMBER 390830121443801 LOCAL NUMBER 015N002E22D01M

2.4 MI SOUTHEAST OF SUTTER. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 14-8 IN. DEPTH 280 FT. 14-IN CSG 0-68 FT. 8-IN CSG 68-280 FT. PERFORATED 140-280 FT. ALTITUDE OF LSD 46 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1966 TO CURRENT YEAR.

HIGHEST WATER LEVEL 2.5 FEET BELOW LAND SURFACE DATUM JAN 30, 1969.

LOWEST WATER LEVEL 10.9 FEET BELOW LAND SURFACE DATUM DEC 21, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09, 1981	6.5	APR 07, 1982	3.5

TEHAMA COUNTY

Sacramento Valley (5-21)

SITE NUMBER 395556122100201 LOCAL NUMBER 024N003W14K01M

0.4 MI NORTH OF CORNING. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 7 IN, DEPTH 124 FT, PERFORATED 118-124 FT. ALTITUDE OF LSD 297 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1955 TO CURRENT YEAR.

HIGHEST WATER LEVEL 48.3 FEET BELOW LAND SURFACE DATUM MAR 16, 1982.

LOWEST WATER LEVEL 90.3 FEET BELOW LAND SURFACE DATUM OCT 08, 1964.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1981	67.1	OCT 09, 1981	67.1	MAR 16, 1982	48.3

SITE NUMBER 400225122134901 LOCAL NUMBER 025N003W08E01M

4.5 MI WEST OF TEHAMA. CABLE TOOL IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 14-12 IN, DEPTH 420 FT, 14-IN CSG 0-144 FT, 12-IN CSG 144-420 FT, PERFORATED 55-134, 149-420 FT. ALTITUDE OF LSD 420 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 18.7 FEET BELOW LAND SURFACE DATUM MAR 17, 1980.

LOWEST WATER LEVEL 90.5 FEET BELOW LAND SURFACE DATUM JUN 19, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1981	61.1	MAR 09, 1982	38.6

SITE NUMBER 400757122122201 LOCAL NUMBER 026N003W04K01M

3.2 MI SOUTHEAST OF RED BLUFF. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN, DEPTH 149 FT. ALTITUDE OF LSD 300 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1929 TO CURRENT YEAR.

HIGHEST WATER LEVEL 60.4 FEET BELOW LAND SURFACE DATUM MAR 19, 1958.

LOWEST WATER LEVEL 102.8 FEET BELOW LAND SURFACE DATUM OCT 18, 1963.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1981	70.9	MAR 12, 1982	61.0

GROUND WATER

YOLO COUNTY

Sacramento Valley (5-21)

SITE NUMBER 383248121505501 LOCAL NUMBER 008N001E15B01M

6.4 MI WEST OF DAVIS. STOCK WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 117 FT. ALTITUDE OF LSD 83 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1931 TO CURRENT YEAR.

HIGHEST WATER LEVEL 12.2 FEET BELOW LAND SURFACE DATUM JUN 30, 1982.

LOWEST WATER LEVEL 39.4 FEET BELOW LAND SURFACE DATUM NOV 14, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22, 1981	26.1	JAN 28, 1982	23.8	APR 28, 1982	17.7	AUG 31, 1982	15.9
29	26.3	FEB 22	23.1	MAY 27	13.4	SEP 28	17.4
NOV 25	26.6	MAR 23	22.5	JUN 30	12.2		
DEC 28	26.8	31	21.6	JUL 30	14.1		

SITE NUMBER 384129121455101 LOCAL NUMBER 010N002E29A01M

1.2 MI NORTHWEST OF WOODLAND. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN, DEPTH 120 FT. ALTITUDE OF LSD 55 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 28.4 FEET BELOW LAND SURFACE DATUM MAR 22, 1982.

LOWEST WATER LEVEL 45.9 FEET BELOW LAND SURFACE DATUM SEP 26, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
MAR 22, 1982	28.4

SITE NUMBER 383949121450201 LOCAL NUMBER 010N002E33R01M

0.8 MI SOUTHEAST OF WOODLAND. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN, DEPTH 216 FT. ALTITUDE OF LSD 52 FT. MEASUREMENTS FURNISHED BY COUNTY OF YOLO. RECORDS AVAILABLE 1951 TO CURRENT YEAR.

HIGHEST WATER LEVEL 20.3 FEET BELOW LAND SURFACE DATUM APR 23, 1952.

LOWEST WATER LEVEL 67.1 FEET BELOW LAND SURFACE DATUM MAR 09, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20, 1981	38.2	APR 06, 1982	28.4

Sacramento Valley (5-21)

WATER LEVELS IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM.

DATE		WATER LEVEL	DATE		WATER LEVEL	DATE		WATER LEVEL						
MAY 10, 1982		-0.43	JUN 07, 1982		-0.13	JUL 09, 1982		-0.03	AUG 06, 1982		0.09			
	11	-0.42		08	-0.13		10	-0.02		07	0.09			
	12	-0.42		09	-0.12		11	-0.02		08	0.09			
	13	-0.42		10	-0.11		12	-0.01		09	0.09			
	14	-0.41		11	-0.10		13	-0.01		10	0.09			
	15	-0.40		12	-0.09		14	-0.00		11	0.09			
	16	-0.39		13	-0.09		15	0.01		12	0.09			
	17	-0.38		14	-0.08		16	0.02		14	0.09			
	18	-0.37		15	-0.07		17	0.02		15	0.09			
	19	-0.35		16	-0.06		18	0.02		16	0.09			
	20	-0.34		17	-0.05		19	0.02		17	0.09			
	21	-0.33		18	-0.04		20	0.03		18	0.08			
	22	-0.31		19	-0.04		21	0.03		19	0.08			
	23	-0.30		20	-0.04		22	0.04		23	0.08			
	24	-0.28		21	-0.03		23	0.04		24	0.08			
	25	-0.26		22	-0.03		24	0.05		25	0.08			
	26	-0.24		23	-0.03		25	0.05		26	0.08			
	27	-0.22		24	-0.03		26	0.06		27	0.08			
	28	-0.21		25	-0.03		27	0.06		28	0.08			
	29	-0.19		26	-0.03		28	0.06		29	0.08			
	30	-0.18		JUL 01	01		-0.05	29		0.06	30	0.08		
	31	-0.17			02		-0.05	30		0.07	31	0.07		
	JUN 01	01			-0.16		03	-0.04		31	0.07	SEP 01	01	0.07
		02			-0.15		04	-0.04		AUG 01	02		0.06	
		03			-0.15		05	-0.04			03		0.06	
		04			-0.15		06	-0.03			04		0.06	
		05			-0.14		07	-0.03			05		0.09	
		06		-0.14	08		-0.03	06			0.09			
					09		-0.03	07			0.09			

GROUND WATER

YOLO COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 385020121503602 LOCAL NUMBER 012N001E34002M

4 MI NORTHEAST OF ZAMORA. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
 DIAM 3 IN, DEPTH 1401 FT, CASSED TO 1401 FT, SCREENED 1396-1401 FT. ALTITUDE OF LSD
 24.27 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 0.62 FEET BELOW LAND SURFACE DATUM AUG 26-28, 1982.

LOWEST WATER LEVEL 6.31 FEET BELOW LAND SURFACE DATUM APR 18, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	2.82	NOV 10, 1981	3.74	APR 13, 1982	2.80	MAY 23, 1982	1.94
02	2.83	11	3.70	14	2.78	24	1.89
03	2.84	12	3.64	15	2.79	25	1.81
04	2.89	18	3.72	16	2.80	26	1.78
05	2.95	19	3.69	17	2.82	27	1.79
06	2.94	20	3.72	18	2.84	28	1.75
07	2.92	21	3.69	19	2.80	29	1.73
08	2.97	22	3.70	20	2.79	30	1.73
09	3.02	23	3.66	21	2.84	31	1.72
10	2.98	24	3.70	22	2.82	JUN 01	1.73
11	3.02	DEC 03	3.80	23	2.80	02	1.69
12	3.07	JAN 04, 1982	3.62	24	2.77	03	1.70
13	3.12	FEB 05	3.88	25	2.74	04	1.70
14	3.19	06	3.90	26	2.73	05	1.66
15	3.21	07	3.84	27	2.70	06	1.62
16	3.26	08	3.81	28	2.67	07	1.61
17	3.29	09	3.80	29	2.61	08	1.56
18	3.29	10	3.78	30	2.57	09	1.51
19	3.31	11	3.84	MAY 01	2.57	10	1.50
20	3.32	12	3.89	02	2.57	11	1.49
21	3.34	13	3.82	03	2.56	12	1.47
22	3.40	14	3.76	04	2.53	13	1.46
23	3.40	27	3.65	05	2.56	14	1.42
24	3.36	28	3.62	06	2.53	15	1.37
25	3.34	MAR 01	3.56	07	2.46	16	1.34
26	3.40	02	3.55	08	2.39	17	1.33
27	3.40	03	3.58	09	2.40	18	1.36
28	3.33	04	3.59	10	2.40	19	1.38
29	3.44	05	3.55	11	2.37	20	1.36
30	3.55	06	3.56	12	2.36	21	1.33
31	3.58	07	3.50	13	2.32	22	1.32
NOV 01	3.56	08	3.52	14	2.26	23	1.31
02	3.53	APR 05	2.99	15	2.21	24	1.29
03	3.51	06	3.01	16	2.14	25	1.30
04	3.51	07	3.05	17	2.08	26	1.28
05	3.56	08	3.05	18	2.06	27	1.22
06	3.61	09	3.03	19	2.04	28	1.18
07	3.67	10	2.92	20	2.04	29	1.13
08	3.70	11	2.75	21	1.99	30	1.11
09	3.70	12	2.82	22	1.96	JUL 01	1.20
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 02, 1982	1.15	JUL 25, 1982	0.82	AUG 17, 1982	0.71	SEP 09, 1982	0.73
03	1.15	26	0.83	18	0.69	10	0.75
04	1.10	27	0.83	19	0.70	11	0.79
05	1.08	28	0.85	20	0.71	12	0.78
06	1.08	29	0.81	21	0.69	13	0.81
07	1.10	30	0.80	22	0.63	14	0.81
08	1.12	31	0.77	23	0.63	15	0.83
09	1.08	AUG 01	0.72	24	0.63	16	0.83
10	1.04	02	0.70	25	0.63	17	0.85
11	0.98	03	0.72	26	0.62	18	0.83
12	0.96	04	0.74	27	0.62	19	0.83
13	0.95	05	0.78	28	0.62	20	0.83
14	0.91	06	0.73	29	0.65	21	0.84
15	0.87	07	0.74	30	0.68	22	0.86
16	0.90	08	0.73	31	0.71	23	0.89
17	0.93	09	0.71	SEP 01	0.73	24	0.91
18	0.92	10	0.68	02	0.70	25	0.87
19	0.90	11	0.67	03	0.70	26	0.88
20	0.87	12	0.67	04	0.71	27	0.88
21	0.86	13	0.67	05	0.70	28	0.88
22	0.84	14	0.70	06	0.71	29	0.92
23	0.82	15	0.72	07	0.67	30	0.97
24	0.79	16	0.73	08	0.69		

YOLO COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 385020121503603 LOCAL NUMBER 012N001E34Q03M

4 MI NORTHEAST OF ZAMORA, HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
 DIAM 3 IN, DEPTH 947 FT, CASSED TO 947 FT, SCREENED 942-947 FT. ALTITUDE OF LSD 24.27 FT.
 RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 5.97 FEET BELOW LAND SURFACE DATUM MAY 26, 29-30, 1982.

LOWEST WATER LEVEL 19.30 FEET BELOW LAND SURFACE DATUM NOV 09, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	18.06	NOV 10, 1981	17.90	DEC 20, 1981	15.38	MAR 01, 1982	10.86
02	18.07	11	17.85	21	15.31	02	10.76
03	18.08	12	17.76	22	15.25	03	10.74
04	18.11	13	17.60	23	15.22	04	10.72
05	18.18	14	17.54	24	15.15	05	10.59
06	18.17	15	17.48	25	15.10	06	10.56
07	18.14	16	17.44	26	15.08	07	10.46
08	18.18	17	17.41	27	15.09	08	10.40
09	18.23	18	17.38	28	14.99	09	10.38
10	18.20	19	17.33	29	14.91	10	10.26
11	18.22	20	17.32	30	14.85	11	10.12
12	18.25	21	17.25	31	14.74	12	10.07
13	18.28	22	17.19	JAN 01, 1982	14.71	13	9.99
14	18.34	23	17.10	02	14.70	14	9.89
15	18.34	24	17.06	03	14.73	15	9.86
16	18.36	25	17.00	04	14.35	16	9.75
17	18.38	26	16.86	FEB 05	12.61	17	9.62
18	18.37	27	16.82	06	12.56	18	9.57
19	18.35	28	16.82	07	12.45	19	9.64
20	18.34	29	16.82	08	12.36	20	9.61
21	18.34	30	16.84	09	12.29	21	9.55
22	18.35	DEC 01	16.79	10	12.20	22	9.48
23	18.34	02	16.72	11	12.19	23	9.40
24	18.27	03	16.64	12	12.20	24	9.32
25	18.22	04	16.41	13	12.07	25	9.25
26	18.24	05	16.29	14	11.96	26	9.19
27	18.22	06	16.30	15	11.80	27	9.15
28	18.10	07	16.30	16	11.68	28	9.04
29	18.12	08	16.20	17	11.60	29	8.95
30	18.22	09	16.14	18	11.54	30	8.88
31	18.20	10	16.13	19	11.49	31	8.66
NOV 01	18.15	11	16.10	20	11.44	APR 01	8.52
02	18.09	12	16.02	21	11.36	02	8.51
03	18.03	13	15.98	22	11.34	03	8.48
04	17.99	14	15.92	23	11.30	04	8.48
05	18.00	15	15.88	24	11.20	05	8.42
06	17.98	16	15.78	25	11.14	06	8.43
07	17.99	17	15.56	26	11.09	07	8.43
08	17.97	18	15.43	27	11.06	08	8.40
09	17.92	19	15.40	28	10.98	09	8.34

GROUND WATER
YOLO COUNTY--Continued
 Sacramento Valley (5-21)

Site Number 385020121503603 Local Number 012N001E34Q03M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 10, 1982	8.16	MAY 26, 1982	5.97	JUL 09, 1982	7.63	AUG 21, 1982	10.88
11	7.90	27	5.99	10	7.70	22	10.93
12	7.90	28	5.98	11	7.74	23	11.01
13	7.84	29	5.97	12	7.78	24	11.09
14	7.79	30	5.97	13	7.87	25	11.17
15	7.79	JUN 01	6.05	14	7.94	26	11.25
16	7.78	02	6.05	15	7.96	27	11.40
17	7.76	03	6.11	16	8.02	28	11.42
18	7.74	04	6.15	17	8.12	29	11.47
22	7.60	05	6.16	18	8.20	30	11.55
23	7.55	06	6.16	19	8.27	31	11.66
24	7.49	07	6.18	20	8.34	SEP 01	11.74
25	7.44	08	6.19	21	8.42	02	11.82
26	7.39	09	6.20	22	8.48	03	11.88
27	7.34	10	6.23	23	8.53	04	11.96
28	7.27	11	6.27	24	8.58	05	12.01
29	7.17	12	6.30	25	8.67	06	12.07
30	7.10	13	6.32	26	8.76	07	12.12
MAY 01	7.06	14	6.34	27	8.86	08	12.16
02	7.02	15	6.38	28	8.93	09	12.24
03	6.97	16	6.39	29	9.00	10	12.30
04	6.89	17	6.43	30	9.14	11	12.40
05	6.87	18	6.50	31	9.19	12	12.45
06	6.81	19	6.55	AUG 01	9.23	13	12.54
07	6.72	20	6.55	02	9.31	14	12.62
08	6.64	21	6.61	03	9.41	15	12.68
09	6.60	22	6.67	04	9.52	16	12.74
10	6.58	23	6.74	05	9.62	17	12.82
11	6.54	24	6.79	06	9.67	18	12.85
12	6.50	25	6.85	07	9.74	19	12.86
13	6.46	26	6.90	08	9.83	20	12.90
14	6.40	27	6.93	09	9.90	21	12.93
15	6.34	28	6.95	10	9.97	22	12.98
16	6.28	29	6.99	11	10.04	23	13.06
17	6.21	30	7.03	12	10.12	24	13.13
18	6.17	JUL 01	7.17	13	10.20	25	13.14
19	6.13	02	7.20	14	10.32	26	13.17
20	6.13	03	7.27	15	10.41	27	13.20
21	6.10	04	7.29	16	10.49	28	13.24
22	6.07	05	7.33	17	10.56	29	13.30
23	6.05	06	7.39	18	10.62	30	13.34
24	6.02	07	7.47	19	10.72		
25	5.98	08	7.57	20	10.81		

YUBA COUNTY
 Sacramento Valley (5-21)

SITE NUMBER 390151121273501 LOCAL NUMBER 014N005E30Q01M

2.8 MI NORTHEAST OF WHEATLAND. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN, DEPTH 220 FT.
 ALTITUDE OF LSD 77 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
 RECORDS AVAILABLE 1947 TO CURRENT YEAR.

HIGHEST WATER LEVEL 25.2 FEET BELOW LAND SURFACE DATUM MAY 08, 1948.

LOWEST WATER LEVEL 132.9 FEET BELOW LAND SURFACE DATUM AUG 31, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1981	109.3	JAN 30, 1982	102.6	APR 30, 1982	96.4	JUL 30, 1982	126.0
NOV 30	107.0	FEB 28	100.2	MAY 30	116.3	AUG 31	124.7
DEC 30	104.4	MAR 31	97.8	JUN 30	115.3	SEP 30	107.8

INDEX

	Page		Page
Accuracy of field data and computed results.....	21	Collection and examination of data, water quality records.....	22
Acre-foot, definition of.....	5	Collection of the data, ground-water levels.....	24
Algae, definition of.....	5	Color unit, definition of.....	7
Almanor, Lake, at Prattville.....	132	Contents, definition of.....	7
American River, at Fair Oaks.....	263	Contra Costa Canal near Oakley.....	286
Middle Fork, above Middle Fork powerhouse, near Foresthill.....	223	Control, definition of.....	7
at French Meadows.....	220	Control structure, definition of.....	7
below interbay dam, near Foresthill.....	224	Cooperation.....	2
near Auburn.....	243	Cosumnes River at McConnell.....	286
near Foresthill.....	241	Cottonwood Creek (Sacramento River basin), above South Fork, near Cottonwood.....	71
North Fork, at North Fork Dam.....	215	near Cottonwood.....	77
below Auburn damsite, near Auburn.....	244	near Olinda.....	68
of Middle Fork, near Foresthill.....	240	South Fork, at Evergreen Road, near Cottonwood.....	75
South Fork, below Silver Creek, near Pollock Pines.....	256	near Olinda.....	72
near Camino.....	257	Cow Creek near Millville.....	67
near Kyburz.....	250	Crest-stage partial-record stations, discharge at Cubic foot per second, definition of.....	288
near Lotus.....	259		7
near Placerville.....	258		
American River basin, Middle Fork, schematic diagram of.....	218	Data, field, and computed results.....	21
South Fork, schematic diagram of.....	245	explanation of, ground-water level records.....	24
Antelope Creek (Sacramento River basin) near Red Bluff.....	85	stage and water-discharge records.....	18
Aquifer, definition of.....	5	water-quality records.....	22
Artesian, definition of.....	5	other data available.....	21
Ash Creek at Adin.....	42	Deer Creek near Vina.....	93
Bacteria, definition of.....	5	Deer Creek (tributary to Yuba River) near Smartville.....	192
Bangor Canal below Miners Ranch Reservoir, near Oroville.....	128	Definition of terms.....	5
Battle Creek below Coleman Fish Hatchery, near Cottonwood.....	81	Delta-Mendota Canal at Tracy pumping plant, near Tracy.....	286
Bear River (tributary to Feather River), below Drum Afterbay, near Blue Canyon.....	198	Discharge, at partial-record stations.....	287
below Dutch Flat Afterbay, near Dutch Flat.....	200	crest-stage partial-record stations.....	288
below Rollins Dam, near Colfax.....	204	definition of.....	7
near Wheatland.....	206	low-flow partial-record stations.....	287
Bear River basin, schematic diagram of.....	194	Dissolved, definition of.....	7
Bear River Canal intake (Feather River basin) near Colfax.....	203	Diversity index, definition of.....	7
Bed material, definition of.....	5	Dog Creek at Delta.....	287
Benthic organisms, definition of.....	5	Downstream order and station number.....	14
Berryessa, Lake, near Winters.....	280	Drainage area, definition of.....	7
Bidwell Creek below Mill Creek, near Fort Bidwell.....	33	Drainage basin, definition of.....	7
Big Chico Creek near Chico.....	94	Drum Canal, above Drum Forebay, near Blue Canyon.....	183
Biochemical oxygen demand, definition of.....	6	at tunnel outlet, near Emigrant Gap.....	182
Biomass, definition of.....	6	Dry Creek (tributary to Mokelumne River basin) near Galt.....	286
Black Butte Lake near Orland.....	103	Duncan Creek, below diversion dam, near French Meadows.....	222
Boardman Canal near Emigrant Gap.....	195	near French Meadows.....	221
Bowman Lake near Graniteville.....	186	Dutch Flat No. 1 powerplant near Dutch Flat.....	193
Bowman-Spaulling Canal at Jordan Creek siphon venturi, near Emigrant Gap.....	188	Dutch Flat No. 2 flume near Blue Canyon.....	196
Bowman-Spaulling Canal intake near Graniteville.....	187	Eagle Lake basin, station records in.....	32
Britton, Lake, near Burney.....	45	East Park Reservoir near Stonyford.....	96
Browns Bar Canyon Creek near Cool.....	287, 288	Echo Lake conduit near Phillips.....	246
Buck-Loon tunnel near Meeks Bay.....	227	Elder Creek near Paskenta.....	86
Buckeye Canyon Creek tributary near Greenwood.....	287, 288	Explanation of, ground-water level records.....	24
Bucks Lake near Bucks Lodge.....	139	stage and water-discharge records.....	18
Butt Creek below Almanor-Butt Creek tunnel, near Prattville.....	134	water-quality records.....	22
Butte Creek (Sacramento River basin) near Chico.....	110	Feather River, at Oroville.....	155
Cache Creek, at Rumsey.....	277	near Gridley.....	158
at Yolo.....	278	near Nicolaus.....	207
near Lower Lake.....	275	East Branch of North Fork, near Rich Bar.....	138
North Fork, at Hough Springs, near Clearlake Oaks.....	276	Middle Fork, near Clito.....	115
near Lower Lake.....	275	near Merrimac.....	116
Calaveras River below New Hogan Dam.....	286	North Fork, at Pulga.....	140
California Aqueduct at Delta powerplant, near Byron.....	286	below Belden Dam.....	135
Canyon Creek below Bowman Lake.....	189	near Prattville.....	133
Caples Lake Outlet near Kirkwood.....	249	South Fork, at Ponderosa Dam.....	129
Cells/volume, definition of.....	6	below diversion dam, near Strawberry Valley.....	122
Cfs-day, definition of.....	6	below Forbestown Dam.....	126
Chemical oxygen demand, definition of.....	6	below Little Grass Valley Dam.....	121
Chicago Park flume near Dutch Flat.....	199	West Branch, near Paradise.....	143
Chlorophyll, definition of.....	7	Feather River at Lake Oroville, schematic diagram of.....	144
Clear Creek, at French Gulch.....	62	Feather River basin, North Fork, schematic diagram of.....	131
near Igo.....	66	South Fork, schematic diagram of.....	119
Clear Lake, at Clearlake.....	274	Folsom Lake near Folsom.....	262
at Lakeport.....	273	Forbes Creek, North Fork, near Dutch Flat.....	213
Collection and computation of data, surface water.....	18	Fordyce Creek below Fordyce Dam, near Cisco.....	180
		Fordyce Lake near Cisco.....	179
		French Meadows Reservoir near Foresthill.....	219
		Ft3/s-day, definition of.....	7
		Gage height, definition of.....	8
		Gaging station, definition of.....	8
		Gerle Creek below Loon Lake Dam, near Meeks Bay..	232

	Page		Page
Ground-water, collection of the data.....	24	McCloud River, at Ah-Di-Na, near McCloud.....	54
well levels, by county.....	289	below McCloud Dam, near McCloud.....	53
Butte County.....	289	near McCloud.....	51
Colusa County.....	289	McCloud River basin, reservoirs in.....	45
Glenn County.....	290	schematic diagram of.....	34
Lake County.....	296	Metamorphic stage, definition of.....	8
Lassen County.....	297	Methylene blue active substance, definition of..	8
Modoc County.....	298	Micrograms per gram, definition of.....	8
Nevada County.....	299	Micrograms per liter, definition of.....	8
Placer County.....	300	Middle Yuba River, below Jackson Meadows Dam,	
Sacramento County.....	300	near Sierra City.....	165
Shasta County.....	301	below Our House Dam, near Camptonville.....	168
Sierra County.....	302	near Camptonville.....	167
Siskiyou County.....	302	Mill Creek (Sacramento River basin), near Los	
Solano County.....	304	Molinos.....	87
Sutter County.....	305	Milligrams per liter, definition of.....	8
Tehama County.....	311	Milton-Bowman tunnel outlet near Graniteville...	166
Yolo County.....	312	Miners Ranch Canal below Ponderosa Dam, near	
Yuba County.....	316	Forbestown.....	127
		Mokelumne River at Woodbridge.....	286
Hardness, definition of.....	8		
Hat Creek near Hat Creek.....	44	National Geodetic Vertical Datum of 1929,	
Hell Hole Reservoir near Meeks Bay.....	228	definition of.....	9
Honey Lake basin, station records in.....	27	National stream-quality accounting network.....	17
Hydrologic bench-mark station.....	17	Nekton, definition of.....	9
Hydrologic conditions, summary of.....	3	New Bullards Bar Reservoir near North San Juan..	176
Hydrologic Unit, definition of.....	8	New Camp Far West Reservoir near Wheatland.....	205
		New Colgate powerplant near French Corral.....	175
Ice House Reservoir near Kyburz.....	253	North Shittail Creek near Dutch Flat.....	214
Indian Creek near Crescent Mills.....	136	North Yuba River, above Slate Creek, near	
Introduction.....	1	Strawberry.....	172
Iron Canyon Creek below Iron Canyon Dam, near		below Goodyears Bar.....	171
Big Bend.....	49	below New Bullards Bar Dam, near North	
Iron Canyon Reservoir near Big Bend.....	45	San Juan.....	177
		Numbering system for wells and miscellaneous	
Jackson Meadows Reservoir near Sierra City.....	164	sites.....	15
James B. Black powerplant near Big Bend.....	48		
Judge Francis Carr powerplant near French Gulch..	63	Oregon Creek, at Camptonville.....	169
		below Log Cabin Dam, near Camptonville.....	170
Kelsey Creek near Kelseyville.....	272	Organism, definition of.....	9
Lake Valley Canal near Emigrant Gap.....	212	Oroville, Lake, near Oroville.....	145
Lakes and reservoirs:		Oroville-Wyandotte Canal near Clipper Mills.....	124
Almanor, Lake, at Prattville.....	132	Other data available.....	21
Berryessa, Lake, near Winters.....	280		
Black Butte Lake near Orland.....	103	Pacific Gas and Electric Co. lateral at intake,	
Bowman Lake near Graniteville.....	186	near Oroville.....	150
Britton, Lake, near Burney.....	45	Palermo Canal near Oroville.....	146
Bucks Lake near Bucks Lodge.....	139	Partial-record station, definition of.....	9
Clear Lake at Clearlake.....	274	Partial-record stations, crest-stage.....	288
Clear Lake at Lakeport.....	273	discharge at.....	287
East Park Reservoir near Stonyford.....	96	low-flow.....	287
Folsom Lake near Folsom.....	262	Particle size, definition of.....	9
Fordyce Lake near Cisco.....	179	Particle-size classification, definition of....	9
French Meadows Reservoir near Foresthill.....	219	Paymaster Creek near Cool.....	288
Hell Hole Reservoir near Meeks Bay.....	228	Percent composition or percent of total,	
Ice House Reservoir near Kyburz.....	253	definition of.....	9
Iron Canyon Reservoir near Big Bend.....	45	Periphyton, definition of.....	9
Jackson Meadows Reservoir near Sierra City.....	164	Pesticide program.....	18
Little Grass Valley Reservoir near La Porte....	120	Pesticides, definition of.....	9
Loon Lake near Meeks Bay.....	231	pH, collection and examination of.....	22
McCloud, Lake, near McCloud.....	45	definition of.....	10
New Bullards Bar Reservoir near North San Juan.	176	Pilot Creek, above Stumpy Meadows Lake.....	234
New Camp Far West Reservoir near Wheatland....	205	below Mutton Canyon, near Georgetown.....	235
Oroville, Lake, near Oroville.....	145	Picocurie, definition of.....	10
Rollins Reservoir near Colfax.....	202	Pine Creek near Susanville.....	32
Shasta Lake near Redding.....	56	Pit River, at Big Bend.....	47
Sly Creek Reservoir near Strawberry Valley.....	123	below Pit No. 1 powerhouse, near Fall River	
Spaulding, Lake, near Emigrant Gap.....	181	Mills.....	43
Stony Gorge Reservoir near Elk Creek.....	96	below Pit No. 4 Dam.....	46
Thermalito Afterbay near Oroville.....	147	near Canby.....	41
Union Valley Reservoir near Riverton.....	252	near Montgomery Creek.....	50
Whiskeytown Lake near Igo.....	65	North Fork, at Alturas.....	39
Light-attenuation coefficient, definition of....	8	South Fork, near Likely.....	40
Little Butte Creek at Magalia.....	109	Pit River basin, reservoirs in.....	45
Little Grass Valley Reservoir near La Porte....	120	schematic diagram of.....	34
Little Stony Creek above East Park Reservoir,		Plankton, definition of.....	10
near Lodoga.....	95	Polychlorinated biphenyls, definition of.....	10
Local well numbers.....	15	Precipitation:	
Long Canyon Creek, near French Meadows.....	238	Cache Creek, near Lower Lake.....	275
North Fork, diversion tunnel near Volcanoville.	237	North Fork, at Hough Springs, near Clearlake	
South Fork, diversion tunnel near Volcanoville.	236	Oaks.....	276
Loon Lake near Meeks Bay.....	231	Primary productivity, definition of.....	10
Lost Creek near Clipper Mills.....	125	Publications of Techniques of Water-Resources	
Low-flow partial-record stations, discharge at..	287	Investigations.....	25
		Putah Creek near Winters.....	281, 286
Macrophytes, definition of.....	8	Putah South Canal at intake, near Winters.....	286
Maine Bar Canyon Creek near Greenwood.....	242	Pyramid Creek at Twin Bridges.....	247
McCloud-Iron Canyon diversion tunnel near McCloud	52	Radiochemical program.....	18
McCloud, Lake, near McCloud.....	45	Records of discharge collected by agencies other	
McCloud River, above Shasta Lake.....	55	than the Geological Survey.....	21
		Red Bank Creek near Red Bluff.....	84

	Page		Page
Reservoirs. See lakes and reservoirs.		Spaulding, Lake, near Emigrant Gap.....	181
Richvale Canal at intake, near Oroville.....	149	Special networks and programs.....	17
Robbs Peak powerplant near Kyburz.....	230	Specific conductance, definition of.....	12
Rollins Reservoir near Colfax.....	202	Spring Creek powerplant at Keswick.....	64
Rubicon River, at Rubicon Springs, near		Stage and water-discharge records, explanation	
Meeks Bay.....	226	of.....	18
below Hell Hole Dam, near Meeks Bay.....	229	Stage-discharge relation, definition of.....	12
near Foresthill.....	239	Stone Corral Creek near Sites.....	114
South Fork, below Gerle Creek, near Georgetown.	233	Stony Creek, above Black Butte Dam, near Orland.	97
Rubicon River basin, schematic diagram of.....	218	below Black Butte Dam near Orland.....	104
Rubicon-Rockbound tunnel near Meeks Bay.....	225	Stony Creek basin, reservoirs in.....	96
Runoff Map.....	4	Stony Gorge Reservoir near Elk Creek.....	96
Sacramento River, above Bend Bridge, near Red		Streamflow, definition of.....	12
Bluff.....	82	Substrate, definition of.....	12
at Butte City.....	107	Sucker Run near Forbestown.....	130
at Colusa.....	108	Surface area, definition of.....	12
at Delta.....	38	Surficial bed material, definition of.....	12
at Freeport.....	264, 286	Surprise Valley basin, station records in.....	33
at Keswick.....	57	Susan River at Susanville.....	27
at Rio Vista.....	282	Suspended, definition of.....	12
at Verona.....	210	Sutter-Butte Canal at intake, near Oroville....	151
below Wilkins Slough, near Grimes.....	111	Taxonomy, definition of.....	13
near Mt Shasta.....	35	Temperature, water, collection and examination	
Sacramento River basin, crest-stage partial-		of.....	23
record stations in.....	288	Thermalito Afterbay near Oroville.....	147
low-flow partial-record stations in.....	287	Thermalito Afterbay release to Feather River,	
station records in.....	35	near Oroville.....	152
Sacramento-San Joaquin Delta, inflows and		Thermograph, definition of.....	13
diversions.....	286	Thomes Creek at Paskenta.....	88
schematic diagram of.....	285	Tons per acre-foot, definition of.....	13
Sacramento Weir spill to Yolo Bypass, near		Tons per day, definition of.....	13
Sacramento.....	211, 286	Total, definition of.....	14
San Joaquin River near Vernalis.....	286	Total, recoverable, definition of.....	13
Sediment, collection and examination of.....	23	Total load, definition of.....	13
definition of.....	11	Turbidity, collection of.....	24
Shasta Lake near Redding.....	56	definition of.....	14
Silver Creek (American River basin), below		Union Valley Reservoir near Riverton.....	252
Camino diversion dam.....	255	Water analysis.....	22
South Fork, near Ice House.....	254	Water quality, explanation of.....	22
Silver Lake Outlet near Kirkwood.....	248	WDR, definition of.....	14
Slate Creek below diversion dam, near Strawberry		Well levels, listed by county.....	289
Valley.....	174	Western Canal at intake, near Oroville.....	148
Slate Creek tunnel near Strawberry Valley.....	173	Whiskeytown Lake near Igo.....	65
Sly Creek Reservoir near Strawberry Valley.....	123	Wildcat Canyon Creek near Cool.....	287, 288
Sodium-adsorption-ratio, definition of.....	11	Willow Creek (Honey Lake basin) near Susanville.	31
Solute, definition of.....	11	WSP, definition of.....	14
South Diversion Canal near Orland.....	102	Yolo Bypass near Woodland.....	279, 286
South Honcut Creek near Bangor.....	162	Yuba River, below Englebright Dam, near	
South Yuba Canal near Emigrant Gap.....	184	Smartville.....	191
South Yuba River, at Jones Bar, near Grass		near Marysville.....	193
Valley.....	190	Yuba River basin, schematic diagram of.....	163
at Langs Crossing, near Emigrant Gap.....	185		
near Cisco.....	178		
Spanish Creek above Blackhawk Creek, at Keddle...	137		

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). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

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

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
INT 413



U.S. DEPARTMENT OF THE INTERIOR
Geological Survey, Room W-2235
2800 Cottage Way, Federal Building
Sacramento, CA 95825

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300
SPECIAL 4TH CLASS BOOK RATE

