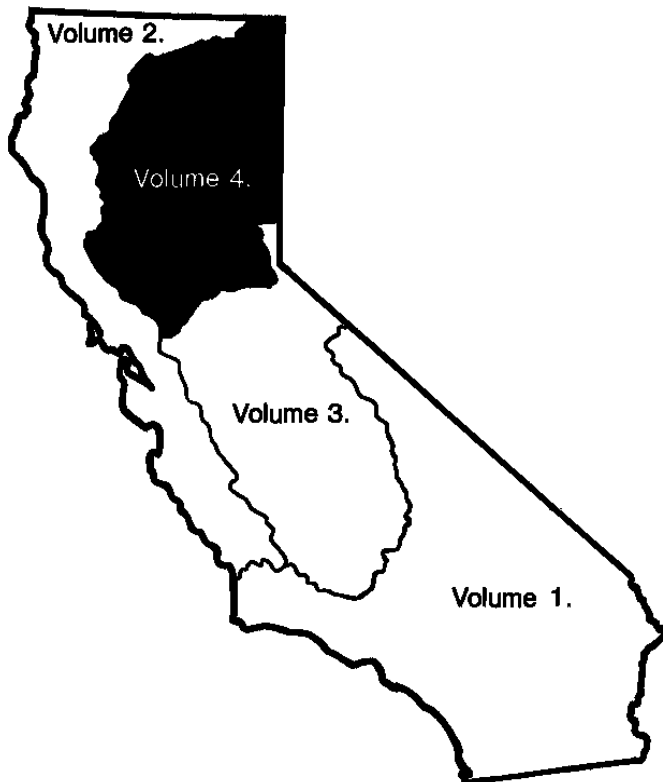


Prepared in cooperation with
California Department of Water Resources and with other agencies

Water Resources Data California Water Year 2003

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



Water-Data Report CA-03-1

CALENDAR FOR WATER YEAR 2003

2002

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

2003

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

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

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

Water Resources Data California Water Year 2003

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

By M.F. Friebel, M.D. Webster, G.L. Rockwell, and J.R. Smithson

Water-Data Report CA-03-4

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

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

U.S. Department of the Interior

Gale A. Norton, Secretary

U.S. Geological Survey

Charles G. Groat, Director

2004

U.S. Geological Survey

Placer Hall, Suite 2015

6000 J Street

Sacramento, California 95819-6129

916-278-3000

Information about the USGS, California District is available on the Internet at <http://ca.water.usgs.gov/>

Information about all USGS reports and products is available by calling 1-888-ASK-USGS or on the Internet via the World Wide Web at <http://www.usgs.gov/>

Additional earth science information is available by accessing the USGS home page at <http://www.usgs.gov/>

PREFACE

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

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

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

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

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY <i>(Leave blank)</i>		2. REPORT DATE April 2004	3. REPORT TYPE AND DATES COVERED Annual—Oct. 1, 2003, to Sept. 30, 2004	
4. TITLE AND SUBTITLE Water Resources Data—California, Water Year 2003. Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line			5. FUNDING NUMBERS	
6. AUTHOR(S) M.F. Friebel, M.D. Webster, G.L. Rockwell, and J.R. Smithson				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Geological Survey, Water Resources Division, California District Placer Hall, Suite 2015 6000 J Street Sacramento, CA 95819-6129			8. PERFORMING ORGANIZATION REPORT NUMBER USGS-WDR-CA-03-4	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Geological Survey, Water Resources Division, California District Placer Hall, Suite 2015 6000 J Street Sacramento, CA 95819-6129			10. SPONSORING / MONITORING AGENCY REPORT NUMBER USGS-WDR-CA-03-4	
11. SUPPLEMENTARY NOTES Prepared in cooperation with the California Department of Water Resources and with other agencies.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT No restriction on distribution. This report may be purchased from the National Technical Information Service, Springfield, VA 22161			12b. DISTRIBUTION CODE	
13. ABSTRACT <i>(Maximum 200 words)</i> Water-resources data for the 2003 water year for California consist of records of stage, discharge, and water quality of streams, stage and contents in lakes and reservoirs, and water levels and water quality in wells. Volume 4 contains discharge records for 195 gaging stations, stage and contents for 62 lakes and reservoirs, gage-height records for 1 station, water quality for 33 streamflow-gaging stations and 8 partial-record stations. Also included are 4 miscellaneous partial-record sites. 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.				
14. SUBJECT TERMS *California, *Hydrologic data, *Surface water, *Water quality, Flow rate, Sampling sites, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Water analyses			15. NUMBER OF PAGES 542	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT	

WATER RESOURCES DIVISION

Donna M. Schiffer, Chief, Operations
James C. Bowers, Assistant Chief, Operations

Kevin Bazar, Hydrologic Technician
William L. Boults, Hydrologic Technician
William R. Brazelton, Hydrologic Technician
Susan Brockner, Hydrologic Technician
Lynda R. Christensen, Hydrologic Technician
Karl Davidek, Hydrologic Technician
Kimberly S. Engelking, Editor
Cory A. Escobedo, Hydrologic Technician
Jon E. Ferguson, Hydrologic Technician
Laureen J. Fong-Frydendal, Hydrologic Technician
Tracy Frentzen, Information Technology Specialist
Michael Dean Galvez, Hydrologic Aid
Mike Galvez, Gaging Station Construction Worker
James J. Gibbons, Lead Hydrologic Technician
Kim L. Hanson, Computer Specialist
William J. Hardy, Hydrologic Technician
Travis Hiatt, Hydrologic Technician
Paul D. Honeywell, Hydrologic Technician
Joe Grant, Hydrologic Technician
Rick T. Iwatsubo, Hydrologist
Joel D. Johnson, Supervisory Hydrologist
Mark V. Johnson, Hydrologic Technician
Michael Judd, Hydrologic Technician
Michael P. Mann, Hydrologist
Ken Markham, (Retired U.S.G.S.)
Jon C. McNulty, Hydrologic Technician
Delia A. Millers, Hydrologic Clerk
Allan C. Mlodnosky, Hydrologic Technician
James R. Mullen, (Retired U.S.G.S.)
Denis J. O'Halloran, Hydrologic Technician
Christine S. O'Neil, Hydrologic Technician
David Pratt, Hydrologist
Lee A. Price, Hydrologic Technician
Carol J. Simons, Hydrologic Technician
David M. Sparks, Hydrologic Technician
Gregory F. Susich, Hydrologic Technician
Mark H. Woloszyk, Hydrologic Technician
Kevin S. Wright, Hydrologic Technician
George S. Yamamoto, Scientific Illustrator
David K. Yancey, Computer Specialist
Brian T. Yost, Hydrologic Technician

Richard A. Hunrichs, Surface Water Hydrologist
Robert W. Meyer, Surface Water Hydrologist

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

CONTENTS

	Page
Preface.....	iii
Surface-Water and Water-Quality Stations in Downstream Order for which records are Published in this Volume	viii
Discontinued Gaging Stations	xv
Discontinued Lakes and Reservoirs	xx
Discontinued Continuous Water-Quality Stations	xx
Introduction.....	1
Cooperation.....	1
Downstream Order and Station Number.....	2
Numbering System for Wells and Miscellaneous Sites	2
Special Networks and Programs	3
Explanation of Stage- and Water-Discharge Records	4
Data Collection and Computation.....	4
Data Presentation	5
Station Manuscript.....	5
Peak Discharge Greater than Base Discharge.....	6
Data Table of Daily Mean Values	6
Statistics of Monthly Mean Data	6
Summary Statistics	7
Identifying Estimated Daily Discharge.....	8
Accuracy of Field Data and Computed Results.....	8
Other Data Records Available.....	8
Explanation of Precipitation Records	9
Data Collection and Computation.....	9
Data Presentation	9
Explanation of Water-Quality Records	9
Collection and Examination of Data.....	9
Water Analysis	9
Surface-Water-Quality Records	10
Classification of Records	10
Accuracy of the Records	10
Arrangement of Records	10
On-Site Measurements and Sample Collection	11
Water Temperature	11
Sediment	11
Laboratory Measurements	12
Data Presentation	12
Water-Quality Control Data	12
Blank Samples	13
Reference Samples.....	13
Replicate Samples.....	13
Spike Samples.....	14
Access to USGS Water Data.....	14
Definition of Terms.....	15
Techniques of Water-Resources Investigations of the U.S. Geological Survey.....	30
Surface-Water-Discharge and Surface-Water-Quality Records	57
Remark Codes.....	57
Dissolved Trace-Element Concentrations.....	57
Data Precision	57
Discharge at Partial-Record Stations and Miscellaneous Sites.....	501
Special study and miscellaneous sites	501
Analyses of Samples Collected at Water-Quality Partial-Record Sites	503
Index	513

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

ILLUSTRATIONS

	Page
Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude).	3
Figure 2. Location of discharge and water-quality stations in Alpine County.	35
Figure 3. Location of discharge stations in Amador County.	36
Figure 4. Location of discharge and water-quality stations in Butte County.	37
Figure 5. Location of discharge and water-quality stations in Colusa County.	38
Figure 6. Location of discharge and water-quality stations in El Dorado County.	39
Figure 7. Location of discharge station in Glenn County.	40
Figure 8. Location of discharge and water-quality stations in Lake County.	41
Figure 9. Location of discharge and water-quality stations in Lassen County.	42
Figure 10. Location of discharge and water-quality stations in Modoc County.	43
Figure 11. Location of discharge stations in Napa County.	44
Figure 12. Location of discharge and water-quality stations in Nevada County.	45
Figure 13. Location of discharge and water-quality stations in Placer County.	46
Figure 14. Location of discharge stations in Plumas County.	47
Figure 15. Location of discharge, stage, and water-quality stations in Sacramento County.	48
Figure 16. Location of discharge stations in Shasta County.	49
Figure 17. Location of discharge stations in Sierra County.	50
Figure 18. Location of discharge and water-quality stations in Siskiyou County.	51
Figure 19. Location of discharge and water-quality stations in Solano County.	52
Figure 20. Location of discharge and water-quality stations in Sutter County.	53
Figure 21. Location of discharge and water-quality stations in Tehama County.	54
Figure 22. Location of discharge and water-quality stations in Yolo County.	55
Figure 23. Location of discharge and water-quality stations in Yuba County.	56
Figure 24. Diversions and storage in Pit and McCloud River Basins.	63
Figure 25. Diversions and storage in upper Sacramento River Basin.	104
Figure 26. Diversions and storage in Battle Creek and Cow Creek Basins.	113
Figure 27. Diversions and storage in lower Sacramento River Basin.	152
Figure 28. Diversions and storage in South Fork Feather River Basin.	174
Figure 29. Diversions and storage in North Fork Feather River Basin.	190
Figure 30. Diversions and storage from Feather River at Lake Oroville.	221
Figure 31. Diversions and storage in North and Middle Yuba River Basins.	235
Figure 32. Diversions and storage in South Yuba River Basin.	267
Figure 33. Diversions and storage in Bear River Basin.	273
Figure 34. Diversions and storage in Middle Fork American and Rubicon River Basins.	361
Figure 35. Diversions and storage in South Fork American River Basin.	396
Figure 36. Principal inflows and diversions, Sacramento–San Joaquin Delta.	500

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

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

	Station No.	Page
THE GREAT BASIN		
HONEY LAKE BASIN		
Susan River above Willard Creek, near Susanville (cs)	10356380	59
Susan River near Litchfield (cs)	10359040	60
MIDDLE ALKALI LAKE BASIN		
Cedar Creek near Cedarville (cs)	41322012101	503
UPPER LAKE BASIN		
Bidwell Creek:		
Mill Creek at Upper Lake, near Lake City (cs)	10360401	61
Bidwell Creek below Mill Creek, near Fort Bidwell (cs)	10360900	62
PACIFIC SLOPE BASINS IN CALIFORNIA		
SACRAMENTO RIVER BASIN		
Sacramento River:		
Dog Creek at Delta (d)	11341900	501
Sacramento River at Delta (d)	11342000	64
Shasta Lake:		
Pit River:		
North Fork Pit River (head of Pit River):		
South Fork Pit River near Likely (d)	11345500	66
Pit River near Canby (d)	11348500	67
Collett Reservoir near Little Valley (l)	11351600	69
Pit River below diversion to Muck Valley Powerplant, near Bieber (d)	11351950	70
Pit No. 1 Powerplant near Fall River Mills (d)	11354200	71
Pit River below Pit No. 1 Powerplant, near Fall River Mills (d)	11355010	72
Hat Creek:		
Lost Creek below diversion to Lost Creek Powerplant No. 1, near Old Station (d)	11358020	74
Hat Creek below Hat No. 1 Diversion Dam, near Burney (d)	11358700	75
Hat Creek Powerplant No. 1 near Burney (d)	11358800	76
Hat No. 2 Power Canal Diversion to Hat Creek, near Burney (d)	11359100	77
Burney Creek at Burney Falls, near Burney (d)	11361000	78
Lake Britton near Burney (l)	11361400	79
Pit River below Pit No. 4 Dam (d)	11362500	81
Nelson Creek below diversion to Nelson Creek Powerplant, near Big Bend (d)	11362900	83
East Fork Nelson Creek below diversion to Nelson Creek, near Big Bend (d)	11362950	84
Pit River at Big Bend (d)	11363000	85
Iron Canyon Creek:		
James B. Black Powerplant near Big Bend (d)	11363910	87
Iron Canyon Reservoir near Big Bend (l)	11363920	79
Iron Canyon Creek below Iron Canyon Dam, near Big Bend (d)	11363930	88
Roaring Creek below diversion to Roaring Creek Powerplant, near Montgomery Creek (d)	11364200	89
Hatchet Creek below diversion to Hatchet Creek Powerplant, near Montgomery Creek (d)	11364300	91
Pit River near Montgomery Creek (d)	11365000	93
McCloud River near McCloud (d)	11367500	95
McCloud–Iron Canyon Diversion Tunnel near McCloud (d)	11367720	97
Lake McCloud near McCloud (l)	11367740	79
McCloud River below McCloud Dam, near McCloud (d)	11367760	98
McCloud River at Ah-Di-Na, near McCloud (d)	11367800	99
McCloud River above Shasta Lake (d)	11368000	101
Shasta Lake near Redding (l)	11370000	103
Sacramento River at Keswick (d)	11370500	105
Anderson–Cottonwood Irrigation District Canal at Sharon Street, at Redding (d)	11370700	107
Clear Creek:		
Whiskeytown Lake:		
Judge Francis Carr Powerplant near French Gulch (d)	11525430	108

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

	Station No.	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA—Continued:</u>		
<u>SACRAMENTO RIVER BASIN—Continued:</u>		
Sacramento River—Continued:		
Clear Creek—Continued:		
Whiskeytown Lake—Continued:		
Spring Creek Powerplant at Keswick (d)	11371600	109
Whiskeytown Lake near Igo (l)	11371700	110
Clear Creek near Igo (d)	11372000	111
South Cow Creek (head of Cow Creek):		
South Cow Creek Canal:		
South Cow Creek Canal Diversion to South Cow Creek, near Whitmore (d)	11372080	114
Old Cow Creek:		
Kilarc Canal:		
Kilarc Canal Diversion to Old Cow Creek, near Whitmore (d)	11372325	115
Old Cow Creek below diversion to Olsen Powerplant, near Whitmore (d)	11372350	116
Cow Creek near Millville (d)	11374000	118
Middle Fork Cottonwood Creek below diversion to Arbuckle Mountain Powerplant, near Platina (d)	11374305	120
Cottonwood Creek near Cottonwood (d)	11376000	121
North Fork Battle Creek (head of Battle Creek):		
North Fork Battle Creek below North Battle Creek Dam, near Manzanita Lake (d)	11376015	123
North Fork Battle Creek below McCumber Dam, near Manzanita Lake (d)	11376025	124
Volta No. 1 Powerplant near Manton (d)	11376043	125
Volta No. 2 Powerplant near Manton (d)	11376046	125
North Fork Battle Creek below diversion to Keswick Canal, near Manton (d)	11376050	126
Bailey Creek below diversion to Ponderosa–Bailey Creek Powerplant, near Manton (d)	11376120	127
North Fork Battle Creek below diversion to Cross Country Canal, near Manton (d)	11376140	128
North Fork Battle Creek below diversion to Eagle Canyon Canal, near Manton (d)	11376150	129
North Fork Battle Creek below diversion to Wildcat Canal, near Manton (d)	11376160	130
South Fork Battle Creek:		
South Powerplant near Manton (d)	11376410	125
South Fork Battle Creek below diversion to South Battle Creek Canal, near Manton (d)	11376420	131
Inskip Powerplant near Manton (d)	11376430	125
South Fork Battle Creek below diversion to Inskip Canal, near Manton (d)	11376440	132
Coleman Powerplant near Cottonwood (d)	11376458	125
South Fork Battle Creek below diversion to Coleman Canal, near Manton (d)	11376460	133
Battle Creek below Coleman Fish Hatchery, near Cottonwood (d)	11376550	134
Sacramento River above Bend Bridge, near Red Bluff (d)	11377100	136
Elder Creek near Paskenta (d)	11379500	138
Mill Creek near Los Molinos (dt)	11381500	140
Deer Creek near Vina (dtu)	11383500	144
Sacramento River at Vina Bridge, near Corning (s)	11383730	150
East Park Reservoir near Stonyford (l)	11385100	151
Elder Creek at Holmes Road Bridge, near Gerber (s)	400307122085401	504
Antelope Creek at Cone Grove Road, near Red Bluff (cs)	401001122080601	505
Stony Gorge Reservoir near Elk Creek (l)	11386100	151
Sacramento River at Colusa (dc)	11389500	153
Butte Creek below diversion dam, near Stirling City (d)	11389720	157
Butte Creek below forks of Butte Diversion Dam, near De Sabla (d)	11389740	158
Butte Creek below Centerville Diversion Dam, near Paradise (d)	11389780	159
Toadtown Canal above Butte Canal, near Stirling City (d)	11389800	160
Butte Creek near Chico (dtu)	11390000	161
Sacramento River below Wilkins Slough, near Grimes (dt)	11390500	167
Sacramento Slough near Knights Landing (cs)	11391100	170
Middle Fork Feather River (head of Feather River):		
Lake Oroville:		
South Fork Feather River:		
Little Grass Valley Reservoir near La Porte (l)	11395020	175

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

	Station No.	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA—Continued:</u>		
<u>SACRAMENTO RIVER BASIN—Continued:</u>		
Sacramento River—Continued:		
Middle Fork Feather River (head of Feather River)—Continued:		
Lake Oroville—Continued:		
South Fork Feather River below Little Grass Valley Dam (d)	11395030	176
South Fork Tunnel near Strawberry Valley (d)	11395150	178
South Fork Feather River below diversion dam, near Strawberry Valley (d)	11395200	179
Lost Creek:		
Sly Creek Reservoir near Strawberry Valley (l)	11395400	181
Oroville–Wyandotte Canal near Clipper Mills (d)	11395500	182
Lost Creek near Clipper Mills (d)	11396000	183
South Fork Feather River below Forbestown Dam (d)	11396200	185
Miners Ranch Canal below Ponderosa Dam, near Forbestown (d)	11396310	187
Bangor Canal below Miners Ranch Reservoir, near Oroville (d)	11396330	188
Sucker Run at Kanaka Diversion, near Feather Feather Falls (d)	11396395	189
North Fork Feather River:		
Lake Almanor at Prattville (l)	11399000	191
North Fork Feather River near Prattville (d)	11399500	192
Butt Creek below Almanor–Butt Creek Tunnel, near Prattville (d)	11400500	194
Butt Valley Reservoir near Caribou (l)	11401050	196
North Fork Feather River below Belden Dam (d)	11401112	197
Indian Creek (head of East Branch North Fork Feather River):		
Ward Creek:		
South Branch Ward Creek below diversion dam, near Genesee (d)	11401165	199
Spanish Creek above Blackhawk Creek, at Keddie (d)	11402000	200
North Fork Feather River below Rock Creek Diversion Dam (d)	11403200	202
Milk Ranch Creek:		
Three Lakes Reservoir:		
Milk Ranch Conduit at outlet, near Bucks Lodge (d)	11403450	204
Bucks Creek:		
Bucks Lake near Bucks Lodge (l)	11403500	205
Lower Bucks Lake near Bucks Lodge (l)	11403520	206
Bucks Creek below diversion dam, near Bucks Lodge (d)	11403530	207
Grizzly Creek:		
Grizzly Forebay near Storrie (l)	11404250	209
Grizzly Creek below diversion dam, near Storrie (d)	11404300	210
North Fork Feather River below Grizzley Creek (d)	11404330	213
Camp Creek near Pulga (d)	11404380	215
North Fork Feather River below Poe Dam (d)	11404400	216
North Fork Feather River at Pulga (d)	11404500	217
West Branch Feather River:		
Philbrook Creek below Philbrook Dam, near Butte Meadows (d)	11405120	219
West Branch Feather River below Hendricks Diversion Dam, near Stirling (d)	11405200	220
Lake Oroville near Oroville (l)	11406800	222
Palermo Canal near Oroville (d)	11406810	224
Power Canal:		
Thermalito Afterbay near Oroville (l)	11406870	225
Western Canal at Intake, near Oroville (d)	11406880	227
Richvale Canal at Intake, near Oroville (d)	11406890	228
Pacific Gas and Electric Co. Lateral at Intake, near Oroville (d)	11406900	229
Sutter–Butte Canal at Intake, near Oroville (d)	11406910	230
Thermalito Afterbay Release to Feather River, near Oroville (d)	11406920	231
Feather River at Oroville (d)	11407000	232
Jackson Meadows Reservoir near Sierra City (l)	11407800	236
Middle Yuba River controlled release at Jackson Meadows Dam, near Sierra City (d)	11407815	237
Milton–Bowman Tunnel Outlet near Graniteville (d)	11408000	238

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

	Station No.	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA—Continued:</u>		
<u>SACRAMENTO RIVER BASIN—Continued:</u>		
Sacramento River—Continued:		
Feather River—Continued:		
Middle Yuba River below Milton Dam, near Sierra City (d)	11408550	240
Lohman Ridge Tunnel at intake, near Camptonville (d)	11408870	242
Middle Yuba River below Our House Dam, near Camptonville (d)	11408880	243
Oregon Creek:		
Camptonville Tunnel at intake, near Camptonville (d)	11409350	244
Oregon Creek below Log Cabin Dam, near Camptonville (d)	11409400	245
Middle Yuba River near North San Juan (dts)	11410000	247
North Yuba River below Goodyears Bar (d)	11413000	254
Slate Creek:		
Slate Creek Tunnel near Strawberry Valley (d)	11413250	256
Slate Creek below diversion dam, near Strawberry Valley (d)	11413300	257
Deadwood Creek near Strawberry Valley (d)	11413320	258
Owl Gulch near Strawberry Valley (d)	11413323	259
New Bullards Bar Reservoir:		
New Colgate Powerplant near French Corral (d)	11413510	260
New Bullards Bar Reservoir near North San Juan (l)	11413515	261
North Yuba River below New Bullards Bar Dam, near North San Juan (d)	11413520	262
South Yuba River:		
Kidd Lake near Soda Springs (l)	11413940	264
Upper Cascade Lake near Soda Springs (l)	11413943	265
Lower Cascade Lake near Soda Springs (l)	11413945	266
Lake Spaulding:		
White Rock Lake near Soda Springs (l)	11414050	268
Meadow Lake near Cisco (l)	11414070	269
Lake Sterling near Cisco (l)	11414080	270
Fordyce Lake near Cisco (l)	11414090	271
Fordyce Creek below Fordyce Dam, near Cisco (d)	11414100	272
Lake Spaulding near Emigrant Gap (l)	11414140	274
Drum Canal at tunnel outlet, near Emigrant Gap (d)	11414170	275
South Yuba Canal near Emigrant Gap (d)	11414200	277
South Yuba River controlled release at Lake Spaulding, near Emigrant Gap (d)	11414210	278
South Yuba River at Langs Crossing, near Emigrant Gap (d)	11414250	279
Blue Lake near Emigrant Gap (l)	11414260	280
Rucker Creek below Blue Lake, near Emigrant Gap (d)	11414265	281
Rucker Lake near Emigrant Gap (l)	11414275	282
Rucker Creek below Rucker Lake, near Emigrant Gap (d)	11414280	283
Canyon Creek:		
Feeley Lake near Graniteville (l)	11414345	284
Lake Creek below Feeley Lake, near Graniteville (d)	11414350	285
Carr Lake near Graniteville (l)	11414355	286
Lake Creek below Carr Lake, near Graniteville (d)	11414360	287
French Lake near Cisco (l)	11414400	288
Canyon Creek below French Lake, near Cisco (d)	11414410	289
Faucherie Lake near Cisco (l)	11414440	290
Canyon Creek below Faucherie Lake, near Cisco (d)	11414450	291
Sawmill Lake near Graniteville (l)	11414465	292
Canyon Creek below Sawmill Lake, near Graniteville (d)	11414470	293
Jackson Lake near Sierra City (l)	11414690	294
Jackson Creek below Jackson Lake, near Sierra City (d)	11414700	295
Bowman Lake near Graniteville (l)	11415500	296
Bowman–Spaulding Canal at Jordan Creek Siphon Venturi, near Emigrant Gap (d)	11416100	297
Canyon Creek below Bowman Lake (d)	11416500	299
Rock Lake near Graniteville (l)	11416580	301

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

	Station No.	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA—Continued:</u>		
<u>SACRAMENTO RIVER BASIN—Continued:</u>		
Sacramento River—Continued:		
Feather River—Continued:		
Yuba River (continuation of Middle Yuba River):		
Rucker Creek—Continued:		
Canyon Creek—Continued:		
Texas Creek below Rock Lake (d)	11416585	302
Lower Rock Lake near Graniteville (l)	11416590	303
Texas Creek below Lower Rock Lake, near Graniteville (d)	11416610	304
Culbertson Lake near Graniteville (l)	11416618	305
Texas Creek Tributary below Culbertson Lake, near Graniteville (d)	11416620	306
Middle Lindsey Lake near Graniteville (l)	11416660	307
Lindsey Creek below Middle Lindsey Lake (d)	11416670	308
Lower Lindsey Lake near Graniteville (l)	11416680	309
Lindsey Creek below Lower Lindsey Lake, near Graniteville (d)	11416700	310
South Yuba River at Jones Bar, near Grass Valley (dts)	11417500	311
Harry L. Englebright Lake near Smartville (l)	11417950	318
Yuba River below Engelbright Dam, near Smartville (dts)	11418000	320
Deer Creek near Smartville (d)	11418500	327
Yuba River near Marysville (dt)	11421000	329
Bear River near Emigrant Gap (d)	11421710	333
Bear River below Drum Afterbay, near Blue Canyon (d)	11421770	334
Bear River below Dutch Flat Afterbay, near Dutch Flat (d)	11421790	335
Rollins Reservoir near Colfax (l)	11421800	337
Bear River Canal Intake near Colfax (d)	11422000	338
Bear River near Lucas Hill, at the Nevada–Placer County Line (cs)	390107121102101	506
Bear River below Rollins Dam, near Colfax (d)	11422500	340
Bear River fish release below New Camp Far West Reservoir, near Wheatland (d)	11423800	342
Bear River near Wheatland (dcs)	11424000	343
Feather River near Nicolaus (cs)	11425000	347
Bear River:		
Mormon Ravine near Newcastle (d)	11425418	351
Sacramento River at Verona (d)	11425500	352
Sacramento Weir Spill to Yolo Bypass, near Sacramento (d)	11426000	354
Sacramento River at Tower Bridge, at Sacramento (c)	383430121302001	507
North Fork American River (head of American River):		
North Fork of North Fork American River:		
Lake Valley Reservoir near Cisco (l)	11426170	355
Sixmile Valley:		
Kelly Lake near Cisco (l)	11426180	356
Canyon Creek near Blue Canyon (d)	11426195	357
Canyon Creek below Towle Diversion Dam, near Blue Canyon (d)	11426196	358
North Fork American River (head of American River) at North Fork Dam (d)	11427000	359
Middle Fork American River:		
French Meadows Reservoir near Foresthill (l)	11427400	362
Middle Fork American River at French Meadows (d)	11427500	363
Duncan Canyon Creek near French Meadows (d)	11427700	365
Duncan Creek below diversion dam, near French Meadows (d)	11427750	367
Middle Fork American River above Middle Fork Powerplant, near Foresthill (d)	11427760	368
Middle Fork American River below Interbay Dam, near Foresthill (d)	11427770	369
Rubicon River:		
Rubicon–Rockbound Tunnel near Meeks Bay (d)	11427940	371
Rubicon River below Rubicon Dam, near Meeks Bay (d)	11427960	372
Little Rubicon River:		
Buck Island Lake:		
Buck–Loon Tunnel near Meeks Bay (d)	11428300	373

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

	Station No.	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA—Continued:</u>		
<u>SACRAMENTO RIVER BASIN—Continued:</u>		
Sacramento River—Continued:		
North Fork American River—Continued:		
Middle Fork American River—Continued:		
Rubicon River—Continued:		
Little Rubicon River below Buck Island Dam, near Meeks Bay (d)	11428400	374
Hell Hole Reservoir near Meeks Bay (l)	11428700	375
Rubicon River below Hell Hole Dam, near Meeks Bay (d)	11428800	376
South Fork Rubicon River:		
Gerle Creek:		
Loon Lake near Meek Bay (l)	11429350	378
Gerle Creek below Loon Lake Dam, near Meeks Bay (d)	11429500	379
Gerle Reservoir near Meek Bay (l)	11429600	381
South Fork Rubicon River below Gerle Creek, near Georgetown (d)	11430000	382
Pilot Creek above Stumpy Meadows Lake (d)	11431800	384
Pilot Creek below Mutton Canyon, near Georgetown (d)	11433040	386
South Fork Long Canyon Creek (head of Long Canyon Creek):		
South Fork Long Canyon Creek Diversion Tunnel near Volcanoville (d)	11433060	387
South Fork Long Canyon Creek below diversion dam, near Volcanoville (d)	11433065	388
North Fork Long Canyon Creek:		
North Fork Long Canyon Creek Diversion Tunnel near Volcanoville (d)	11433080	389
North Fork Long Canyon Creek below diversion dam, near Volcanoville (d)	11433085	390
Middle Fork American River near Foresthill (d)	11433300	391
Folsom Lake:		
North Fork American River at Auburn Dam Site, near Auburn (t)	11433790	393
South Fork American River:		
Lake Aloha near Phillips (l)	11434900	397
Pyramid Creek at Twin Bridges (d)	11435100	398
Silver Lake (head of Silver Fork of South Fork American River):		
Silver Lake near Kirkwood (l)	11435900	399
Silver Lake Outlet near Kirkwood (d)	11436000	400
Caples Lake near Kirkwood (l)	11436950	402
Caples Creek Release below Caples Dam, near Kirkwood (d)	11436999	403
South Fork American River near Kyburz (d)	11439500	404
Silver Creek:		
Union Valley Reservoir near Riverton (l)	11441001	407
Junction Reservoir:		
South Fork Silver Creek:		
Ice House Reservoir near Kyburz (l)	11441100	408
South Fork Silver Creek near Ice House (d)	11441500	409
Junction Reservoir near Pollock Pines (l)	11441760	411
Silver Creek below Junction Dam, near Pollock Pines (d)	11441800	412
Camino Reservoir near Pollock Pines (l)	11441890	413
Silver Creek below Camino Diversion Dam (d)	11441900	414
Slab Creek Reservoir:		
Brush Creek Reservoir near Pollock Pines (l)	11442690	416
Brush Creek below Brush Creek Dam, near Pollock Pines (d)	11442700	417
Slab Creek Reservoir near Camino (l)	11443450	418
South Fork American River near Camino (d)	11443500	419
Rock Creek near Placerville (d)	11444201	421
South Fork American River near Placerville (d)	11444500	423
South Fork American River near Pilot Hill (t)	11446030	424
Folsom Lake near Folsom (l)	11446200	426
American River below Folsom Dam, near Folsom (t)	11446220	427
American River at Fair Oaks (dt)	11446500	429
American River at William B. Pond Park, at Carmichael (t)	11446700	433

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

	Station No.	Page
<u>PACIFIC SLOPE BASINS IN CALIFORNIA—Continued:</u>		
<u>SACRAMENTO RIVER BASIN—Continued:</u>		
Sacramento River—Continued:		
American River below Watt Avenue Bridge, near Carmichael (t)	11446980	435
Natomas East Main Drainage Canal:		
Dry Creek at Vernon Street Bridge, at Roseville (d)	11447293	437
Arcade Creek near Del Paso Heights (dcts)	11447360	439
Sacramento River at Sacramento (g)	11447500	445
Sacramento River at Freeport (dcts)	11447650	447
Yolo Bypass:		
Clear Lake (head of Cache Creek):		
Kelsey Creek near Kelseyville (d)	11449500	463
Clear Lake at Lakeport (l)	11450000	465
Cache Creek near Lower Lake (dcs)	11451000	466
North Fork Cache Creek at Hough Springs, near Clearlake Oaks (d)	11451100	468
Indian Valley Reservoir near Clearlake Oaks (l)	11451290	470
North Fork Cache Creek near Clearlake Oaks (dcs)	11451300	472
North Fork Cache Creek at Highway 20, near Lower Lake (cs)	11451500	475
Harley Gulch near Wilbur Springs (dcs)	11451540	476
Davis Creek at dam, near Knoxville (dcs)	11451600	479
Sulphur Creek at Wilbur Springs (dcs)	11451690	482
Bear Creek above Holsten Chimney Canyon, near Rumsey (dcs)	11451715	485
Cache Creek at Rumsey (cs)	11451800	488
Cache Creek at Yolo (d)	11452500	489
Cache Creek Inflow to Settling Basin (cs)	384340121434401	510
Yolo Bypass near Woodland (d)	11453000	491
Cache Creek:		
Cache Creek Outflow from Settling Basin, near Woodland (cs)	384040121402301	511
Yolo Bypass at Interstate Highway 80, near West Sacramento (cs)	11453120	492
Dry Slough Bypass near Davis (d)	383601121461601	501
Willow Slough near Woodland (d)	383749121433701	502
Willow Slough Bypass near Davis (d)	383525121434601	502
Yolo Bypass:		
Putah Creek near Guenoc (d)	11453500	494
Lake Berryessa near Winters (l)	11453900	496
Putah Creek near Winters (d)	11454000	497
Putah South Canal near Winters (d)	11454210	499
Lower Yolo Bypass near Rio Vista (cs)	381427121404901	512

DISCONTINUED GAGING STATIONS

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

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
10354000	Long Valley Creek near Scotts	125	1917, 1919, 1989–94
10354700	Mill Creek at Milford	2.26	1963–69
10355000	Baxter Creek near Janesville	19.6	1913–16, 1918–19
10355500	Schloss Creek at Janesville	1.05	1915, 1918–19
10356500	Susan River at Susanville	184	1900–05, 1913, 1917–21, 1951–94
10357000	Gold Run Creek near Susanville	15.1	1915–16
10358470	Willow Creek Tributary near Susanville	3.08	1966–71
10358500	Willow Creek near Susanville	90.4	1951–94
10359100	Shaffer Creek near Litchfield	5.63	1970–73
10359250	Pine Creek near Westwood	24.8	1951–61
10359300	Pine Creek near Susanville	226	1961–66, 1968, 1970–82
10359350	Eagle Lake Tributary near Susanville	.91	1963–65
10360230	Eagle Creek at Eagleville	6.36	1962–64, 1966–68, 1970
10360900	Bidwell Creek below Mill Creek, near Fort Bidwell	25.6	1961–82
10361000	Bidwell Creek at Fort Bidwell	—	1912, 1918–19
11341400	Sacramento River near Mount Shasta	135	1960–87
11341500	Sacramento River at Castella	256	1911–17, 1920–23
11342500	Sacramento River at Antler	460	1911, 1920–41
11343000	Parker Creek near Alturas	80.9	1931
11343500	North Fork Pit River near Alturas	203	1930–32, 1958–67
11344000	North Fork Pit River at Alturas	212	1929–31, 1972–85
11344500	South Fork Pit River at Jess Valley	100	1929–31
11346000	Crooks Canyon Creek near Likely	33.8	1929–31
11346500	Fitzhugh Creek near Alturas	36.7	1930–31
11347500	Pine Creek near Alturas	23.5	1919–31
11348000	Pit River at Alturas	857	1929–31
11348200	Pit River near Alturas	1,080	1966–71
11349000	Pit River near Lookout	1,585	1929–31, 1958–71, 1978–80
11349500	Ash Creek at Ash Valley	136	1929–31
11350500	Ash Creek at Adin	258	1904–06, 1929–33, 1958–70, 1972–82
11351000	Willow Creek near Adin	—	1930–31
11351500	Widow Valley Creek near Lookout	27.7	1930–31
11352000	Pit River near Bieber	2,475	1904–08, 1922–26, 1929–31, 1952–70, 1972–75
11352500	Horse Creek at Little Valley, near Pittville	237	1929–31, 1960–67
11352900	Beaver Creek near Hat Creek	23.2	1970–73
11353500	Bear Creek near Dana	84	1921–26
11353600	Dry Creek near Dana	6.46	1967–70
11353700	Fall River near Dana	123	1959–67
11354500	Fall River at Fall River Mills	—	1912–13, 1922
11355000	Pit River at Fall River Mills	3,651	1921–51, 1981
11355500	Hat Creek near Hat Creek	162	1926–94
11356500	Hat Creek at Hawkins Ranch, near Hat Creek	190	1912–13
11357000	Hat Creek at Wilcox Ranch, near Cassel	193	1922
11358000	Lost Creek near Bald Mountain	7.51	1930
11358500	Rising River near Cassel	22.2	1912–13, 1921–22

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
11359500	Hat Creek at Carbon	364	1922
11360000	Burney Creek above Burney	60.1	1922
11360500	Burney Creek at Park Avenue, near Burney	94.6	1912–13, 1921–22, 1958–64, 1966–75, 1977–80
11363500	Kosk Creek near Henderson	54.8	1911–13, 1915–16
11364000	Pit River above Hatchet Creek	4,819	1926–37
11365500	Squaw Creek above Shasta Lake	64	1945–66
11366000	Squaw Creek at Ydalpom	99.5	1912–13
11366500	Pit River near Ydalpom	5,030	1911–43
11367000	Mud Creek near McCloud	—	1927–32
11367200	McCloud River below Big Springs, near McCloud	322	1956–59
11367300	Angel Creek near McCloud	17.1	1955–59
11367700	McCloud River above Panther Creek, near McCloud	401	1955–59
11368500	McCloud River near Gregory	633	1903–08
11369000	McCloud River at Baird	673	1911–43
11369500	Sacramento River at Kennett	6,355	1926–42
11371000	Clear Creek at French Gulch	115	1950–93
11371500	Clear Creek near Shasta	172	1912–13
11372050	Churn Creek near Redding	9.35	1961–66
11372060	Churn Creek below Newton Creek, near Redding	11.9	1966–72
11372200	South Cow Creek near Millville	77.3	1957–72
11372700	Clover Creek near Oak Run	19	1957–59
11373200	Oak Run Creek near Oak Run	11.0	1957–66
11373300	Little Cow Creek near Ingot	60.8	1958–65
11374060	Shingle Creek near Shingletown	3.25	1964–67
11374100	Bear Creek near Millville	75.7	1960–67
11374400	Middle Fork Cottonwood Creek near Ono	244	1957–75
11375500	North Fork Cottonwood Creek at Ono	58.8	1908–13
11375700	North Fork Cottonwood Creek near Igo	88.7	1957–80
11375810	Cottonwood Creek near Olinda	395	1971–86
11375815	Cottonwood Creek above South Fork, near Cottonwood	478	1982–85
11375820	South Fork Cottonwood Creek near Cottonwood	217	1963–78
11375870	South Fork Cottonwood Creek near Olinda	371	1977–86
11375900	South Fork Cottonwood Creek at Evergreen Road, near Cottonwood	397	1982–85
11376038	Manzanita Creek at park boundary, near Manzanita Lake	11.6	1979–81
11376450	Coleman Canal above Coleman Forebay, near Cottonwood	—	1979–85
11376490	Battle Creek above Coleman Powerhouse, near Cottonwood	355	1979
11376500	Battle Creek near Cottonwood	356	1941–61
11377200	Sacramento River at Bend Bridge	8,900	1968–70
11377500	Paynes Creek near Red Bluff	92.8	1950–66
11378500	Sacramento River at Red Bluff	9,077	1957–66
11378800	Red Bank Creek near Red Bluff	89.6	1960–82
11378860	Red Bank Creek at Rawson Road Bridge, near Red Bluff	109	1965–67
11379000	Antelope Creek near Red Bluff	123	1941–82
11380000	Elder Creek near Henleyville	130	1931–41
11380500	Elder Creek at Gerber	136	1941–69, 1977–79
11381000	Mill Creek near Mineral	21.2	1929–32
11381595	Mill Creek at Sherwood Bridge, near Los Molinos	133	1977–78
11381990	Thomes Creek tributary at Paskenta	.65	1968–70
11382000	Thomes Creek at Paskenta	203	1921–97
11382090	Thomes Creek at Rawson Road Bridge, near Richfield	284	1978–80
11382500	Deer Creek at Deer Creek Meadows	50.5	1929–32
11382550	Deer Creek below Slate Creek, near Deer Creek Meadows	69.4	1961–70
11383000	Deer Creek at Polk Springs	134	1929–31

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
11383600	Deer Creek at Red Bridge, near Vina	210	1977
11383730	Sacramento River at Vina Bridge, near Corning	—	1945–78
11383800	Sacramento River near Hamilton City	10,833	1945–80
11384000	Big Chico Creek near Chico	72.4	1931–86
11384340	Mud Creek at Cohasset Road, near Chico	21.9	1968–69
11384350	Mud Creek near Chico	48.9	1966–74
11384500	Stony Creek near Stonyford	102	1914–15, 1919–34
11384600	Little Stony Creek above East Park Reservoir, near Lodoga	45.6	1967–82
11385000	Little Stony Creek near Lodoga	98.2	1909–34
11385500	Stony Creek above Stony Gorge Reservoir	281	1934–41
11386500	Grindstone Creek near Elk Creek	157	1936–37, 1940, 1966–72
11387000	Stony Creek near Fruto	597	1901–12, 1961–78
11387200	Stony Creek above Black Butte Lake, near Orland	623	1909, 1981–83
11387500	Stony Creek near Orland	635	1920–34
11387800	North Fork Stony Creek near Newville	63.4	1963–73
11387990	South Diverson Canal near Orland	—	1955–90
11388000	Stony Creek below Black Butte Dam, near Orland	738	1955–90
11388500	Stony Creek near Hamilton City	773	1941–73
11389000	Sacramento River at Butte City	12,080	1921–95
11389700	Butte Creek at Butte Meadows	44.4	1960–74
11389950	Little Butte Creek at Magalia	11.4	1969–85
11390200	Gold Run Creek Tributary near Nelson	1.31	1961
11390210	Cherokee Canal near Nelson	—	1970–74
11390655	South Fork Willow Creek near Fruto	38.9	1963–78
11390660	Walker Creek at Artois	60.4	1965–81
11390672	Stone Corral Creek near Sites	38.2	1958–64, 1966–85
11390890	Colusa Basin Drain at Road 99E, near Knights Landing	—	1996
11391000	Sacramento River at Knights Landing	14,535	1941–80
11391100	Sacramento Slough near Knights Landing	—	1996
11391400	Little Last Chance Creek below Frenchman Dam, near Chilcoot	81.1	1959–80
11391460	Berry Creek near Sattley	7.54	1973–81
11391500	Big Grizzly Creek at Grizzly Valley Dam, near Portola	44	1926–32, 1951–53, 1955–67, 1969–80
11392100	Middle Fork Feather River near Portola	586	1969–76, 1978–80
11392500	Middle Fork Feather River near Clio	686	1926–79
11393000	Middle Fork Feather River at Sloat	775	1911–27
11393500	Middle Fork Feather River below Sloat	819	1941–62
11394000	Middle Fork Feather River near Nelson Point	883	1924–32
11394500	Middle Fork Feather River near Merrimac	1,062	1952–86
11394620	Fall River near Feather Falls	9.89	1963–79
11394800	South Fork Feather River above Little Grass Valley Reservoir	8.09	1961–79
11395300	Lost Creek above Sly Creek Reservoir, near Strawberry Valley	14.1	1961–70
11396300	South Fork Feather River near Forbestown	105	1958–61
11396350	South Fork Feather River at Ponderosa Dam	108	1962–87, 1990
11396400	Sucker Run near Forbestown	18.7	1965–87
11396500	Palmero Canal at Enterprise	—	1912–65
11397000	South Fork Feather River at Enterprise	132	1912–66
11397500	Feather River at Bidwell Bar	1,341	1912–64
11400000	Butt Creek above Almanor–Butt Creek Tunnel, near Prattville	69.0	1937–64
11401000	Butt Creek at Butt Valley	81.3	1905–21
11401100	Butt Creek near Caribou	85.5	1970, 1976–81
11401125	Indian Creek near Boulder Creek Guard Station, near Taylorsville	68.6	1966–80
11401150	Red Clover Creek near Genesee	122	1959–65
11401180	Little Grizzly Creek near Genesee	29.6	1964–79

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
11401200	Indian Creek near Taylorsville	526	1958–73, 1975–76, 1979–80
11401300	Lights Creek near Taylorsville	57.6	1958–62
11401500	Indian Creek near Crescent Mills	739	1906–09, 1911–18, 1930–93
11401900	Spanish Creek near Quincy	69.1	1959–63
11401940	Mill Creek near Quincy	6.72	1966–71
11402500	Spanish Creek at Keddie	194	1912–33
11403000	East Branch of North Fork Feather River near Rich Bar	1,025	1951–61, 1968–82
11403510	Bucks Creek Tunnel inlet near Storrie	—	1970, 1976
11404000	Grizzly Creek near Storrie	5.20	1930–44
11404100	Bucks Creek Tunnel Outlet near Storrie	—	1986–94
11405000	North Fork Feather River at Big Bend	1,965	1905–11
11405300	West Branch Feather River near Paradise	—	1958–86
11405500	Spring Valley Diversion near Yankee Hill	—	1926–52
11406000	Concow Creek near Yankee Hill	15.1	1928–30, 1932–52
11406500	West Branch Feather River near Yankee Hill	146	1931–63
11407150	Feather River near Gridley	3,676	1965–98
11407300	North Honcut Creek near Bangor	47.1	1961–81
11407500	South Honcut Creek near Bangor	30.6	1951–86
11407700	Feather River at Yuba City	3,974	1965–84
11407810	Middle Yuba River at Jackson Meadows Dam, near Sierra City	37.6	1989–94
11407900	Middle Yuba River below Jackson Meadows Dam, near Sierra City	38.3	1965–87
11408500	Middle Yuba River at Milton	39.8	1926–64
11408700	Middle Yuba River near Alleghany	96.6	1958–66
11408850	Middle Yuba River near Camptonville	136	1967–89
11409000	Middle Yuba River above Oregon Creek, near North San Juan	162	1941–69
11409300	Oregon Creek at Camptonville	23	1967–2000
11409500	Oregon Creek near North San Juan	34.4	1912–69
11410400	Haypress Creek near Sierra City	18.2	1961–66
11410500	North Yuba River near Sierra City	94.7	1924–44
11411000	Downie River at Downieville	72.7	1911–26
11411500	North Yuba River at Goodyears Bar	221	1911–31
11412000	Rock Creek at Goodyears Bar	8.98	1911–33
11412500	Goodyears Creek at Goodyears Bar	12.9	1911–33
11413100	North Yuba River above Slate Creek, near Strawberry Valley	351	1968–87
11413500	North Yuba River below Bullards Bar Dam	487	1941–66
11413600	Sweetland Creek near North San Juan	2.68	1969–73
11413700	Yuba River below New Colgate Powerplant, near French Corral	717	2001–02
11413900	Upper Castle Creek at Soda Springs	3.96	1958–63
11413950	South Yuba River Tributary near Soda Springs	.92	1972–73
11414000	South Yuba River near Cisco	51.8	1942–94
11414190	Drum Canal above Drum Forebay, near Blue Canyon	—	1964–91
11414500	Canyon Creek above Jackson Creek	16.6	1926–30
11415000	Jackson Creek at Mouth	5.45	1926–30
11417000	South Yuba River near Washington	198	1942–53, 1957–72
11417100	Poorman Creek near Washington	23.1	1961–71
11419000	Yuba River at Smartville	1,200	1904–41
11420000	Dry Creek near Brownsville	20.4	1949–60
11420500	Dry Creek at Virginia Ranch	71.3	1949–61
11420700	Dry Creek near Browns Valley	87.1	1964–80
11421500	Yuba River at Marysville	1,344	1944–57
11421700	Feather River below Shanghai Bend, near Olivehurst	5,334	1970–80
11421720	Boardman Canal near Emigrant Gap	—	1965–86
11421730	Bear River below Boardman Diversion Dam, near Emigrant Gap	4.01	1979–85

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
11423000	Bear River near Auburn	140	1941–67
11423500	Bear River at Van Trent	265	1905–27
11424500	Dry Creek near Wheatland	99.9	1947–62
11424600	Wellman Creek near Smartville	.59	1968–73
11425100	Feather River at pump stand, near Nicolaus	5,920	1942, 1944–83,
11425410	Rock Creek Lake near Auburn	—	1999–2000
11426110	Onion Creek Tributary No. 3 near Soda Springs	.65	1959–64, 1966–67
11426120	Onion Creek Tributary No. 5A near Soda Springs	.39	1959–64, 1966
11426130	Onion Creek Tributary No. 2 near Soda Springs	.48	1958–64, 1966–67
11426140	Onion Creek Tributary No. 1 near Soda Springs	.19	1958–64, 1966–67
11426150	Onion Creek near Soda Springs	3.58	1960–79
11426160	Onion Creek Tributary No. 7 near Soda Springs	.80	1959–64
11426200	North Fork Forbes Creek near Dutch Flat	1.68	1956–85
11426400	North Shirttail Creek near Dutch Flat	9.10	1957–85
11426500	North Fork American River near Colfax	308	1912–41
11428000	Rubicon River at Rubicon Springs, near Meeks Bay	31.4	1910–13, 1957–86
11429000	South Fork Rubicon River at sawmill, near Quintette	16.1	1910–14
11429800	Robbs Peak Tunnel near Riverton	—	1963–67
11430500	South Fork Rubicon River at Mouth, near Georgetown	56.9	1956–62
11431000	Rubicon River near Georgetown	195	1910–14, 1944–65
11431500	Georgetown Divide Ditch above Pilot Creek, near Georgetown	—	1951–62
11432000	Georgetown Divide Ditch near Georgetown	—	1947–60
11432500	Pilot Creek near Georgetown	15.1	1946–60
11433100	Long Canyon Creek near French Meadows	18.0	1960–92
11433200	Rubicon River near Foresthill	315	1959–84
11433260	North Fork of Middle Fork American River, near Foresthill	88.9	1965–85
11433400	Canyon Creek near Georgetown	12.7	1966–79
11433420	Maine Bar Canyon Creek near Greenwood	.75	1973–86
11433500	Middle Fork American River near Auburn	614	1912–86
11433800	North Fork American River below Auburn Dam site, near Auburn	973	1972–86
11434000	North Fork American River at Rattlesnake Bridge	996	1931–37, 1939–55
11435000	Pyramid Creek near Phillips	3.73	1961–64, 1966–70
11435500	South Fork American River at Kyburz	73.2	1924
11437000	Caples Lake Outlet near Kirkwood	13.5	1922–92
11438000	Silver Fork of South Fork American River, near Kyburz	107	1925–44
11439950	Alder Creek Pipeline Diversion near Whitehall	—	1976–82
11440000	Alder Creek near Whitehall	22.1	1923–81
11440500	Plum Creek near Riverton	7.32	1923–39
11440850	Picket Pen Creek near Kyburz	.49	1964–68
11441000	Silver Creek at Union Valley	83.0	1925–60
11442000	Silver Creek near Placerville	177	1922–61
11442500	South Fork American River below Silver Creek, near Pollock Pines	449	1923, 1970–93
11443000	American River Flume near Camino	—	1923–57
11445000	South Fork American River at Coloma	631	1930–41
11445500	South Fork American River near Lotus	673	1951–95
11446000	Weber Creek near Salmon Falls	97.6	1943–59
11447000	American River at Sacramento	1,936	1944–59
11447030	Strong Ranch Slough at Sacramento	5.02	1972–75
11447300	Dry Creek Tributary near Roseville	.39	1964–67
11447330	Magpie Creek near Del Paso Heights	2.03	1996–97
11448500	Adobe Creek near Kelseyville	6.36	1955–78
11448900	Highland Creek above Highland Creek Dam	11.9	1963–78
11449000	Highland Creek near Kelseyville	12.6	1955–62
11449010	Highland Creek below Highland Creek Dam, near Kelseyville	14.2	1966–77
11449100	Scotts Creek near Lakeport	55.2	1961–80

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED GAGING STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
11449350	Burns Valley Creek near Clearlake Highlands	4.37	1963–69
11449450	Copsey Creek near Lower Lake	13.2	1961–68
11449460	Seigler Creek at Lower Lake	12.5	1966–73
11450500	Cache Creek at Lower Lake	488	1901–15
11451500	North Fork Cache Creek near Lower Lake	197	1931–81
11451700	Bear Creek Tributary near Wilbur Springs	4.49	1962–63
11451720	Bear Creek near Rumsey	100	1959–80
11451760	Cache Creek above Rumsey	955	1961–62, 1965–73, 1976–82, 1984–86
11451950	Cache Creek near Brooks	1,041	1983–86
11452000	Cache Creek near Capay	1,044	1943–77
11453170	Dry Creek above Appletree Creek, near Middletown	.83	1978
11453200	Dry Creek near Middletown	8.35	1960–72, 1979–80
11453550	Hunting Creek near Knoxville	37.8	1969–76
11453570	Adams Creek near Knoxville	7.42	1970–76
11453580	Nevada Creek near Knoxville	7.06	1969–76
11453600	Pope Creek near Pope Valley	78.3	1961–80
11453700	Capell Creek Tributary near Wooden Valley	.87	1962–65
11454100	Pleasants Creek near Winters	15.9	1960–68
11454500	Putah Creek at Winters	635	1906–31
11455000	Putah Creek near Davis	638	1949–63

DISCONTINUED LAKES AND RESERVOIRS

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

Station No.	Station name	Drainage area (mi ²)	Period of record (Water Year)
11362650	Pit no. 5 Powerplant Forebay near Big Bend	—	1986–89
11387995	Black Butte Lake near Orland	738	1964–90
11403300	Three Lakes Reservoir near Bucks Lake	1.0	1984–87
11416650	Upper Lindsey Lake near Graniteville	.06	1999–2002
11423700	New Camp Far West Reservoir near Wheatland	283	1967–83
11425300	Halsey Forebay near Auburn	—	1980–86
11425320	Lake Arthur near Auburn	.86	1982–83
11425330	Halsey Afterbay near Auburn	—	1980–85

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS

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

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record (Water Year)
10356500	Susan River at Susanville	184	WQ,B,S	1952–93
11341400	Sacramento River near Mount Shasta	135	T	1966–71, 1973–87
11342000	Sacramento River at Delta	425	WQ,T	1951–81

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record (Water Year)
11345500	South Fork Pit River near Likely	247	WQ,T,S	1951–79
11348500	Pit River near Canby	1,431	WQ,T,S	1951–79
11365000	Pit River near Montgomery Creek	4,952	WQ,T	1951, 1953–81
11368000	McCloud River above Shasta Lake	604	T	1957–59
11370000	Shasta Lake near Redding	6,421	WQ	1978–80
11370500	Sacramento River at Keswick	6,468	WQ,B,C, T,S	1951–94
11371000	Clear Creek at French Gulch	115	S	1966–67
11372000	Clear Creek near Igo	228	WQ,T	1958–79
11372200	South Cow Creek near Millville	77.3	T	1966–71
11374000	Cow Creek near Millville	425	WQ,T,S	1959–71, 1973–76, 1978–79
11374400	Middle Fork Cottonwood Creek near Ono	244	T,S	1965, 1968–73, 1977–79
11375700	North Fork Cottonwood Creek near Igo	88.7	T	1977–79
11375810	Cottonwood Creek near Olinda	395	T,S	1973–80
11375820	South Fork Cottonwood Creek near Cottonwood	217	T	1977–79
11375870	South Fork Cottonwood Creek near Olinda	371	T,S	1878, 1977–80
11376000	Cottonwood Creek near Cottonwood	927	WQ,T,S	1957–67, 1977–85
11376038	Manzanita Creek at park boundary, near Manzanita Lake	11.6	C,T	1980–81
11376550	Battle Creek below Coleman Fish Hatchery, near Cottonwood	357	WQ,T,S	1962–79
11377100	Sacramento River above Bend Bridge, near Red Bluff	8,900	WQ,C,T,S	1955–81, 1996–98
11377200	Sacramento River at Bend Bridge	8,900	T,S	1959–63, 1967, 1969–70
11378000	Sacramento River near Red Bluff	9,020	T,S	1961–68
11378500	Sacramento River at Red Bluff	9,077	T,S	1958–66
11379500	Elder Creek near Paskenta	92.4	WQ,T,S	1959–70
11380500	Elder Creek at Gerber	136	T,S	1972–79
11381595	Mill Creek at Sherwood Bridge, near Los Molinos	133	T,S	1977–79
11382000	Thomes Creek at Paskenta	203	WQ,T,S	1959–83
11382090	Thomes Creek at Rawson Road Bridge, near Richfield	284	T,S	1978–80
11383600	Deer Creek at Red Bridge, near Vina	210	T,S	1977
11383800	Sacramento River near Hamilton City	10,833	T,S	1977
11384600	Little Stony Creek above East Park Reservoir, near Lodoga	45.6	T	1967–79
11387000	Stony Creek near Fruto	597	T	1971–78
11387200	Stony Creek above Black Butte Lake, near Orland	623	T,S	1981–83
11387900	Masterson Hollow Creek near Newville	.96	T	1982
11388000	Stony Creek below Black Butte Dam, near Orland	738	WQ,S,T	1958–94
11389000	Sacramento River at Butte City	12,080	WQ,T,S	1955–67, 1969–80
11389470	Colusa Weir Spill, Butte Basin, near Colusa	—	T,S	1975
11389500	Sacramento River at Colusa	12,090	C,T	1975, 1977–80, 1995–98
11390000	Butte Creek near Chico	147	WQ	1953–79
11390210	Cherokee Canal near Nelson	—	T,S	1970–74
11390425	Sutter Bypass at Long Bridge, near Meridian	—	T,S	1979
11390480	Tisdale Weir near Grimes	—	S	1978–80
11390600	Sacramento River at Boyers Bend, near Dunnig	—	T	1960–63
11390890	Colusa Basin Drain at Road 99E, near Knights Landing	—	WQ,C,T,S	1996–98
11391000	Sacramento River at Knights Landing	14,535	T,S	1959–60, 1978–80
11391050	Sutter Bypass near Nicolaus	—	T,S	1980–81
11391100	Sacramento Slough near Knights Landing	—	WQ,C,T,S	1996–98
11391500	Big Grizzly Creek at Grizzly Valley Dam, near Portola	44	T	1963–67
11392500	Middle Fork Feather River near Clio	686	T	1964–82
11394500	Middle Fork Feather River near Merrimac	1,062	T	1963–82
11396350	South Fork Feather River at Ponderosa Dam	108	T	1963–67

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS—CONTINUED

Station No.	Station name	Drainage area (mi ²)	Type of record	Period of record (Water Year)
11401180	Little Grizzly Creek near Genesee	29.6	T	1964–79
11401500	Indian Creek near Crescent Mills	739	WQ,T,S	1951–79
11404500	North Fork Feather River at Pulga	1,953	WQ,T	1963–83
11405300	West Branch Feather River near Paradise	—	T	1963–80
11406870	Thermolito Afterbay at river outlet	—	T	1968
11406920	Thermolito Afterbay Release to Feather River near Oroville	—	T	1969–92
11407000	Feather River at Oroville	3,624	WQ,C,T,S	1906–07, 1951–92
11407150	Feather River near Gridley	3,676	WQ,T,S	1965–93
11407700	Feather River at Yuba City	3,974	T	1964–76
11409000	Middle Yuba River above Oregon Creek, near North San Juan	162	T	1965–69
11409400	Oregon Creek below Log Cabin Dam, near Camptonville	29.1	T	1972–79
11409500	Oregon Creek near North San Juan	34.4	T	1965–69
11410000	Middle Yuba River near North San Juan	198	T	1974–77
11413100	North Yuba River above Slate Creek, near Strawberry Valley	351	T	1968–69, 1974–77
11413520	North Yuba River below New Bullards Bar Dam, near North San Juan	490	T	1971–74
11413700	Yuba River below New Colgate Powerplant, near French Corral	717	T,S	1975–78, 2001–02
11418500	Deer Creek near Smartville	84.6	T,S	1974–79
11420800	Yuba River at Daquerra Point Dam, near Browns Valley	1,330	T	1975–77
11421000	Yuba River near Marysville	1,339	WQ,T	1951–52, 1973–80, 1990–2003
11421500	Yuba River at Marysville	1,344	WQ,T,S	1961–66, 1973–76, 1996–98
11425100	Feather River at pump stand, near Nicolaus	—	T	1969–72, 1974
11425500	Sacramento River at Verona	21,251	WQ,C,T,S	1952, 1969–70, 1980, 1996–98
11427000	North Fork American River at North Fork Dam	342	T,WQ,S	1959–83
11429350	Loon Lake near Meeks Bay	—	WQ	1996
11433300	Middle Fork American River, near Foresthill	524	WQ,B	1979
11433400	Canyon Creek near Georgetown	12.7	T	1966–71, 1973–79
11433800	North Fork American River below Auburn Dam site, near Auburn	973	T	1983–86
11439500	South Fork American River near Kyburz	193	WQ,T,B,S	1966–80
11441001	Union Valley Reservoir near Riverton	—	WQ	1996
11441100	Ice House Reservoir near Kyburz	27.2	WQ	1996
11445500	South Fork American River near Lotus	673	B,S,WQ,T	1957–68, 1970–94
11446500	American River at Fair Oaks	1,888	WQ	1960–62
11447000	American River at Sacramento	1,936	WQ,S	1978, 1996–98
11447030	Strong Ranch Slough at Sacramento	5.02	C	1973–75
11447360	Arcade Creek near Del Paso Heights	31.5	WQ,T,C,S	1996–98
11447500	Sacramento River at Sacramento	23,502	S	1957–79
11447650	Sacramento River at Freeport	—	B,C	1974–81, 1989–98
11447810	Sacramento River at Greens Landing	—	C	1974–81
11449010	Highland Creek below Highland Creek Dam, near Kelseyville	14.2	T,S	1967–77
11451760	Cache Creek above Rumsey	955	T,S	1960–70, 1976, 1984–86
11451950	Cache Creek near Brooks	1,041	T,S	1984–86
11452500	Cache Creek at Yolo	1,139	T,S	1959–67, 1986
11453000	Yolo Bypass near Woodland	—	S	1957–61, 1980
11453170	Dry Creek above Appletree Creek, near Middletown	.83	C,T	1978
11453500	Putah Creek near Guenoc	113	T,S	1960–73
11453550	Hunting Creek near Knoxville	37.8	T,S	1973–74
11454000	Putah Creek near Winters	574	WQ,T	1951–81

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003
VOLUME 4—NORTHERN CENTRAL VALLEY BASINS AND THE GREAT BASIN
FROM HONEY LAKE BASIN TO OREGON STATE LINE

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

INTRODUCTION

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

This volume of the report includes records on surface water in the State. Specifically, it contains: (1) discharge records for 195 streamflow-gaging stations and 4 partial-record station; (2) stage and content records for 62 lakes and reservoirs; (3) gage-height records for 1 station; and (4) water-quality records for 41 streamflow-gaging stations. Records included for stream stages are only a small fraction of those obtained during the water year.

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

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

Publications similar to this report are published annually by the U.S. Geological Survey for all States. Each report has an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CA-03-1." For archiving and general distribution, the reports for 1971–74 water years also are identified as water-data reports. These water-data reports are for sale, in paper copy or on microfiche, by the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. For further ordering information, the Customer Inquiries telephone number is (703) 487-4650, between 8:30 a.m. and 5:30 p.m. Eastern Standard Time.

Additional information for ordering specific reports may be obtained from the District Office at the address given on the back of the title page or by telephone at (916) 278-3100.

COOPERATION

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

California Department of Water Resources, Thomas M. Hannigan, Director.

Georgetown Divide Public Utility District, Marie E. Davis, General Manager.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

Hidden Valley Lake Community Services District, Mel Aust, General Manager.

Placer County, Edward McCarthy, Senior Civil Engineer.

Sacramento County Department of Water Resources, Keith DeVore, Director.

Shasta Valley Resource Conservation District, Pete Talley, General Manager.

Yolo County Flood Control and Water Conservation District, Tim O'Halloran, General Manager.

Yuba County Water Agency, Curt Aikens, Engineer-Administrator.

Assistance in the form of funds or services was given by the Bureau of Reclamation, U.S. Department of Interior.

The following organizations aided in collecting records: Arbuckle Mountain Project; California Department of Water Resources; El Dorado Irrigation District; Energy Growth Partnership I; Five Bears Hydro, Inc.; Malacha Power Project, Inc.; Nelson Creek Power Co.; Nevada and Oroville–Wyandotte Irrigation Districts; Pacific Gas and Electric Co.; Placer and Yuba County Water Agencies; Sacramento Municipal Utility District; Shasta Hydroelectric; Sithe Energies, Inc.; Snow Mountain Hydroelectric; South Sutter Water District; STS Hydropower; and Synergics, Inc.

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number "09" plus the 6-digit (or 8-digit) downstream order number "004100." In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

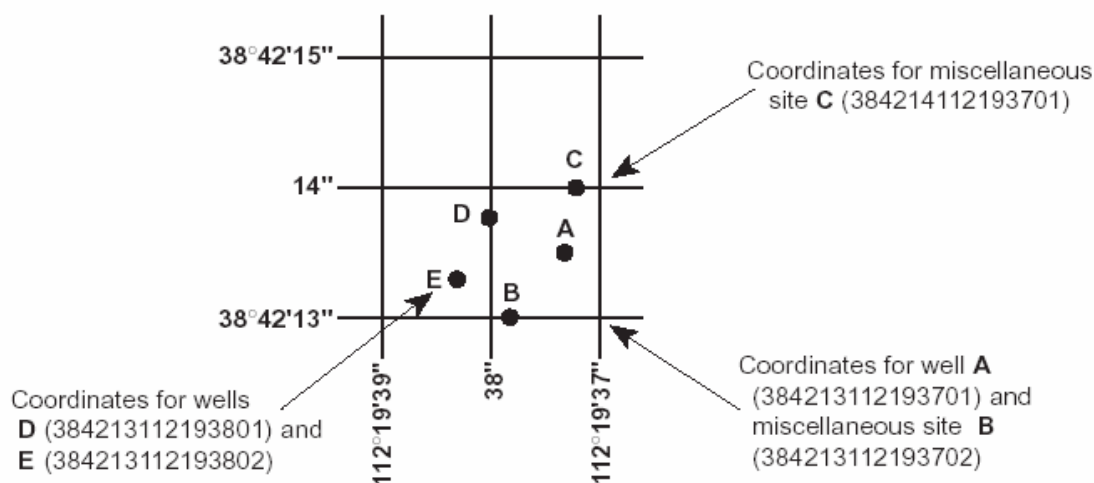


Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude).

SPECIAL NETWORKS AND PROGRAMS

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

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment (NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program may be accessed from <http://water.usgs.gov/nasqan/>.

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

Assessment activities are being conducted in 42 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents is measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for water-resources managers to use in making decisions and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program may be accessed from <http://water.usgs.gov/nawqa/>.

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

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage at some distance from the base gage.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

At some stations, stage-discharge relation is affected by changing stage. At these stations, the rate of change in stage is used as a factor in computing discharge.

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

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

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

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

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; (4) a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration; and (5) a hydrograph of discharge.

Station Manuscript

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

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

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

PERIOD OF RECORD.—This term indicates the time period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that its flow reasonably can be considered equivalent to flow at the present station.

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

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, and a condensed history of the types, locations, and datums of previous gages are given under this heading.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

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

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the USGS.

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

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

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

Peak Discharge Greater than Base Discharge

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

Data Table of Daily Mean Values

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

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (MIN) of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those values. The designated period will be expressed as FOR WATER YEARS ___-___, BY WATER YEAR (WY), and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. The designated period will consist of all of the station record within the specified water years, including

complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript.

Summary Statistics

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

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

The following summary statistics data are provided with each continuous record of discharge. Comments that follow clarify information presented under the various line headings of the SUMMARY STATISTICS table.

ANNUAL TOTAL.—The sum of the daily mean values of discharge for the year.

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

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

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

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

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

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

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

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

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

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

90 PERCENT EXCEEDS.—The discharge that has been exceeded 90 percent of the time for the designated period.

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

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified. This identification is shown either by flagging individual daily values with the letter “e” and noting in a table footnote, “e—Estimated,” or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

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

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

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

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

Other Data Records Available

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

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

EXPLANATION OF PRECIPITATION RECORDS

Data Collection and Computation

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

Data Presentation

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

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

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

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

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

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

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

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

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

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

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

Water Analysis

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

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

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values (and sometimes mean or median values) for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

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

Classification of Records

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

A careful distinction needs to be made between *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 2 and 12.

Accuracy of the Records

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

Rating classifications for continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	≤ ±0.2 °C	> ±0.2 to 0.5 °C	> ±0.5 to 0.8 °C	> ±0.8 °C
Specific conductance	≤ ±3%	> ±3 to 10%	> ±10 to 15%	> ±15%
Dissolved oxygen	≤ ±0.3 mg/L	> ±0.3 to 0.5 mg/L	> ±0.5 to 0.8 mg/L	> ±0.8 mg/L
pH	≤ ±0.2 unit	> ±0.2 to 0.5 unit	> ±0.5 to 0.8 unit	> ±0.8 unit
Turbidity	≤ ±5%	> ±5 to 10%	> ±10 to 15%	> ±15%

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

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

Water Temperature

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

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

Sediment

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

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

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

Water-Quality Control Data

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

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

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

Blank Samples

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

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

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

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

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

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

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

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

Reference Samples

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

Replicate Samples

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

data contributed by some part of the collection and analytical process. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

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

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

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

Spike Samples

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

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed from <http://water.usgs.gov>.

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

WATER RESOURCES DATA—CALIFORNIA, 2003

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

Horizontal datum (See “[Datum](#)”)

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

Stage (See “[Gage height](#)”)

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

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

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

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

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

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

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

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

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

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

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

WATER RESOURCES DATA—CALIFORNIA, 2003

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

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

Vertical datum (See “[Datum](#)”)

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

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

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

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

12 months. Thus, the year ending September 30, 2002, is called the “2002 water year.”

Watershed (See “[Drainage basin](#)”)

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

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

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

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

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

Zooplankton is the animal part of the plankton.

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

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

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

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

- 1–D1. *Water temperature—Influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.
- 1–D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

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

Section E. Subsurface Geophysical Methods

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

Section F. Drilling and Sampling Methods

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

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

Section B. Ground-Water Techniques

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

Section C. Sedimentation and Erosion Techniques

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

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

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

Section B. Surface Water

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

Section D. Interrelated Phases of the Hydrologic Cycle

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

Book 5. Laboratory Analysis

Section A. Water Analysis

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

Section C. Sediment Analysis

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

Book 6. Modeling Techniques

Section A. Ground Water

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

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

- 7–C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.
- 7–C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

- 8–A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.
- 8–A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

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

Book 9. Handbooks for Water-Resources Investigations

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

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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

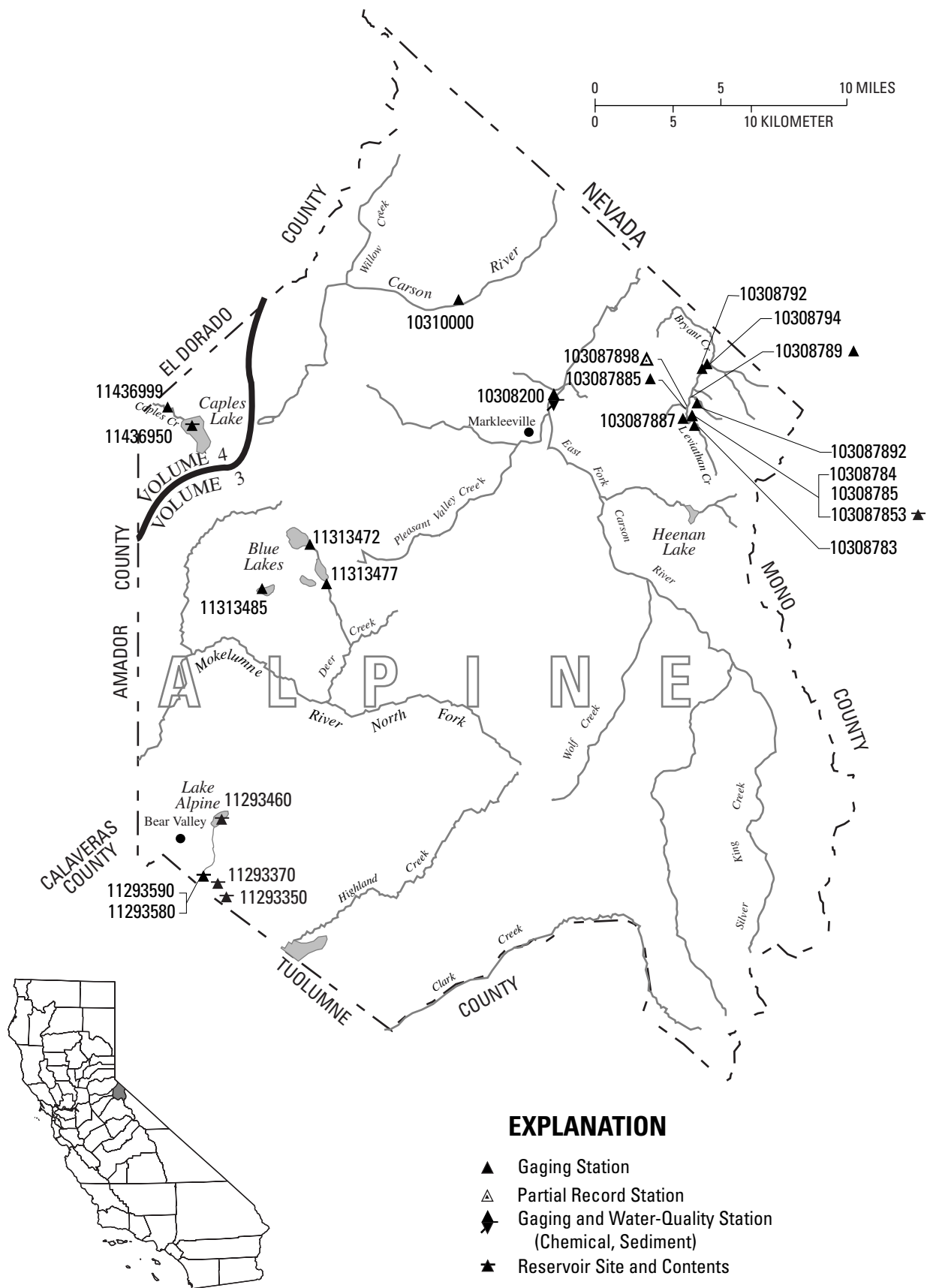


Figure 2. Location of discharge and water-quality stations in Alpine County.
 (NOTE: Records for stations 10308200 through 10310000 and 11293350 through 11313485 published in volume 3.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

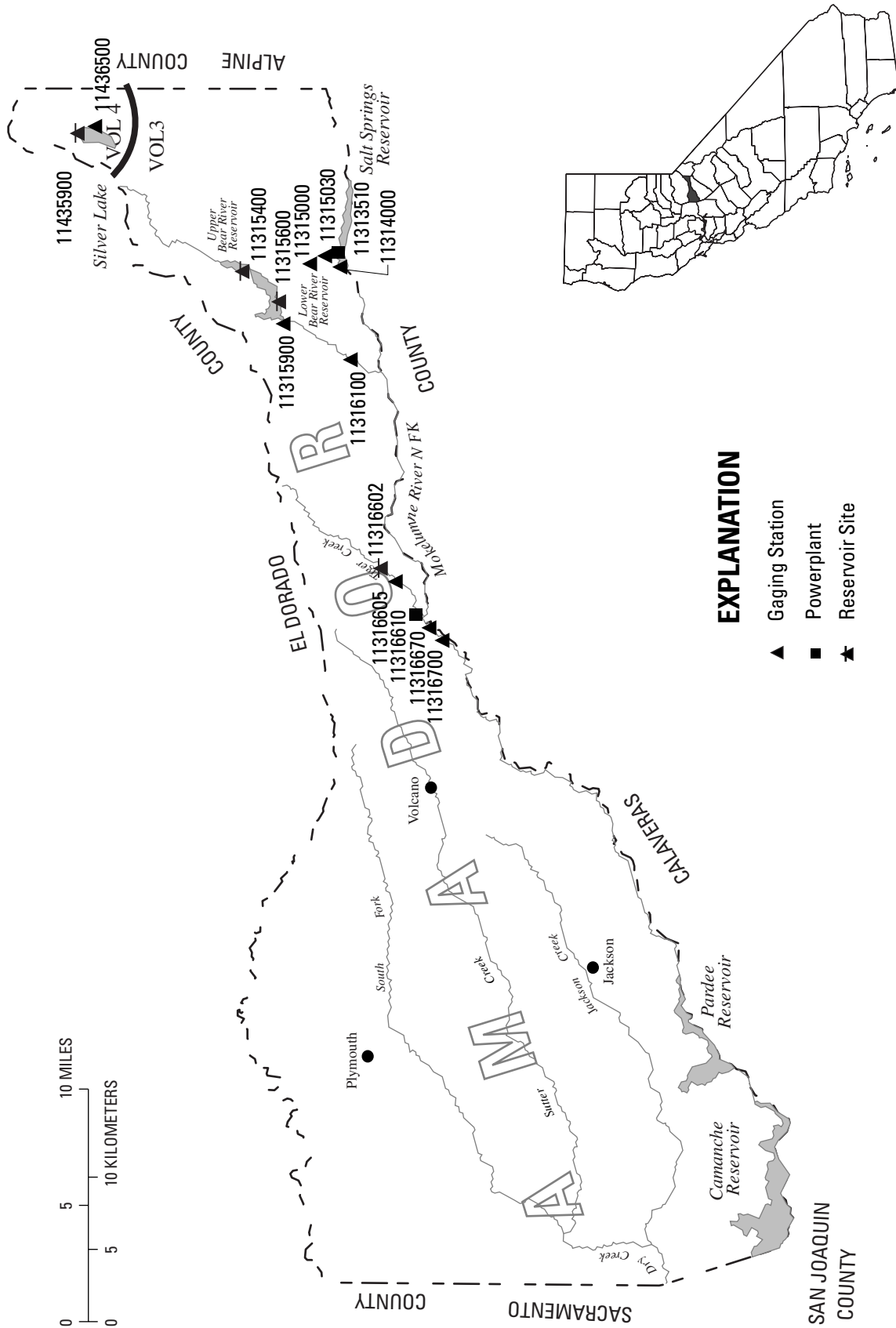


Figure 3. Location of discharge stations in Amador County.
 (NOTE: Records for stations 11313510 through 11316700 published in volume 3.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

EXPLANATION

- ▲ Gaging Station
- ▲ Gaging and Water-Quality Station with Telemetry (Temperature)
- Powerplant
- ★ Reservoir Site

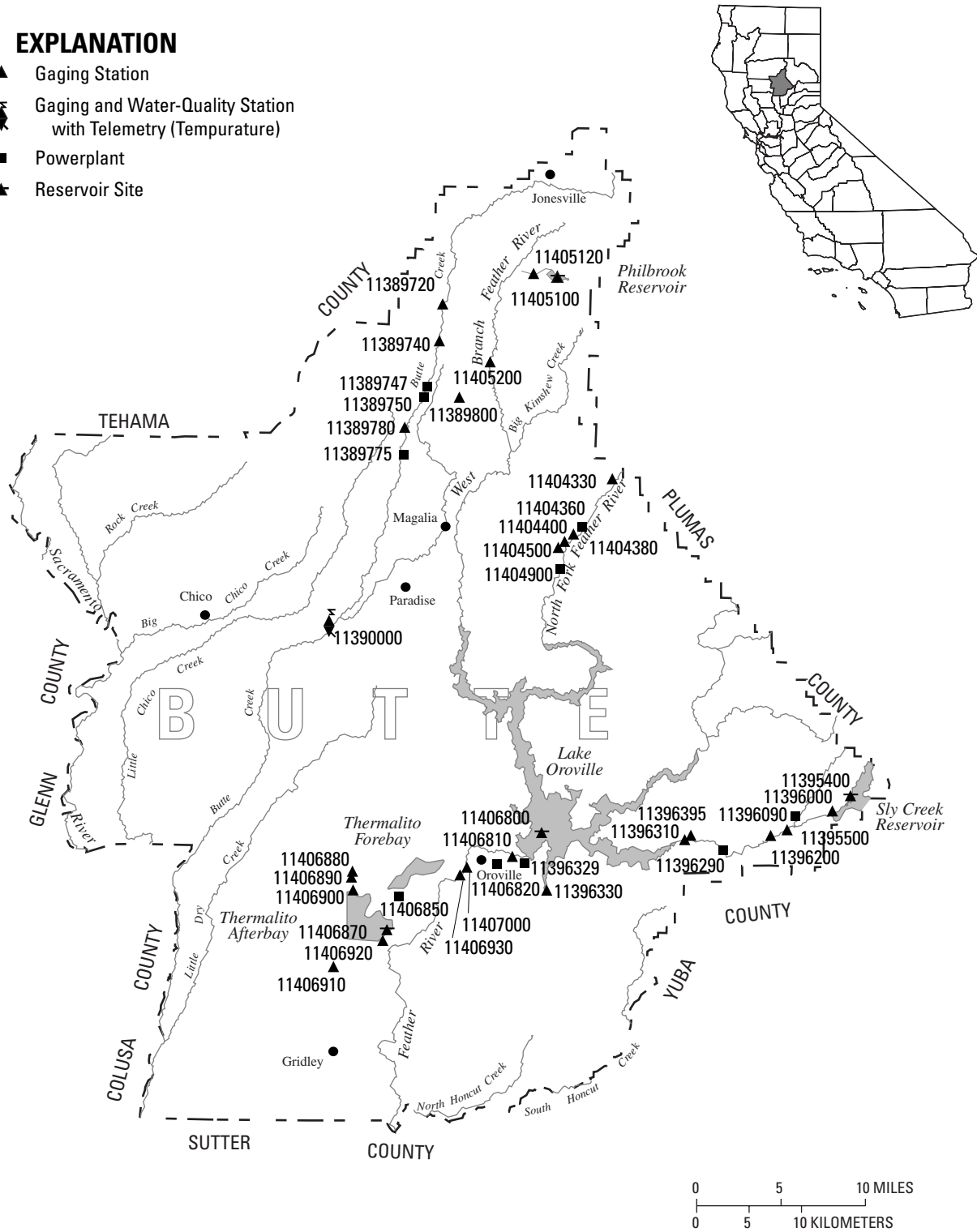


Figure 4. Location of discharge and water-quality stations in Butte County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

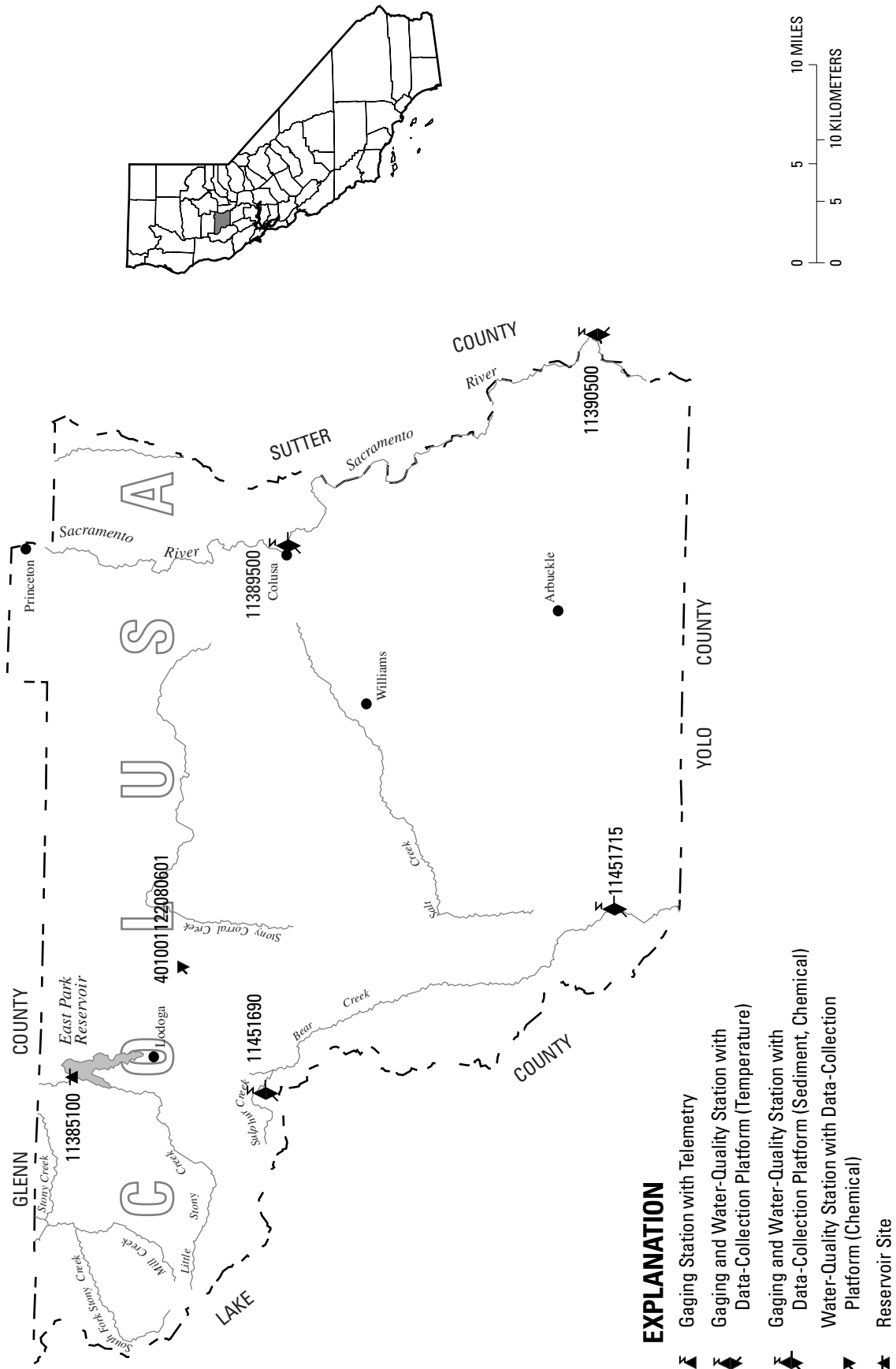


Figure 5. Location of discharge and water-quality stations in Colusa County.

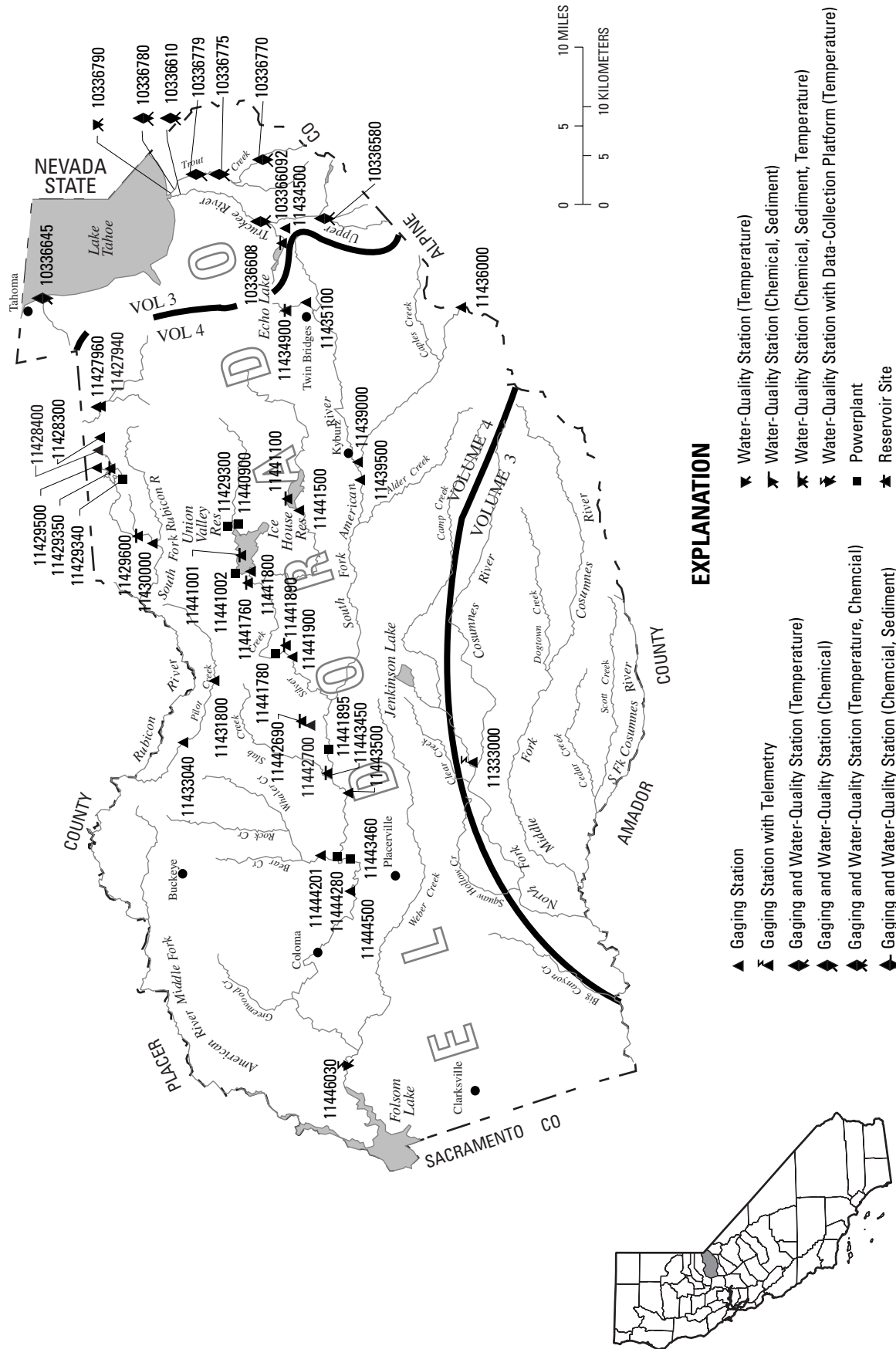


Figure 6. Location of discharge and water-quality stations in El Dorado County. (NOTE: Records for stations 10336580 and 11333000 published in volume 3.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

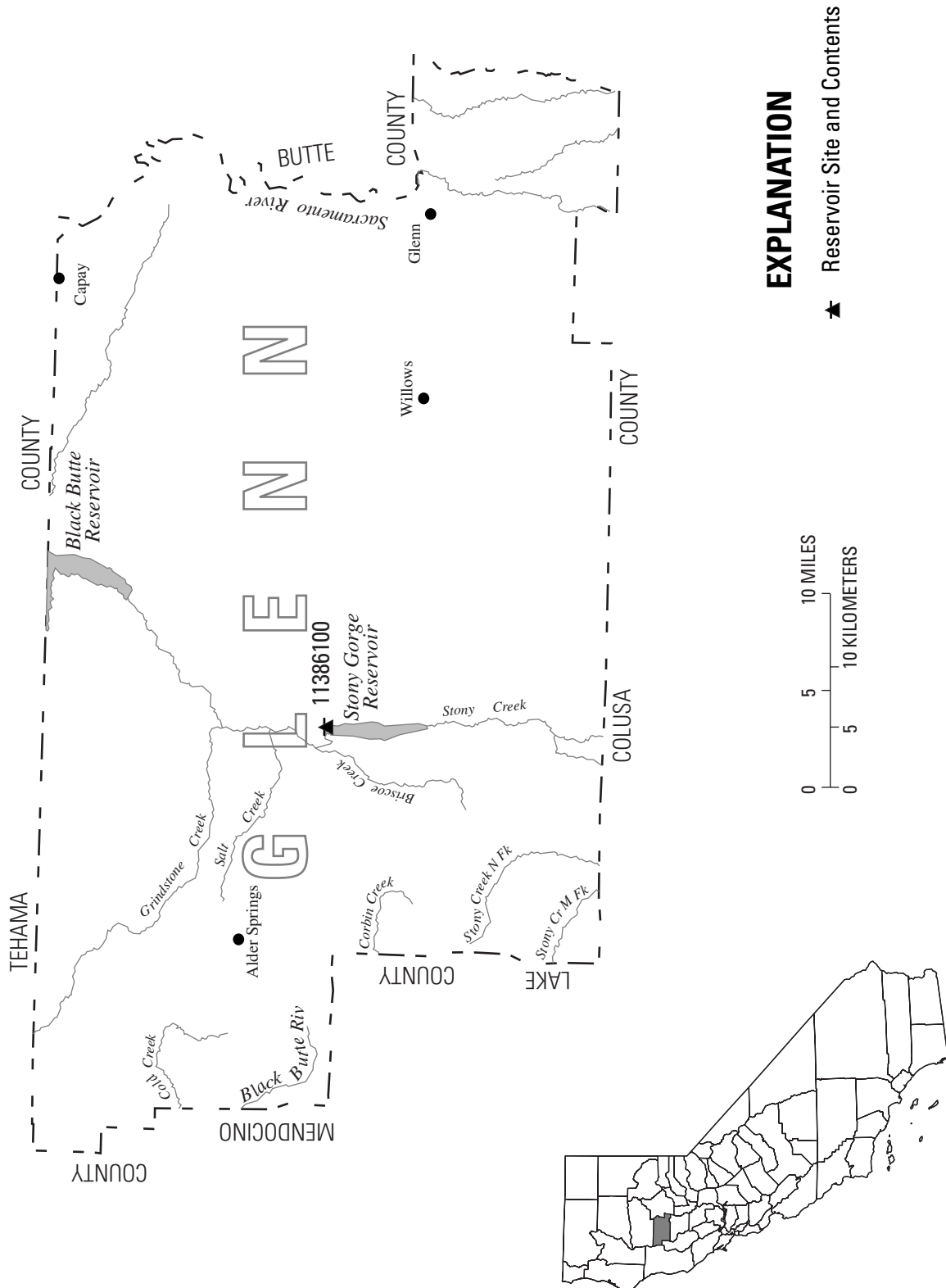


Figure 7. Location of discharge station in Glenn County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

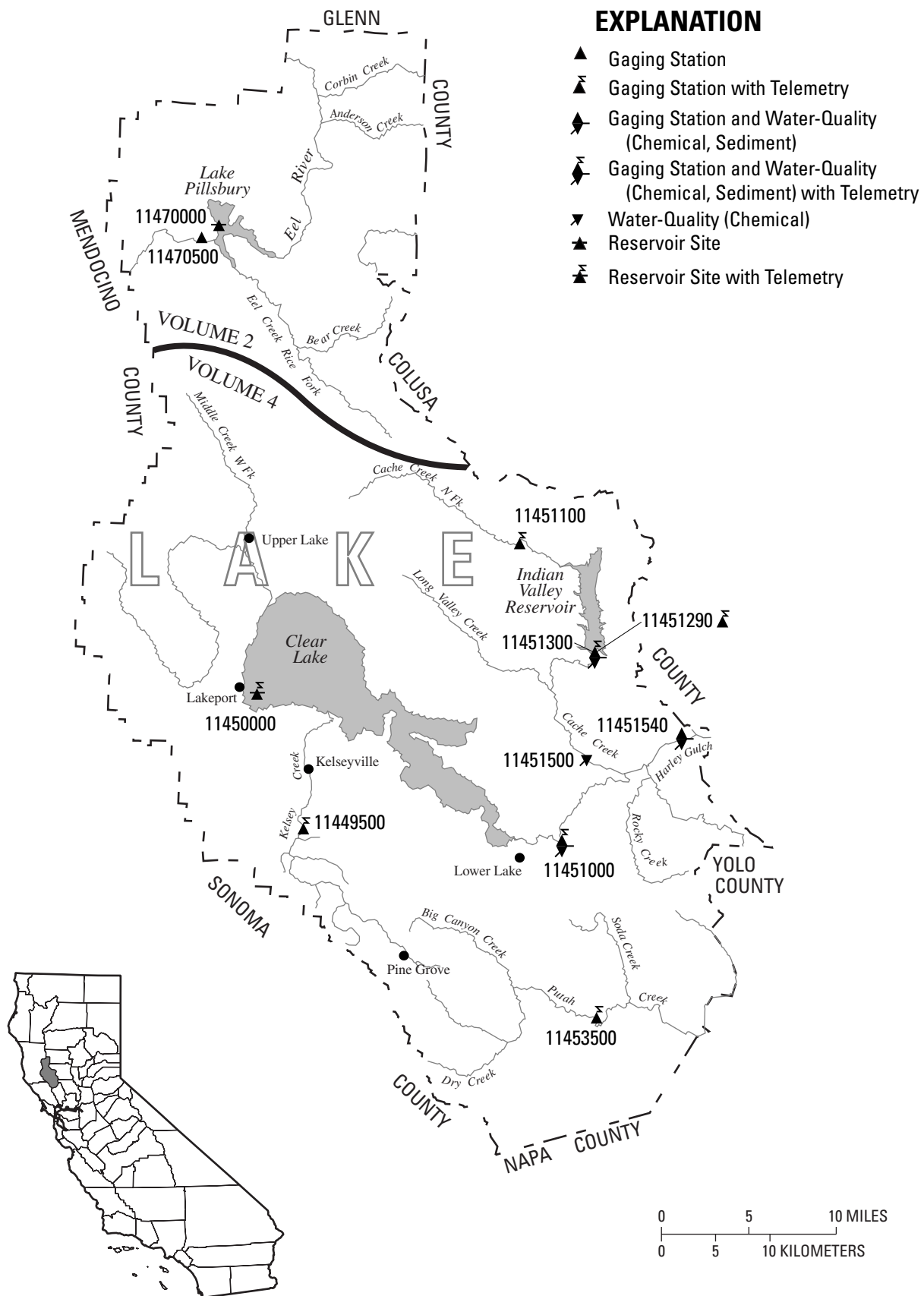


Figure 8. Location of discharge and water-quality stations in Lake County. (NOTE: Records for stations 11470000 and 11470500 published in volume 2.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

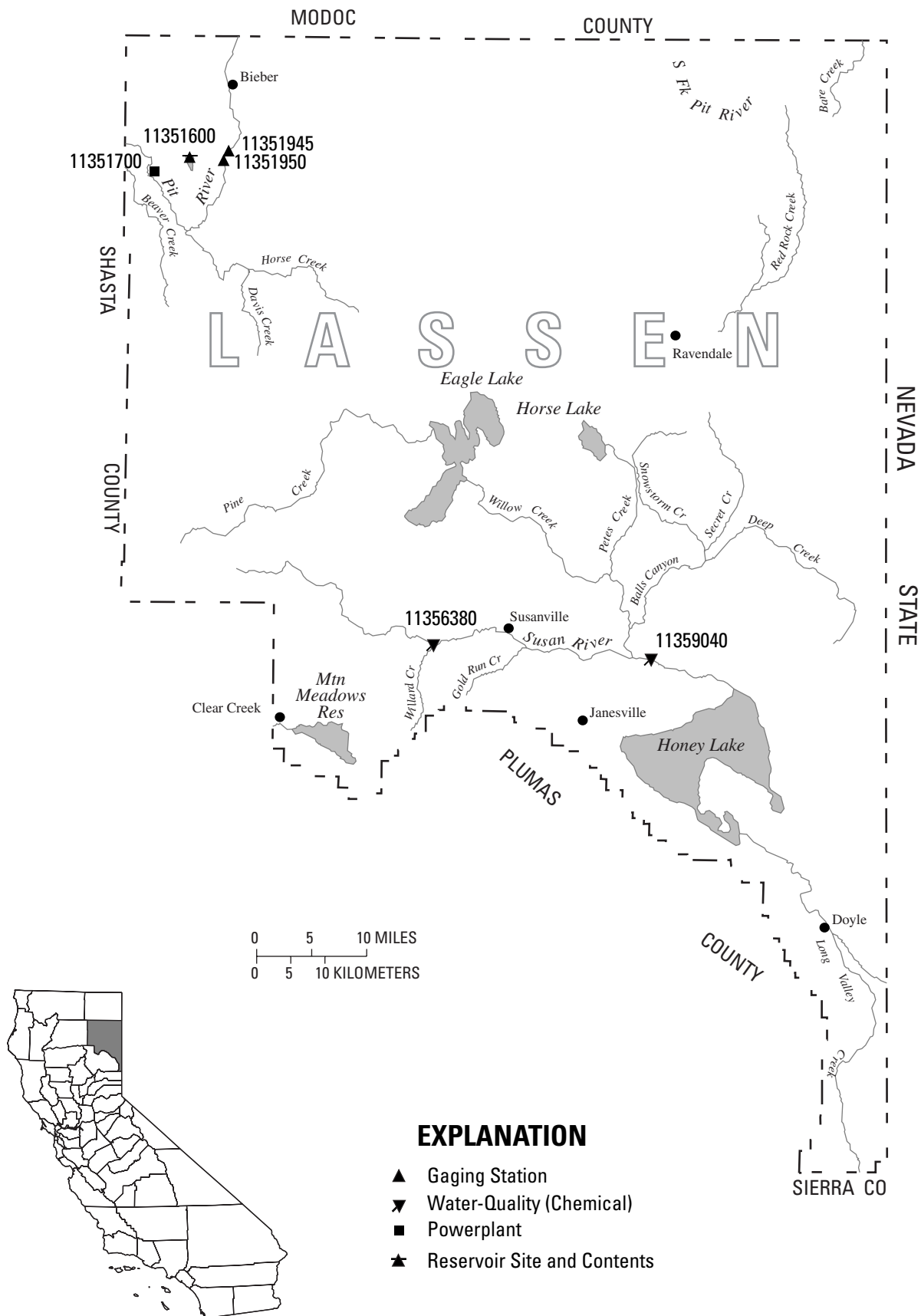
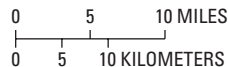
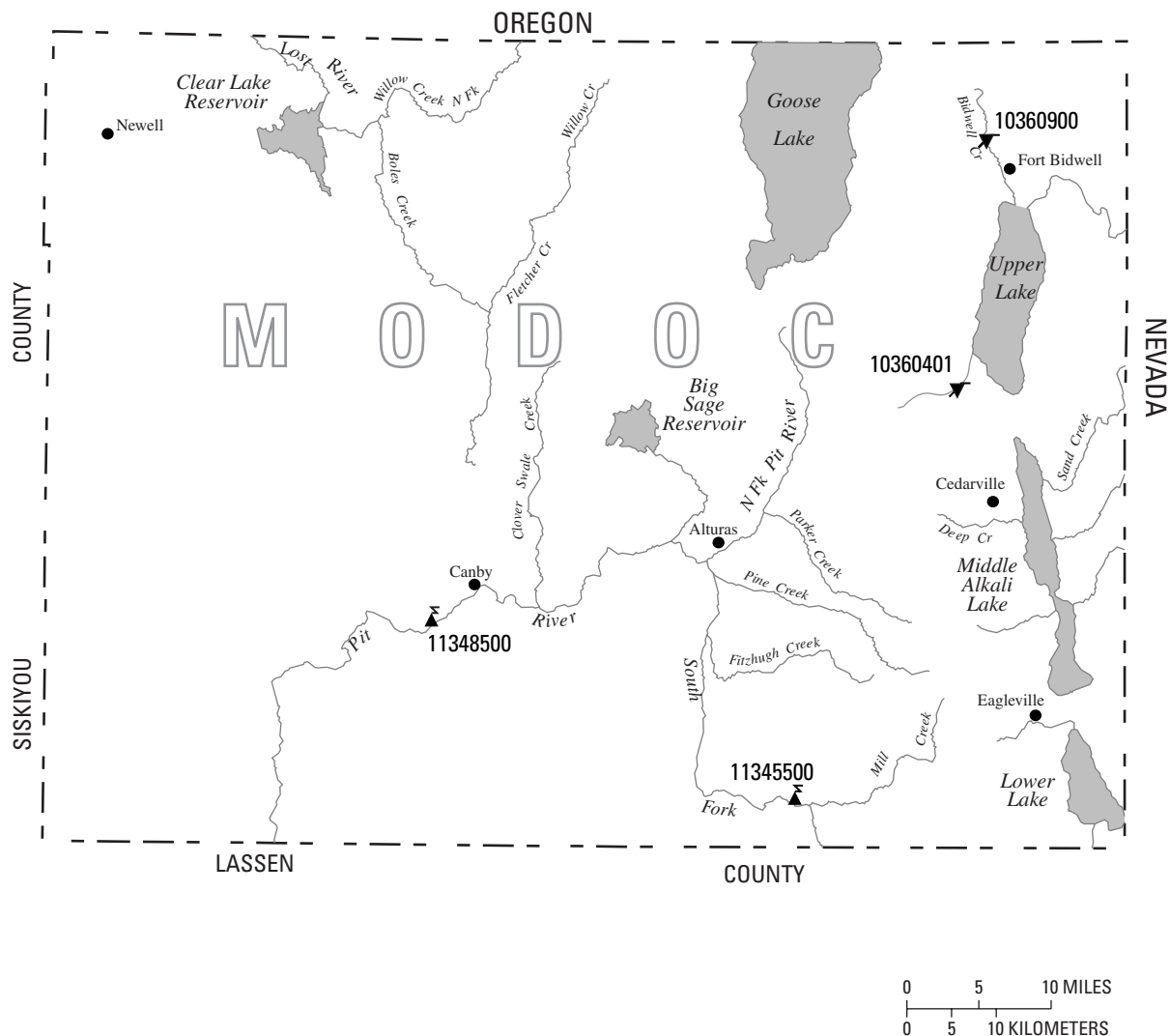


Figure 9. Location of discharge and water-quality stations in Lassen County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003



EXPLANATION

- ▲ Gaging Station
- ▲ Gaging Station with Telemetry
- ▼ Water-Quality (Chemical)
- ▼ Water-Quality (Chemical, Sediment)



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

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

EXPLANATION

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

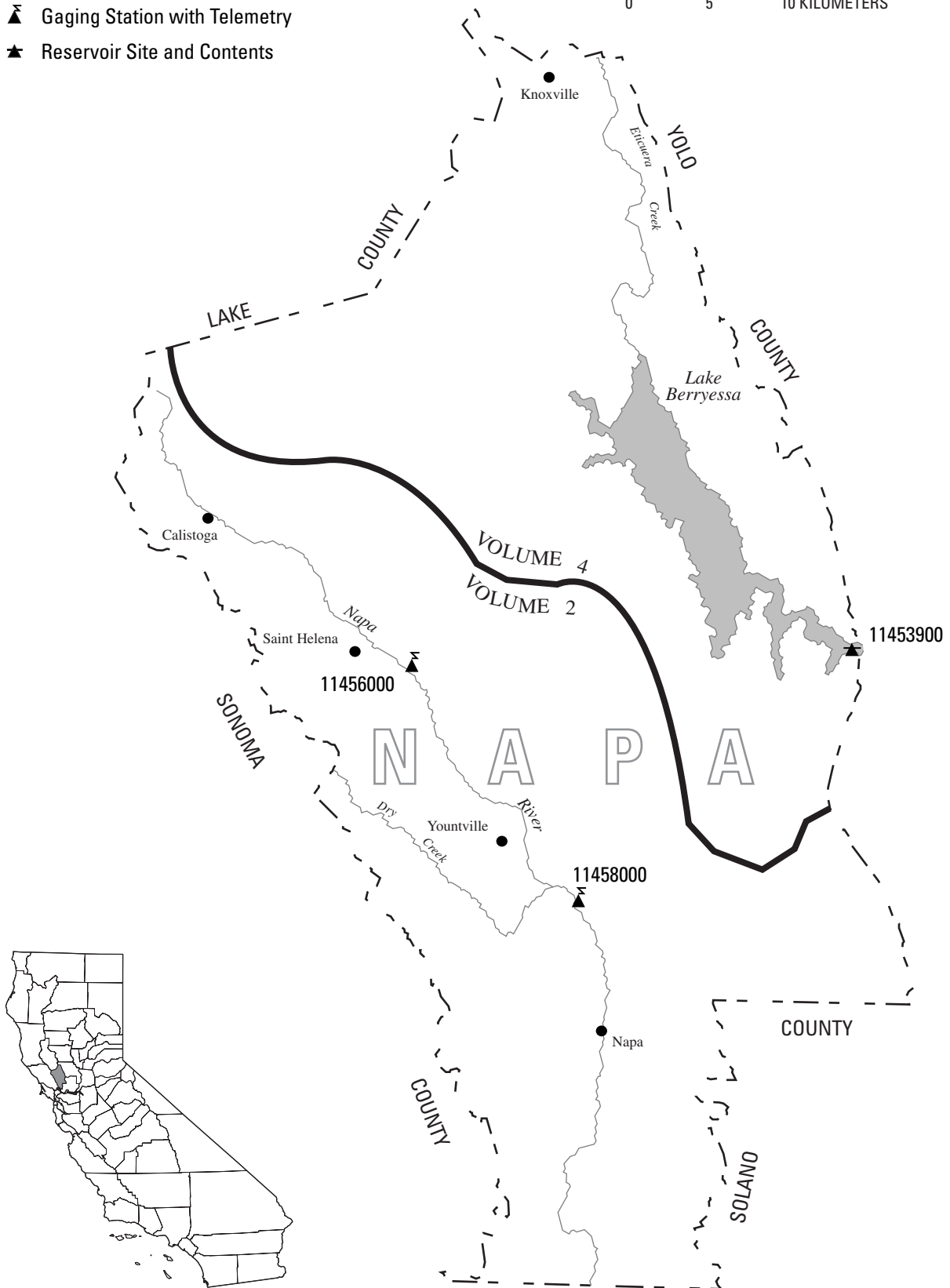


Figure 11. Location of discharge stations in Napa County.
(NOTE: Records for stations 11456000 and 11458000 published in volume 2.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

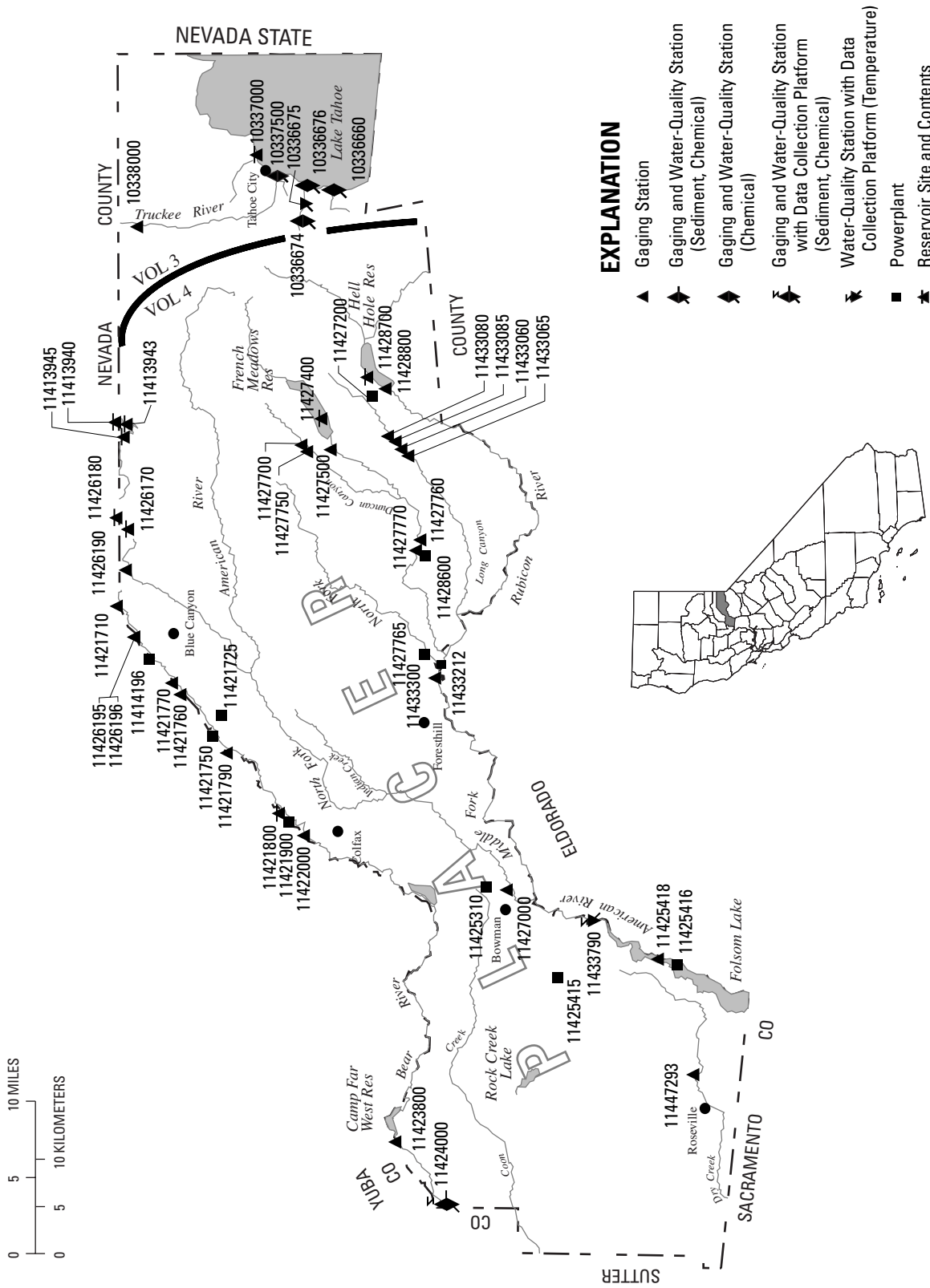


Figure 13. Location of discharge and water-quality stations in Placer County. (NOTE: Records for stations 10336660 through 10338000 published in volume 3.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

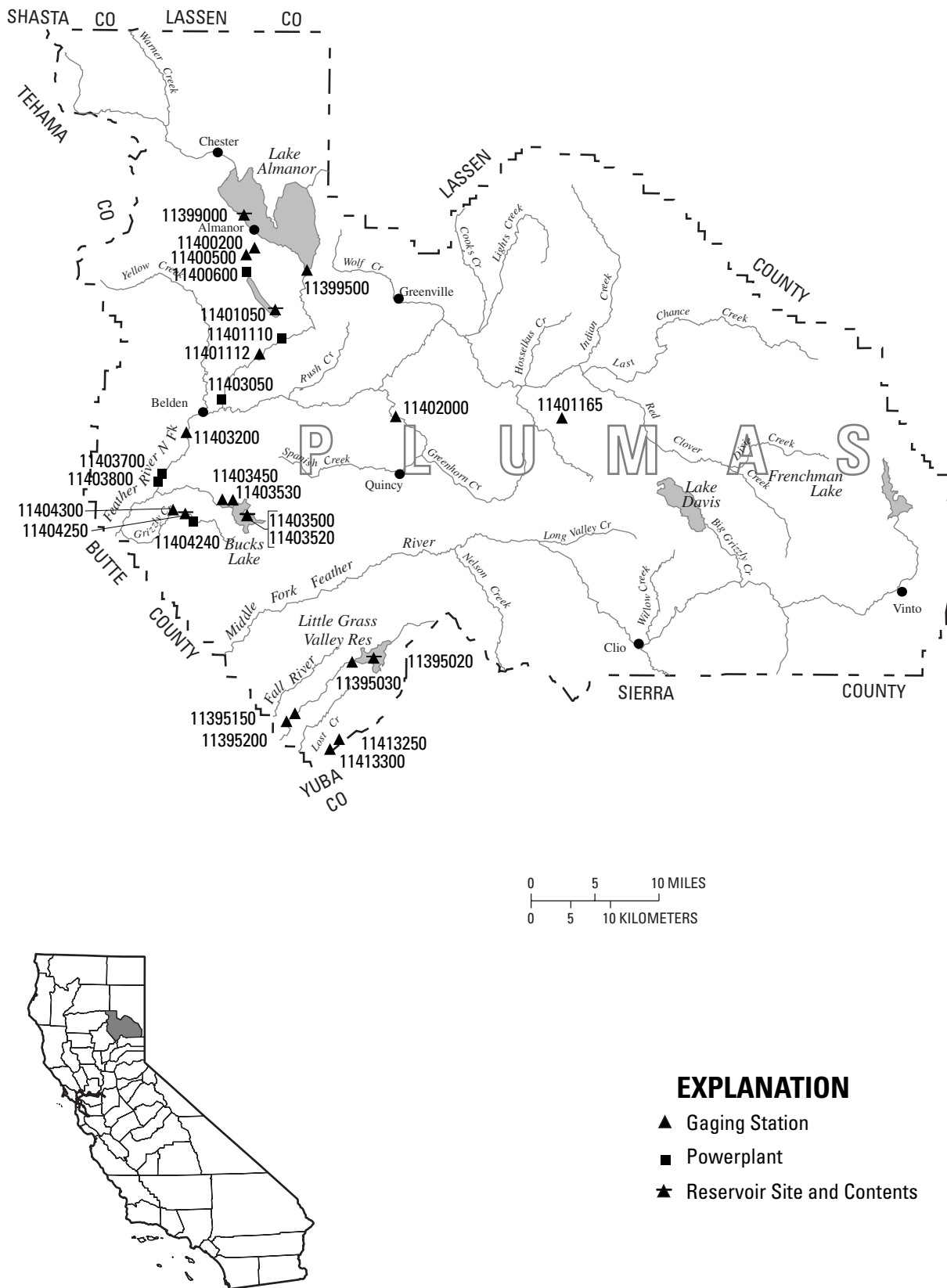


Figure 14. Location of discharge stations in Plumas County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

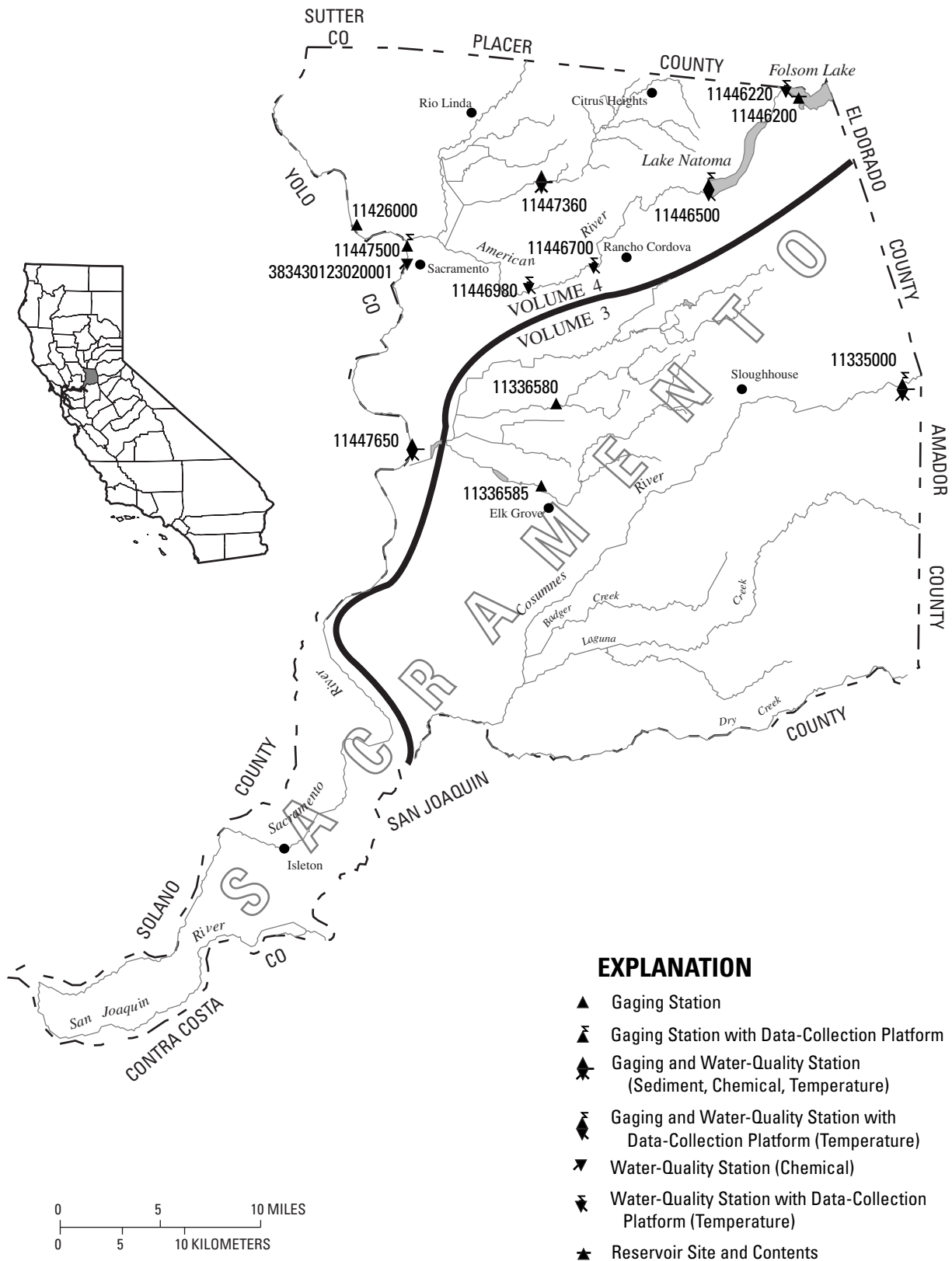
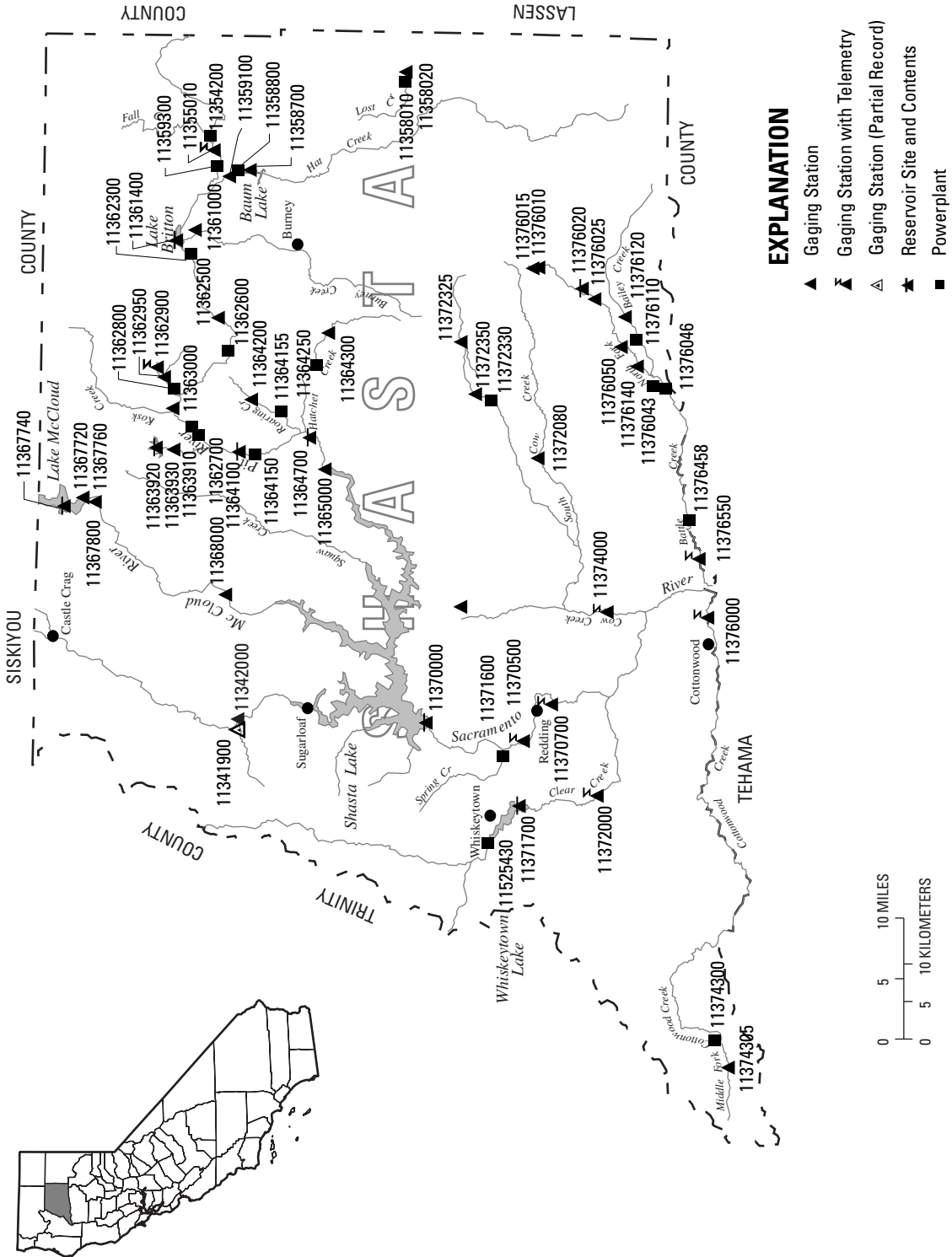


Figure 15. Location of discharge, stage, and water-quality stations in Sacramento County.
 (NOTE: Records for stations 11335000 through 11336585 published in volume 3.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003



WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

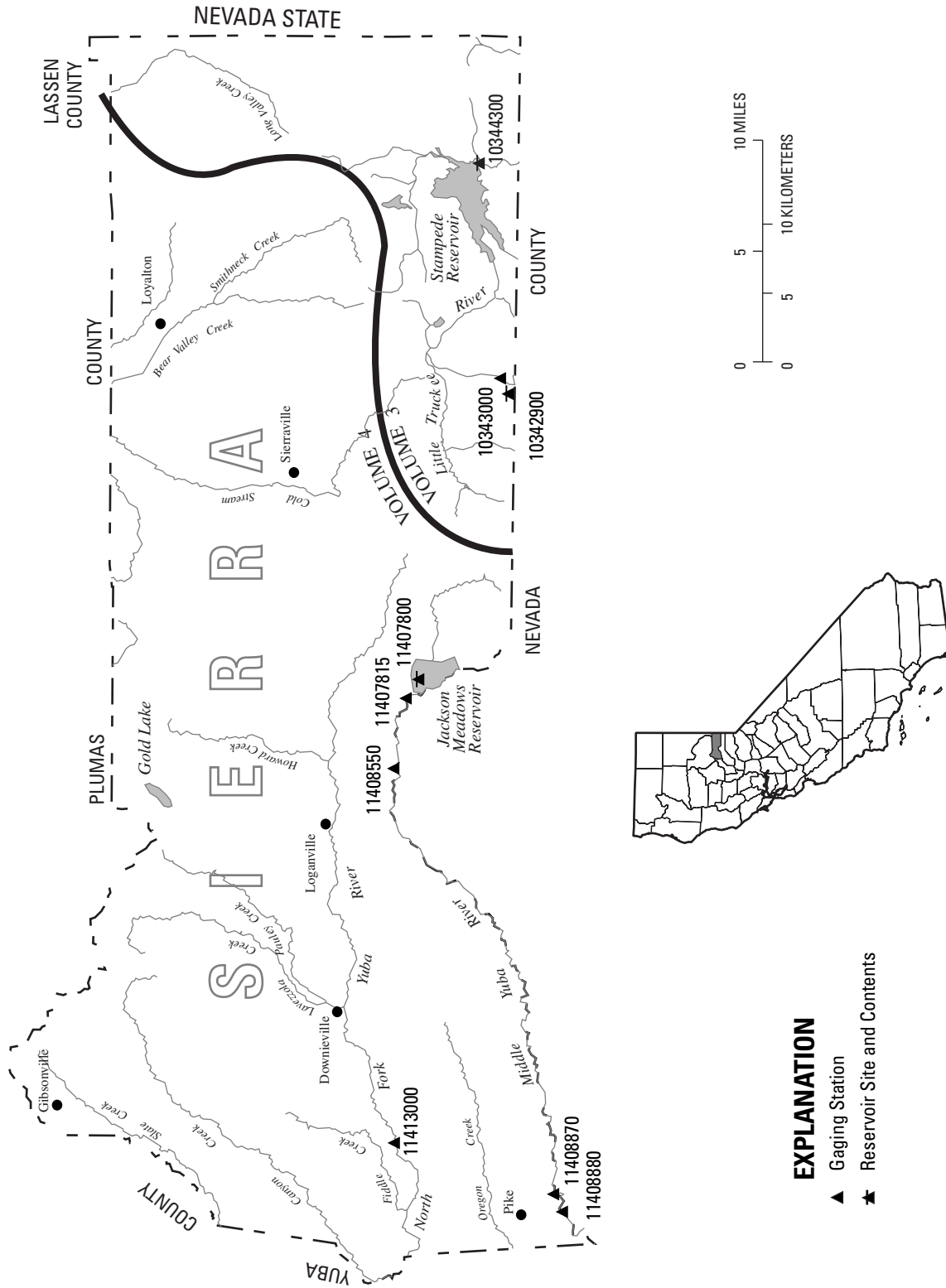


Figure 17. Location of discharge stations in Sierra County.
 (NOTE: Records for stations 10342900 through 10344300 published in volume 3.)

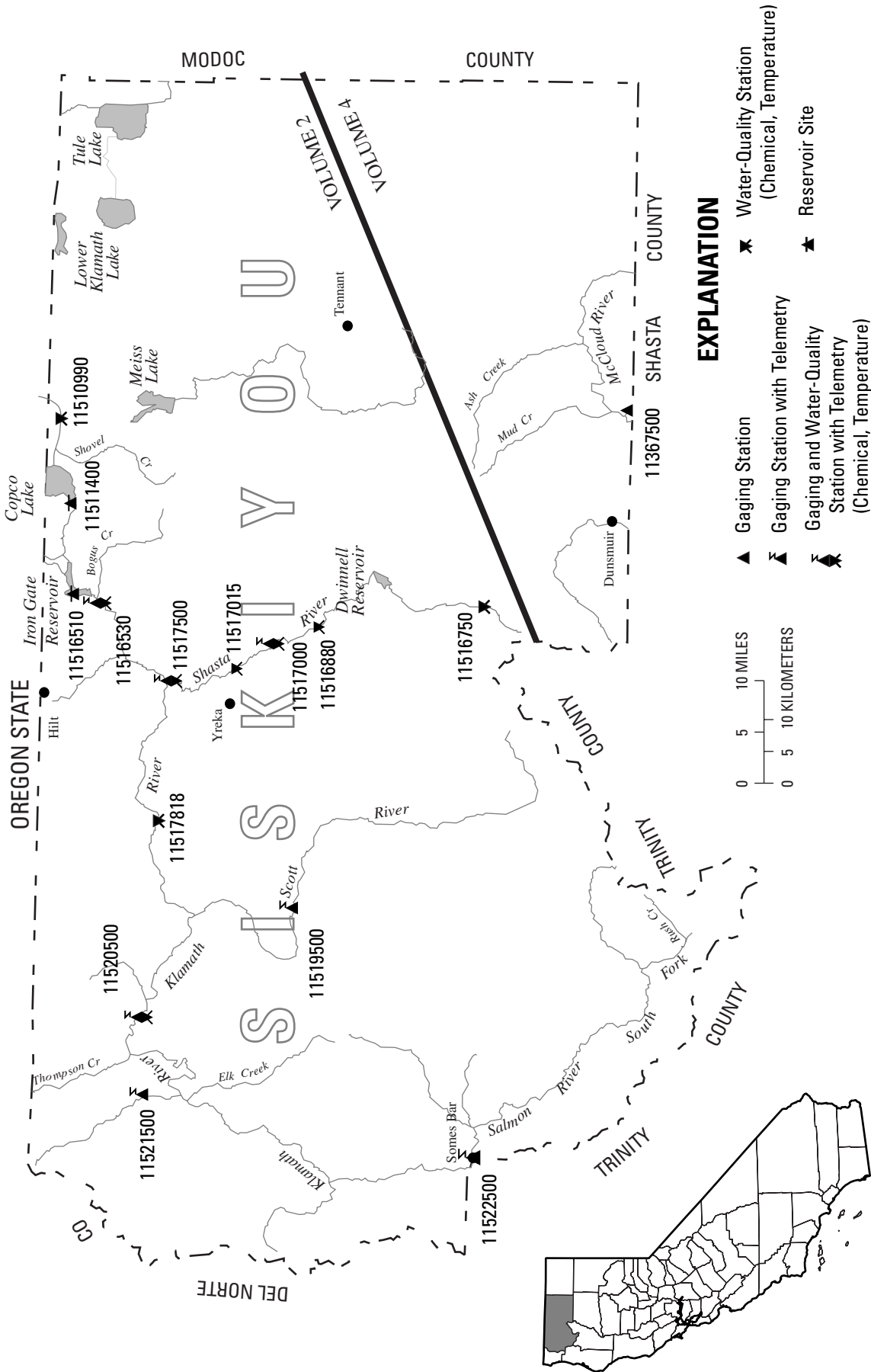


Figure 18. Location of discharge and water-quality stations in Siskiyou County. (NOTE: Records for stations 11511400 through 11522500 published in volume 2.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

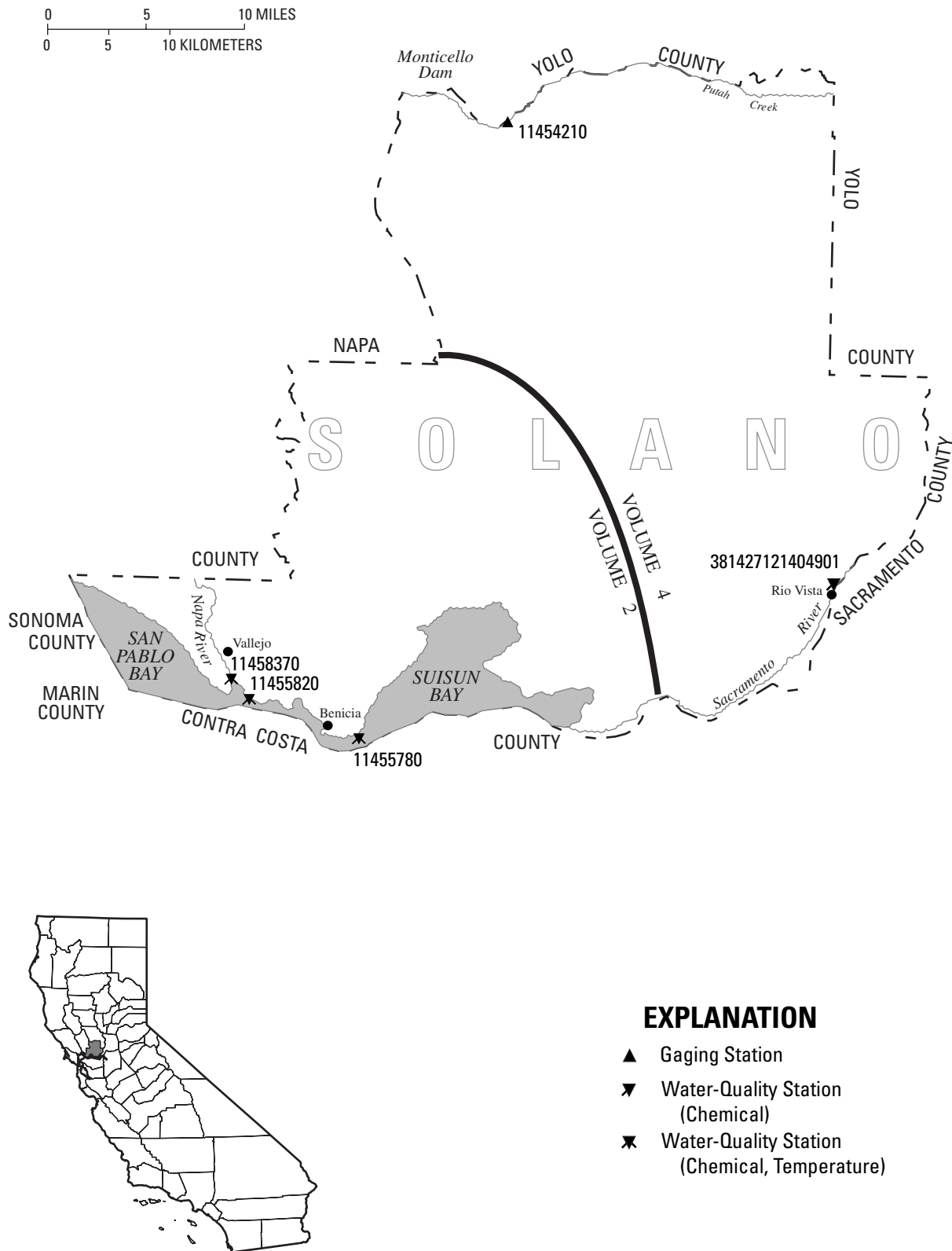


Figure 19. Location of discharge and water-quality stations in Solano County.
 (NOTE: Records for station 11455780 through 11458370 published in volume 2.)

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

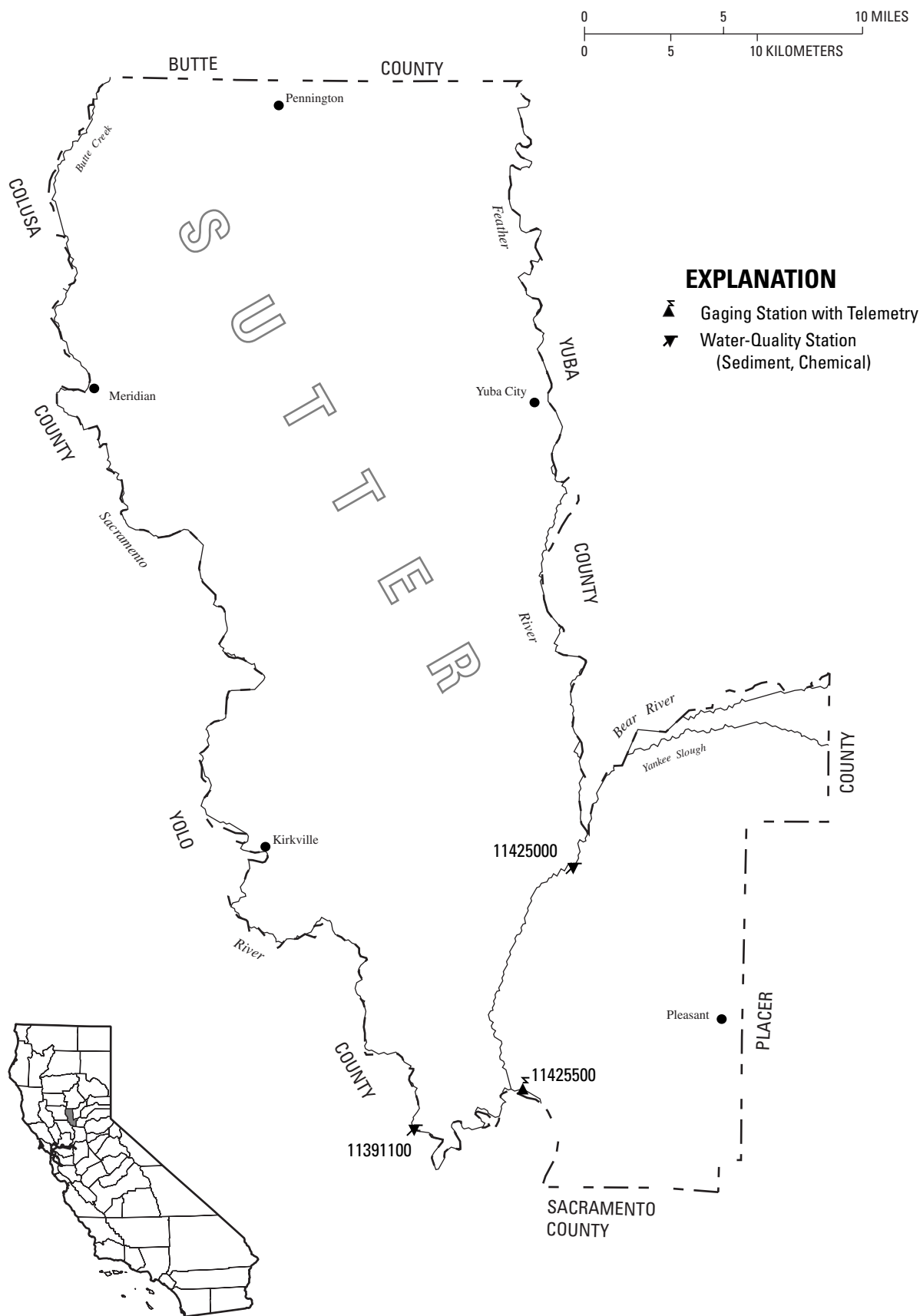


Figure 20. Location of discharge and water-quality stations in Sutter County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

EXPLANATION

- △ Partial Record Station
- ▲ Gaging Station
- ▲ Gaging Station with Data-Collection Platform
- ▼ Water-Quality Station (Chemical)
- ▼ Water-Quality Station (Chemical, Sediment)

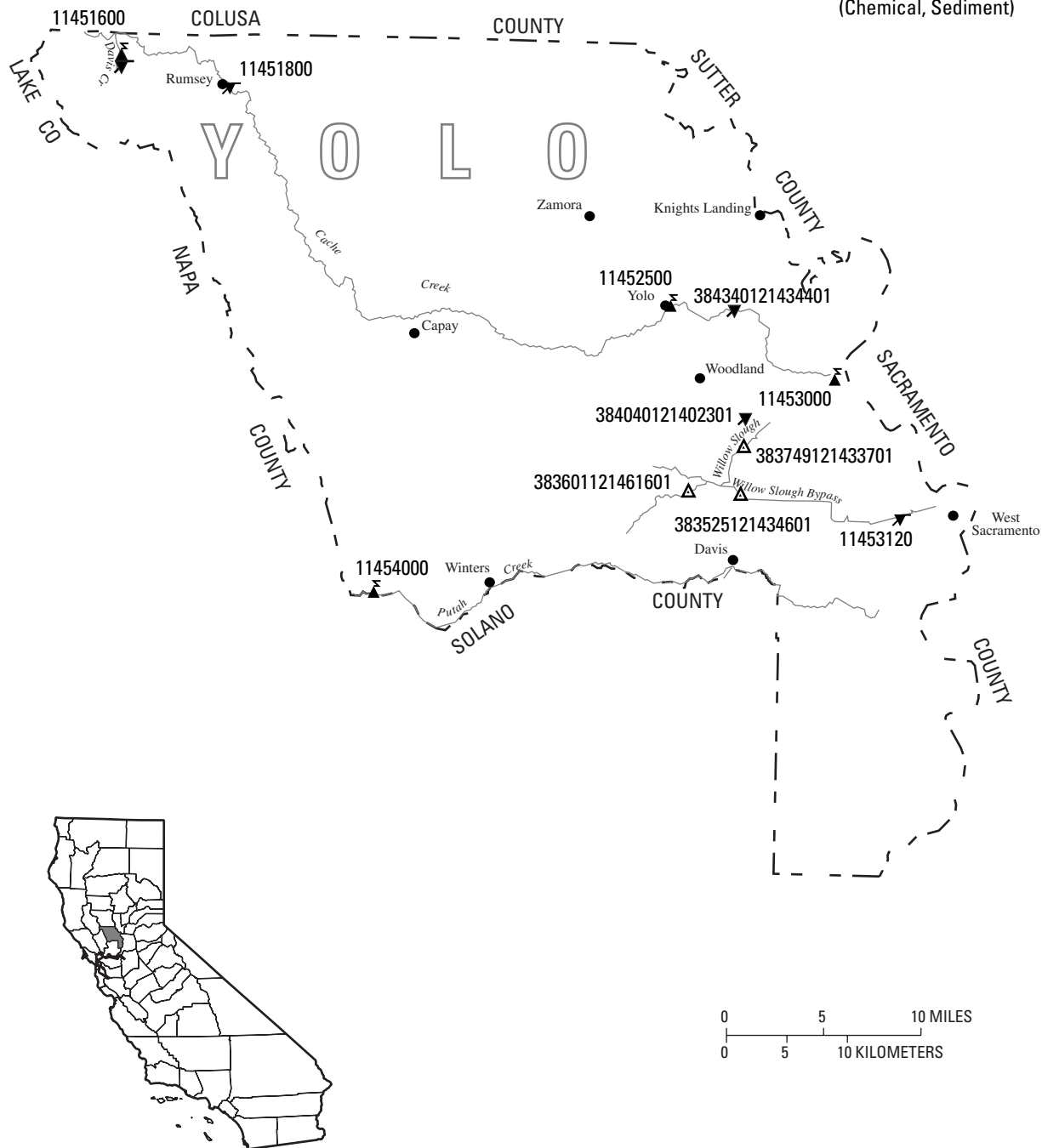


Figure 22. Location of discharge and water-quality stations in Yolo County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

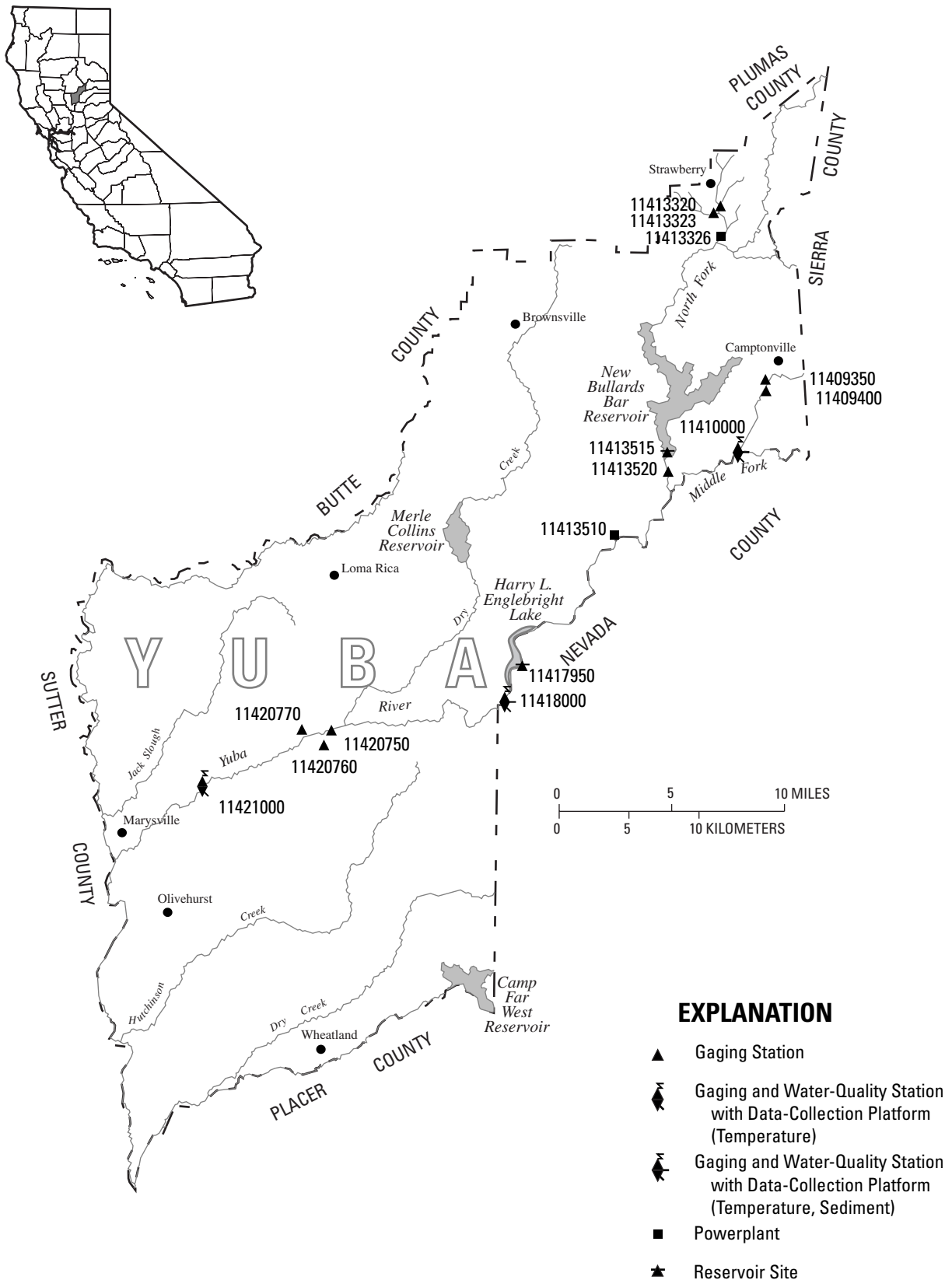


Figure 23. Location of discharge and water-quality stations in Yuba County.

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 2003

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

Remark Codes

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

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

Dissolved Trace-Element Concentrations

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

Data Precision

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

*THIS
PAGE
INTENTIONALLY
LEFT
BLANK*

10356380 SUSAN RIVER ABOVE WILLARD CREEK, NEAR SUSANVILLE, CA

LOCATION.—Lat 40°23'45", long 120°46'51", in NE 1/4 NE 1/4 sec.7, T.29 N., R.11 E., Lassen County, Hydrologic Unit 18080003, 6.2 mi southwest of Susanville, and 7.1 mi southeast of Hogflat Reservoir at State Highway 36.

DRAINAGE AREA.—128 mi².

PERIOD OF RECORD.—June 2001 to current year.

CHEMICAL DATA: June 2001 to current year.

SEDIMENT DATA: July 2002 to current year.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 180degC, wat flt mg/L (70300)
OCT											
23...	1045	5.8	<1.0	641	10.3	97	7.8	163	5.5	.69	125
JAN											
22...	1110	29	2.4	646	11.9	107	--	108	4.0	.80	85
MAY											
06...	1145	67	2.8	640	7.9	77	7.9	87	7.0	.64	79
SEP											
09...	0930	7.3	1.3	640	9.8	103	8.1	158	10.0	.75	115

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Temperature, water, deg C (00010)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 180degC, wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Fecal coliform, M-FC, 0.7u MF col/100 mL (31625)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
OCT											
23...	.10	.20	5.5	.69	125	.10	.20	.069	--	<.5	<.01
JAN											
22...	.18	.13	4.0	.80	85	.18	.13	.039	--	2	.16
MAY											
06...	.14	<.06	7.0	.64	79	.14	<.06	.028	--	8	1.5
SEP											
09...	.10	.108	10.0	.75	115	.10	.108	.070	K8	4	.08

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

Date	Time	Depth at sample location, feet (81903)	Sampling depth, feet (00003)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking downstrm 1 bank (00009)
SEP										
09...	0922	.50	.25	640	9.7	103	8.2	158	10.2	9.60
09...	0923	.60	.30	640	9.7	103	8.1	158	10.2	8.60
09...	0924	.70	.35	640	9.7	103	8.1	158	10.2	7.60
09...	0925	.80	.40	640	9.7	103	8.1	158	10.2	6.60
09...	0926	.80	.40	640	9.7	103	8.1	158	10.2	5.60
09...	0927	.80	.40	640	9.7	103	8.1	158	10.2	4.60
09...	0928	.85	.40	640	9.7	103	8.1	158	10.2	3.60
09...	0929	.90	.45	640	9.7	103	8.1	158	10.2	2.60
09...	0930	.90	.45	640	9.7	103	8.1	158	10.2	1.60

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

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

* Instantaneous discharge at the time of cross-sectional measurements: Sep. 9, 7.3 ft³/s.

10359040 SUSAN RIVER NEAR LITCHFIELD, CA

LOCATION.—Lat 40°22'40", long 120°23'38", in NW 1/4 NW 1/4 sec.15, T.29 N., R.14 E., Lassen County, Hydrologic Unit 18080003, 0.5 mi south of Litchfield and 13.3 mi east of Susanville.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—June 2001 to current year.

CHEMICAL DATA: June 2001 to current year.

SEDIMENT DATA: July 2002 to current year.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, unfiltered, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfiltered, std units (00400)	Specific conductance, unfiltered, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)
OCT 23...	1250	8.8	8.9	655	12.1	129	8.4	335	11.5
JAN 22...	1300	.00	11	658	11.5	110	8.3	364	7.0
MAY 06...	1430	94	6.3	652	6.6	72	6.6	240	12.5
SEP 09...	1120	7.6	21	654	8.6	103	8.5	401	16.5

Date	Chloride, water, fltrd, mg/L (00940)	Residue evap. at 180degC, wat flt mg/L (70300)	Ammonia + org-N, unfiltered, mg/L as N (00625)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Phosphorus, unfiltered, mg/L (00665)	Fecal coliform, M-FC col/100 mL (31625)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
OCT 23...	5.18	211	.22	<.06	e.02	--	10	.24
JAN 22...	5.58	228	.61	.07	.06	--	--	--
MAY 06...	4.02	176	.39	<.022	.116	--	11	2.8
SEP 09...	7.56	258	.44	.004	.146	172	23	.47

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

Date	Time	Depth at sample location, feet (81903)	Sampling depth, feet (00003)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfiltered, std units (00400)	Specific conductance, unfiltered, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking downstrm 1 bank (00009)
SEP 09...*	1132	.70	.35	654	8.7	104	8.5	401	16.4	4.00
SEP 09...*	1133	.80	.40	654	8.7	104	8.5	402	16.3	5.00
SEP 09...*	1134	.60	.30	654	8.7	104	8.5	401	16.4	6.00
SEP 09...*	1135	.60	.30	654	8.7	104	8.5	401	16.4	7.00
SEP 09...*	1136	.60	.30	654	8.7	104	8.5	402	16.3	8.00
SEP 09...*	1137	.70	.35	654	8.7	104	8.5	401	16.3	9.00
SEP 09...*	1138	.70	.35	654	8.7	104	8.5	401	16.3	10.0
SEP 09...*	1139	.80	.40	654	8.7	103	8.5	401	16.3	11.0
SEP 09...*	1140	.80	.40	654	8.7	104	8.5	401	16.4	12.0
SEP 09...*	1141	.70	.35	654	8.7	104	8.5	401	16.4	13.0
SEP 09...*	1142	.75	.35	654	8.7	104	8.5	402	16.4	14.0
SEP 09...*	1143	.70	.35	654	8.7	104	8.5	401	16.4	15.0

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

e Estimated.

* Instantaneous discharge at the time of cross-sectional measurements: Sep. 9, 7.6 ft³/s.

10360401 MILL CREEK AT UPPER LAKE, NEAR LAKE CITY, CA

LOCATION.—Lat 41°38'44", long 120°12'45", in SE 1/4 NW 1/4 sec.36, T.44 N., R.15 E., Modoc County, Hydrologic Unit 18080001, 9.1 mi north of Cedarville, and 0.1 mi north of Lake City, on the Surprise Valley Road.

DRAINAGE AREA.—8.83 mi².

PERIOD OF RECORD.—June 2001 to current year.

CHEMICAL DATA: June 2001 to current year.

SEDIMENT DATA: September 2001 to current year.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)
JAN 23...	1045	1.5	<1.0	647	11.1	101	7.8	103	4.5
MAY 07...	1115	8.3	2.4	640	11.1	105	7.9	110	5.5
SEP 08...	1520	e.01	2.8	642	8.4	97	8.0	118	14.0

Date	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Nitrite + nitrate, fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Fecal coliform, M-FC 0.7u MF col/100 mL (31625)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
JAN 23...	<.20	82	.07	<.06	.043	--	<.5	<.01
MAY 07...	.32	88	.10	<.06	.043	--	6	.13
SEP 08...	.39	94	.20	.013	.076	>60	--	--

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

> Actual value is known to be greater than the value shown.

10360900 BIDWELL CREEK BELOW MILL CREEK, NEAR FORT BIDWELL, CA

LOCATION.—Lat 41°52'57", long 120°10'26", in NE 1/4 SE 1/4 sec.6, T.46 N., R.16 E., Modoc County, Hydrologic Unit 18080001, 23.1 mi north of Cedarville and 2.5 mi northwest of Fort Bidwell.

DRAINAGE AREA.—25.6 mi².

PERIOD OF RECORD.—Water years 1960–1982, June 2001 to current year.

WATER DISCHARGE.—Water years 1960–1982.

CHEMICAL DATA: June 2001 to current year.

SEDIMENT DATA: July 2002 to current year.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)
OCT									
24...	0930	5.7	1.4	635	10.7	96	7.8	83	3.0
JAN									
23...	0910	11	3.6	641	11.0	97	7.7	75	3.0
MAY									
07...	1315	33	4.8	634	--	--	7.7	75	6.5
SEP									
08...	1400	3.7	1.1	638	8.9	103	8.0	81	14.0

Date	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 180degC, wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Fecal coliform, M-FC 0.7u MF col/100 mL (31625)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
OCT								
24...	.48	84	.05	<.022	.025	--	1	.02
JAN								
23...	.34	70	.16	e.014	.034	--	3	.09
MAY								
07...	.46	73	.16	<.022	.030	--	4	.36
SEP								
08...	.34	72	.08	.008	.038	K4	3	.03

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

Date	Time	Depth at sample location, feet (81903)	Sampling depth, feet (00003)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-section looking downstrm 1 bank (00009)
SEP										
08...*	1405	.60	.30	638	8.9	103	8.0	81	14.0	6.00
08...*	1406	.85	.40	638	8.9	103	8.0	81	14.0	5.00
08...*	1407	.95	.50	638	8.9	103	8.0	81	14.0	4.00
08...*	1408	.80	.40	638	8.9	103	8.0	81	14.0	3.00
08...*	1409	.80	.40	638	8.9	103	8.0	81	14.0	2.00

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

e Estimated.

K Results based on colony count outside the acceptable range.

* Instantaneous discharge at the time of cross-sectional measurement: Sept. 8, 3.7 ft³/s.

SACRAMENTO RIVER BASIN

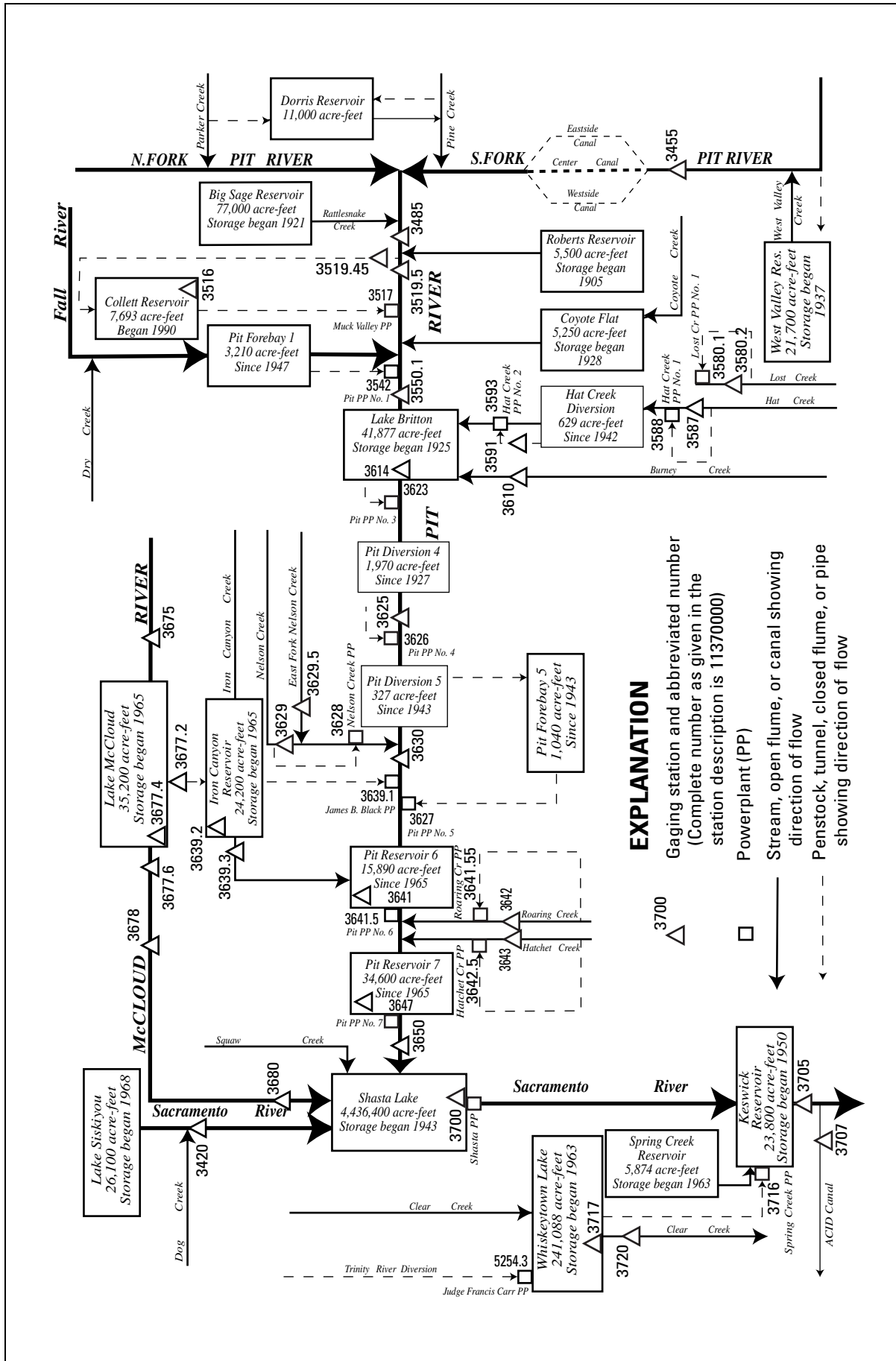


Figure 24. Diversions and storage in Pit and McCloud River Basins.

11342000 SACRAMENTO RIVER AT DELTA, CA

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

DRAINAGE AREA.—425 mi².

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

CHEMICAL DATA: Water years 1951–81.

WATER TEMPERATURE: Water years 1951, 1954–57, 1963–79.

REVISED RECORDS.—WSP 1395: 1951(M). WDR-CA-94-4: 1993(P).

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

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 69,800 ft³/s, Jan. 16, 1974, gage height, 27.20 ft in gage well, 28.7 ft from floodmarks, from rating curve extended above 19,000 ft³/s, on basis of slope-area measurements at gage height 19.50 ft, and of peak flow; minimum daily, 117 ft³/s, Aug. 5, 6, 12–15, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 8,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0430	23,700	14.37	Mar. 15	0545	17,300	12.72
Dec. 28	1645	27,300	15.41	Apr. 29	0830	9,530	10.55
Jan. 12	2345	11,300	11.12				

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	208	213	234	4230	2370	926	1780	4840	2460	531	314	270
2	209	214	234	2990	2220	897	1720	3960	2310	520	366	271
3	210	215	233	2680	2030	851	1560	3600	2240	509	419	250
4	210	216	234	2460	1890	812	1600	3430	2200	495	378	260
5	209	215	234	2330	1790	789	1420	3140	2120	482	367	277
6	207	216	232	2290	1710	771	1310	2940	2000	471	348	273
7	206	692	232	2210	1640	752	1240	2780	1960	462	335	272
8	203	958	231	1950	1580	736	1240	2730	1930	447	328	275
9	204	429	243	1880	1390	732	1270	2480	1800	441	323	279
10	205	410	383	2400	1150	734	1320	2310	1640	430	317	286
11	205	334	287	3330	1090	743	1770	2270	1500	418	313	275
12	206	303	271	7480	1080	838	2990	2280	1370	411	310	267
13	206	308	1140	10300	1120	937	5560	2480	1290	401	307	262
14	206	282	9780	8590	1140	3690	4700	2860	1180	398	303	261
15	208	271	6900	6460	1370	11900	3650	3130	1080	389	300	261
16	206	264	13900	4750	3020	5920	3210	3010	1010	381	298	261
17	207	258	4260	3790	2060	4080	2970	2680	965	375	296	261
18	208	254	2400	3400	1770	3100	2710	2360	939	366	294	261
19	210	249	1920	3130	1670	2540	2450	2150	913	358	290	260
20	210	248	1940	2880	1530	2210	2350	2110	847	350	288	257
21	208	249	2050	2680	1430	1950	2460	2330	795	340	288	256
22	210	246	1690	3560	1350	1990	2390	2800	748	338	299	254
23	211	244	1230	4510	1280	2080	2490	3300	711	338	304	252
24	214	243	975	3560	1230	1810	3830	3560	680	450	293	253
25	216	238	823	3200	1160	1710	3650	3350	651	419	285	251
26	213	237	887	2970	1110	1930	3420	2910	630	348	284	249
27	211	237	6800	3140	1060	1820	3050	2840	603	330	284	250
28	211	236	23800	3160	1010	1630	5730	2940	582	325	280	250
29	211	234	11700	2720	---	1540	8380	2980	564	319	279	251
30	210	234	6600	2410	---	1570	6540	2870	546	315	276	255
31	212	---	6360	2340	---	1700	---	2650	---	314	272	---
TOTAL	6470	8947	108203	113780	43250	63688	88760	90070	38264	12471	9638	7860
MEAN	209	298	3490	3670	1545	2054	2959	2905	1275	402	311	262
MAX	216	958	23800	10300	3020	11900	8380	4840	2460	531	419	286
MIN	203	213	231	1880	1010	732	1240	2110	546	314	272	249
AC-FT	12830	17750	214600	225700	85790	126300	176100	178700	75900	24740	19120	15590

11342000 SACRAMENTO RIVER AT DELTA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	347	767	1368	1917	2318	2249	2030	1701	822	343	237	233
MAX	1837	6075	5770	7162	9557	7957	4264	4216	3741	1198	462	514
(WY)	1951	1974	1997	1995	1958	1983	1963	1983	1998	1998	1983	1957
MIN	150	187	197	214	226	243	264	410	229	145	122	154
(WY)	1945	1992	1977	1991	1977	1977	1977	1977	1977	1977	1977	1991

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1945 - 2003	
ANNUAL TOTAL	411699		591401			
ANNUAL MEAN	1128		1620		1189	
HIGHEST ANNUAL MEAN					2715	
LOWEST ANNUAL MEAN					228	
HIGHEST DAILY MEAN	23800	Dec 28	23800	Dec 28	53900	Jan 16 1974
LOWEST DAILY MEAN	173	Sep 24	203	Oct 8	117	Aug 5 1977
ANNUAL SEVEN-DAY MINIMUM	176	Sep 18	205	Oct 7	117	Aug 11 1977
MAXIMUM PEAK FLOW			27300	Dec 28	69800	Jan 16 1974
MAXIMUM PEAK STAGE			15.41	Dec 28	27.20	Jan 16 1974
ANNUAL RUNOFF (AC-FT)	816600		1173000		861000	
10 PERCENT EXCEEDS	2200		3420		2670	
50 PERCENT EXCEEDS	493		823		530	
90 PERCENT EXCEEDS	208		216		200	

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA

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

DRAINAGE AREA.—247 mi².

PERIOD OF RECORD.—October 1928 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

CHEMICAL DATA: Water years 1951–79.

WATER TEMPERATURE: Water years 1965–79.

SEDIMENT DATA: Water years 1957–61, 1967–70.

REVISED RECORDS.—WSP 1931: Drainage area, 1932(M), 1938(M), 1952(M). WDR CA-88-4: 1983(M).

GAGE.—Water-stage recorder. Datum of gage is 4,507.74 ft above NGVD of 1929. Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

REMARKS.—Records fair. Considerable regulation by West Valley Reservoir on West Valley Creek beginning in May 1937, usable capacity, 21,700 acre-ft. Diversions for irrigation of about 3,800 acres upstream from station. See schematic diagram of Pit and McCloud River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,620 ft³/s, June 2, 1971, gage height, 6.05 ft; minimum, 0.2 ft³/s, Feb. 3, 1941.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	e23	8.3	7.2	13	e4.2	45	73	393	117	111	68
2	18	e18	7.9	8.4	11	e4.0	39	74	355	144	116	68
3	22	23	8.7	6.9	10	e4.0	37	90	323	142	113	68
4	25	21	6.3	6.4	11	e4.0	34	121	289	128	71	72
5	25	13	6.7	7.6	13	e3.9	35	108	254	112	77	91
6	24	13	6.2	7.1	13	4.0	42	98	228	115	70	93
7	23	8.4	6.3	5.9	10	4.2	52	103	210	115	80	92
8	23	12	8.4	6.6	11	4.2	51	138	201	109	81	111
9	23	14	6.0	6.0	12	4.2	56	159	189	104	80	148
10	23	14	6.3	7.6	8.5	4.3	62	223	181	104	76	136
11	26	13	6.3	10	9.6	4.3	61	210	168	101	103	102
12	27	9.9	6.3	10	6.0	4.4	64	184	187	105	133	84
13	28	12	6.8	12	6.7	5.8	57	188	157	108	126	80
14	27	9.9	11	16	10	12	49	201	141	108	167	82
15	23	8.4	10	14	7.8	12	42	218	126	130	190	71
16	23	9.5	9.3	12	6.4	11	41	242	117	161	179	56
17	23	9.5	8.0	12	5.8	15	37	251	107	152	183	55
18	28	8.2	7.6	11	4.8	13	35	247	117	140	184	55
19	28	9.1	11	11	4.6	11	32	231	140	140	185	55
20	28	9.3	8.8	10	4.7	9.9	32	231	144	119	184	52
21	28	12	6.6	10	4.5	7.7	39	235	134	102	181	42
22	28	11	6.2	10	4.5	8.4	48	265	127	102	172	41
23	28	10	e9.0	12	4.7	16	44	296	124	111	155	41
24	28	9.6	e13	13	4.5	14	48	334	129	128	125	41
25	28	9.0	e18	18	4.6	13	58	387	116	137	100	32
26	28	12	e21	19	e4.5	58	55	440	110	135	96	18
27	28	15	e17	16	e4.3	43	50	455	106	133	97	24
28	28	10	15	13	e4.3	30	44	455	104	117	85	37
29	27	7.8	11	11	---	24	40	452	100	102	74	39
30	27	8.5	8.5	9.4	---	24	63	447	98	102	73	38
31	27	---	7.9	10	---	31	---	429	---	106	69	---
TOTAL	790	363.1	289.4	329.1	214.8	408.5	1392	7585	5175	3729	3736	1992
MEAN	25.5	12.1	9.34	10.6	7.67	13.2	46.4	245	172	120	121	66.4
MAX	28	23	21	19	13	58	64	455	393	161	190	148
MIN	18	7.8	6.0	5.9	4.3	3.9	32	73	98	101	69	18
AC-FT	1570	720	574	653	426	810	2760	15040	10260	7400	7410	3950

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

MEAN	32.0	27.7	28.0	30.4	34.1	46.9	106	230	178	93.3	116	57.6
MAX	63.4	57.8	107	98.5	101	219	385	570	643	238	236	159
(WY)	1997	1985	1965	1997	1965	1972	1952	1984	1998	1995	1995	1975
MIN	15.7	5.17	3.28	5.99	4.07	4.63	16.9	25.7	12.1	7.70	9.97	10.5
(WY)	1932	1980	1980	1941	1978	1977	1991	1931	1931	1931	1934	1931

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1929 - 2003	
ANNUAL TOTAL	18888.6		26003.9			
ANNUAL MEAN	51.7		71.2		81.9	
HIGHEST ANNUAL MEAN					183	
LOWEST ANNUAL MEAN					27.3	
HIGHEST DAILY MEAN	132	Apr 15	455	May 27	1220	Jun 2 1971
LOWEST DAILY MEAN	5.2	Mar 4	3.9	Mar 5	0.80	Mar 19 1940
ANNUAL SEVEN-DAY MINIMUM	5.6	Feb 28	4.0	Mar 1	1.1	Feb 3 1941
MAXIMUM PEAK FLOW			461		1620	
MAXIMUM PEAK STAGE			3.99		6.05	
ANNUAL RUNOFF (AC-FT)	37470		51580		59350	
10 PERCENT EXCEEDS	110		183		187	
50 PERCENT EXCEEDS	28		32		42	
90 PERCENT EXCEEDS	8.8		6.4		12	

e Estimated.

11348500 PIT RIVER NEAR CANBY, CA

LOCATION.—Lat 41°24'22", long 120°55'36", in NW 1/4 SW 1/4 sec.10, T.41 N., R.9 E., Modoc County, Hydrologic Unit 18020002, on right bank, at lower end of Warm Spring Valley, and 3.9 mi southwest of Canby.

DRAINAGE AREA.—1,431 mi², excluding Goose Lake Basin.

PERIOD OF RECORD.—January 1904 to December 1905, May 1929 to current year (1929–31 incomplete). Monthly discharge only for February and March 1904 published in WSP 1315-A.

CHEMICAL DATA: Water years 1951–79.

WATER TEMPERATURE: Water years 1965–79.

SEDIMENT DATA: Water years 1957–61, 1967–70.

REVISED RECORDS.—WSP 1445: 1904, 1935(M), 1936, 1937(M). WSP 1931: Drainage area. WSP 1315-A, 1950: Monthly total.

GAGE.—Water-stage recorder. Datum of gage is 4,266.0 ft above NGVD of 1929. January 1904 to December 1905, nonrecording gage and May 6, 1929, to Sept. 30, 1931, water-stage recorder, at site 100 ft upstream at different datum.

REVISION.—Revision of monthly total for October 1929 published in error in 1950 compilation (WSP 1315-A), correct value is 12.1.

REMARKS.—Records good. Low flow regulated by many small reservoirs, total capacity about 144,000 acre-ft. Diversions for irrigation of about 39,000 acres upstream from station. See schematic diagram of [Pit and McCloud River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge observed, 13,000 ft³/s, Mar. 8, 1904, gage height, 15.0 ft, site and datum then in use; no flow July 18, 19, 2000, July 14, 15, 2002, and several days during 2003.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 28	1745	810	4.55	May 12	0830	1,910	6.37

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	53	66	114	105	63	117	369	391	4.4	0.59	7.1
2	44	50	56	97	135	62	123	332	420	3.3	0.51	5.4
3	17	54	50	88	133	64	130	305	415	2.8	0.96	5.2
4	16	60	50	91	140	63	134	392	362	2.3	0.83	5.3
5	16	74	48	95	115	62	148	617	350	1.7	8.7	3.4
6	12	60	57	83	93	58	159	868	327	0.89	17	2.1
7	10	71	52	75	74	57	194	875	125	0.81	12	1.7
8	14	98	51	67	70	57	242	999	17	0.83	8.5	1.3
9	15	119	52	64	68	56	200	1320	29	0.70	7.1	1.2
10	15	78	53	64	70	52	200	1710	80	0.65	5.3	2.3
11	17	83	56	67	63	35	177	1750	98	2.3	4.3	9.3
12	9.8	85	55	70	63	28	211	1880	73	1.2	3.3	5.7
13	25	78	59	77	67	19	165	1810	60	0.00	2.7	11
14	19	74	70	125	80	49	155	1750	60	0.00	3.1	19
15	21	65	78	147	91	226	127	1580	42	0.00	3.0	46
16	17	72	90	132	100	233	139	1280	31	0.00	2.4	56
17	16	98	87	107	96	200	133	839	24	0.66	2.1	96
18	17	91	73	88	93	197	104	670	18	1.2	1.9	95
19	26	87	69	80	85	207	85	590	20	0.02	1.7	31
20	28	63	65	83	81	160	75	540	18	0.38	1.3	25
21	26	51	67	75	79	140	84	469	12	0.03	1.6	19
22	22	43	65	73	77	128	91	382	11	0.00	1.1	19
23	17	45	51	78	72	132	112	293	12	0.07	0.83	24
24	17	47	45	78	71	148	175	280	7.9	0.01	1.3	59
25	19	50	57	90	68	142	266	275	7.6	0.00	1.6	61
26	25	48	65	101	65	174	386	313	6.9	0.00	3.2	50
27	34	47	75	112	62	351	528	358	5.8	0.00	4.9	70
28	42	68	117	102	60	287	619	301	0.00	0.00	5.6	95
29	52	64	121	95	---	188	444	263	7.9	0.00	5.7	72
30	55	60	103	89	---	153	395	312	7.0	0.00	6.6	44
31	64	---	127	84	---	126	---	316	---	0.00	6.4	---
TOTAL	788.8	2036	2130	2791	2376	3917	6118	24038	3038.10	24.25	126.12	942.0
MEAN	25.4	67.9	68.7	90.0	84.9	126	204	775	101	0.78	4.07	31.4
MAX	64	119	127	147	140	351	619	1880	420	4.4	17	96
MIN	9.8	43	45	64	60	19	75	263	0.00	0.00	0.51	1.2
AC-FT	1560	4040	4220	5540	4710	7770	12140	47680	6030	48	250	1870

SACRAMENTO RIVER BASIN

11348500 PIT RIVER NEAR CANBY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	78.2	104	189	306	422	537	459	467	271	64.2	42.9	64.0
MAX	1068	418	1225	1684	2249	1749	2774	2176	1746	312	125	201
(WY)	1963	1982	1938	1970	1986	1972	1952	1995	1971	1971	1983	1998
MIN	0.26	12.7	31.0	14.7	19.2	5.83	1.29	2.32	3.53	0.78	0.22	0.28
(WY)	1935	1935	1937	1937	1937	1934	1934	1992	1992	2003	1934	1934

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1904 - 2003	
ANNUAL TOTAL	28398.27		48325.27			
ANNUAL MEAN	77.8		132		249	
HIGHEST ANNUAL MEAN					676 1971	
LOWEST ANNUAL MEAN					22.4 1934	
HIGHEST DAILY MEAN	831	Jan 1	1880	May 12	8580	Feb 19 1986
LOWEST DAILY MEAN	0.00	Jul 14	0.00	Jun 28	0.00	Jul 18 2000
ANNUAL SEVEN-DAY MINIMUM	1.3	Jul 11	0.00	Jul 25	0.00	Jul 25 2003
MAXIMUM PEAK FLOW			1910		13000	
MAXIMUM PEAK STAGE			6.37		15.00	
ANNUAL RUNOFF (AC-FT)	56330		95850		180400	
10 PERCENT EXCEEDS	166		312		632	
50 PERCENT EXCEEDS	50		63		95	
90 PERCENT EXCEEDS	2.5		1.5		16	

11351600 COLLETT RESERVOIR NEAR LITTLE VALLEY, CA

LOCATION.—Lat 40°58'00", long 121°13'00", unsurveyed, Lassen County, Hydrologic Unit 18020003, on right bank, 1.9 mi east of Muck Valley Powerplant, 5.5 mi northwest of Little Valley, and 9.1 mi southwest of Nubieber.

PERIOD OF RECORD.—October 1991 to September 1992, October 1993 to current year.

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

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

COOPERATION.—Records were provided by Malacha Hydro Limited Partnership, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 8296.

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

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

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	637	2547	2045	2927	7069	7554	7691	3151	350	---
2	---	---	583	2432	2454	3046	6973	7414	7527	2907	350	---
3	---	---	604	2261	2505	3188	6885	7103	7507	2660	350	---
4	---	---	643	2689	2563	3318	6568	6796	7515	2656	334	---
5	---	---	640	3128	2543	3402	6885	6572	7495	2647	318	---
6	---	---	620	2993	2486	3483	7207	6579	7213	2644	302	---
7	---	---	620	2835	2359	3588	7134	6728	7609	2438	292	---
8	---	---	723	2547	2614	3626	6980	6796	7652	2277	292	---
9	---	---	709	2189	2819	3687	6804	6556	7406	2070	292	---
10	---	---	712	1837	2711	3715	6693	6781	7126	1859	292	---
11	---	---	701	2073	2553	3342	6751	6992	6854	1660	---	---
12	---	---	701	2387	2236	2983	7456	7153	6568	1654	---	---
13	---	231	698	2154	1967	2614	7675	7301	6292	1645	---	---
14	---	285	759	2186	2192	2689	7437	7379	6273	1501	---	---
15	---	271	987	2448	2403	3049	7274	7375	6254	1348	---	---
16	---	277	1007	2441	2676	4171	7100	7359	5967	1240	---	---
17	---	510	1022	2556	2989	4636	6950	7324	5682	1133	---	---
18	---	487	1027	3245	2920	5069	7030	7231	5414	1024	---	---
19	---	473	1010	3786	2920	5447	7542	7215	5153	1024	---	---
20	---	477	970	3514	2865	5738	7456	6996	4836	1022	---	---
21	---	477	1090	3118	2793	5878	7562	6812	4825	908	---	---
22	---	427	1188	2796	3032	6530	7277	6598	4814	804	---	---
23	---	475	1084	2432	3241	7207	7100	6758	4529	701	---	---
24	---	565	970	2107	3429	7173	6896	7367	4244	618	---	---
25	---	536	1027	2479	3305	7076	6697	7558	3962	547	---	---
26	---	472	888	2878	3132	7312	7161	7538	3701	542	---	---
27	---	484	773	2647	2979	7207	7648	7488	3670	539	---	---
28	---	484	1171	2362	2796	7103	7363	7523	3667	479	---	---
29	---	472	2121	2079	---	7042	7445	7589	3650	414	---	---
30	---	552	2167	1831	---	7080	7417	7550	3402	380	---	---
31	---	---	1899	1696	---	7103	---	7688	---	362	---	---
MAX	---	---	2167	3786	3429	7312	7675	7688	7691	3151	---	---
MIN	---	---	583	1696	1967	2614	6568	6556	3402	362	---	---
a	0	1340	4580	14820	6490	12160	21740	26250	7870	2830	75	0
b	0	1740	5810	14770	7680	16860	22480	26980	4010	26	0	0

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

b Discharge, in acre-feet, for Pit River Tunnel Flow (station 11351945), provided by Malacha Hydro Limited Partnership.

11351950 PIT RIVER BELOW DIVERSION TO MUCK VALLEY POWERPLANT, NEAR BIEBER, CA

LOCATION.—Lat 41°00'55", long 121°09'13", in NE 1/4 SW 1/4 sec.27, T.37 N., R.7 E., Lassen County, Hydrologic Unit 18020003, on right bank, 1.7 mi upstream from North Gulch, 2.2 mi upstream from Spring Gulch, and 7.4 mi south of Bieber.

DRAINAGE AREA.—2,475 mi², excluding Goose Lake Basin.

PERIOD OF RECORD.—October 1994 to current year.

GAGE.—Acoustic-velocity meter measures minimum bypass flow; water-stage recorder and Ogee weir for spillway. Elevation of gage is 4,120 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow at this station has two components which are combined for publication: low-flow release (station 11351946) and flow over Ogee weir (station 11351948). Water is diverted upstream of weir through Pit River Tunnel (station 11351945) to Collett Reservoir (station 11351600), for power generation. During powerplant operation, the minimum release is 50 ft³/s. See schematic diagram of Pit and McCloud River Basins.

COOPERATION.—Records were provided by Malacha Hydro Limited Partnership, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory commission project no. 8296.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 16,800 ft³/s, Jan. 3, 1997; no flow many days during most years.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	17	53	54	54	53	934	53	4.0	0.00	0.00
2	0.00	0.00	30	53	54	53	53	830	53	3.0	0.00	0.00
3	0.00	0.00	18	53	54	53	53	561	53	1.0	0.00	0.00
4	0.00	0.00	27	53	54	54	53	490	53	2.0	0.00	0.00
5	0.00	0.00	0.00	53	54	54	54	748	53	2.0	0.00	0.00
6	0.00	16	30	53	54	53	53	997	53	2.0	0.00	0.00
7	0.00	11	0.00	53	54	53	53	1100	53	1.0	0.00	0.00
8	0.00	26	13	53	53	53	53	1310	52	4.0	0.00	0.00
9	0.00	32	33	54	53	53	53	2000	52	0.00	0.00	0.00
10	0.00	40	0.00	54	53	53	53	2250	39	0.00	0.00	0.00
11	0.00	49	36	54	53	53	53	2390	12	0.00	0.00	0.00
12	0.00	43	0.00	54	52	52	53	2580	16	0.00	0.00	0.00
13	0.00	52	30	53	53	54	54	2610	13	0.00	0.00	0.00
14	0.00	53	10	54	53	54	53	2440	14	0.00	0.00	0.00
15	0.00	48	38	56	53	54	53	2040	27	0.00	0.00	0.00
16	0.00	30	54	54	53	398	54	1810	16	0.00	0.00	0.00
17	0.00	50	54	53	53	502	54	1600	13	0.00	0.00	0.00
18	0.00	48	54	53	53	231	54	1240	14	0.00	0.00	0.00
19	0.00	38	54	53	53	95	53	767	17	0.00	0.00	0.00
20	0.00	52	54	54	53	62	54	523	15	0.00	0.00	0.00
21	0.00	52	54	54	53	53	54	437	14	0.00	0.00	0.00
22	0.00	47	53	55	53	53	54	352	15	0.00	0.00	0.00
23	0.00	15	48	55	53	53	54	232	8.0	0.00	0.00	0.00
24	0.00	29	53	55	53	53	54	54	8.0	0.00	0.00	0.00
25	0.00	35	52	55	54	54	199	52	8.0	0.00	0.00	0.00
26	0.00	3.0	52	54	54	54	976	52	9.0	0.00	0.00	0.00
27	0.00	35	53	54	54	54	1260	52	25	0.00	0.00	0.00
28	0.00	0.00	53	53	54	180	1420	53	5.0	0.00	0.00	0.00
29	0.00	30	53	53	---	224	1370	52	5.0	0.00	0.00	0.00
30	0.00	19	53	53	---	54	1240	52	4.0	0.00	0.00	0.00
31	0.00	---	53	54	---	53	---	53	---	0.00	0.00	---
TOTAL	0.00	853.00	1129.00	1665	1494	2973	7747	30661	772.0	19.00	0.00	0.00
MEAN	0.000	28.4	36.4	53.7	53.4	95.9	258	989	25.7	0.61	0.000	0.000
MAX	0.00	53	54	56	54	502	1420	2610	53	4.0	0.00	0.00
MIN	0.00	0.00	0.00	53	52	52	53	52	4.0	0.00	0.00	0.00
AC-FT	0.00	1690	2240	3300	2960	5900	15370	60820	1530	38	0.00	0.00

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

MEAN	30.4	72.0	144	787	903	1032	555	935	289	16.9	5.57	15.1
MAX	53.0	325	475	3344	3089	3316	1677	3679	1903	69.1	31.4	43.0
(WY)	1999	1999	1999	1997	1996	1995	1995	1995	1998	1998	1998	1998
MIN	0.000	8.00	24.9	18.4	20.2	18.4	12.9	1.52	0.47	0.000	0.000	0.000
(WY)	2002	2002	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1995 - 2003	
ANNUAL TOTAL	16736.00		47313.00			
ANNUAL MEAN	45.9		130		397	
HIGHEST ANNUAL MEAN					997	
LOWEST ANNUAL MEAN					12.8	
HIGHEST DAILY MEAN	1330	Jan 4	2610	May 13	16800	Jan 3 1997
LOWEST DAILY MEAN	0.00	Jun 5	0.00	Oct 1	0.00	Oct 1 1994
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 9	0.00	Oct 1	0.00	Aug 3 1995
ANNUAL RUNOFF (AC-FT)	33200		93850		287400	
10 PERCENT EXCEEDS	54		58		1240	
50 PERCENT EXCEEDS	17		48		53	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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

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

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

GAGE.—Discharge computed from powerplant output.

REMARKS.—Water is diverted from Fall River at Pit No. 1 Forebay at NW 1/4 SW 1/4 sec.25, T.37 N., R.4 E., through a tunnel to powerplant and then into Pit River. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2687.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 2,490 ft³/s, Mar. 13, 1995; no flow several days most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1030	1090	1060	1590	998	1310	1390	1490	1010	905	706	770
2	991	1100	1130	1370	1250	1270	1420	1460	1020	913	830	775
3	1030	1060	1110	1510	1330	1240	1480	1420	1020	906	952	745
4	991	1110	1110	1350	1400	1170	1510	1410	972	906	378	760
5	1050	1090	1120	1310	1370	1270	1540	1460	998	894	0.00	804
6	1060	1100	1120	1200	1350	1240	1370	1480	953	925	0.00	815
7	1060	1000	1120	1240	1300	1260	1420	1450	981	987	0.00	813
8	1050	1230	1110	1360	1300	1220	1430	1620	984	910	0.00	846
9	1060	1220	1110	1240	1300	1240	1420	1710	1000	908	0.00	920
10	1050	1230	1130	1260	1300	1240	1420	1660	983	942	0.00	989
11	1060	1160	1130	1290	1300	1260	1430	1590	965	889	181	952
12	1080	1150	1120	1270	1340	1250	1360	1560	967	893	219	914
13	1110	1160	1130	1330	1350	1150	1430	1510	992	894	321	1020
14	1150	1160	1190	1570	1340	1360	1380	1490	978	902	356	997
15	1070	1150	1230	1750	1340	2010	1480	1450	980	869	360	1000
16	965	1060	1320	1620	1320	2090	1450	1410	950	894	438	1020
17	1070	1150	1490	1540	1370	2070	1460	1410	1020	876	462	1030
18	1070	1030	1590	1540	1400	1910	1400	1400	953	781	487	1020
19	1050	1210	1240	1440	1360	1790	1440	1390	985	177	499	974
20	1100	1070	1260	1440	1400	1470	1390	1340	933	248	530	973
21	1080	1140	1330	1430	1330	1650	1230	1230	28	871	569	972
22	1110	1090	1300	1410	1360	1480	1400	1300	256	864	608	974
23	1080	1130	1220	1400	1310	1500	1320	1240	933	902	634	976
24	1110	1130	1130	1420	1320	1570	1300	1170	924	892	636	975
25	1080	1150	1170	1450	1300	1530	1530	1190	973	875	677	972
26	1040	1110	1180	1430	1200	1520	1580	1200	978	847	647	965
27	1170	1120	1170	1420	1260	1440	1540	1210	975	838	608	964
28	1150	1100	1190	1370	1310	1510	1540	1160	968	860	637	960
29	1090	1100	1420	1410	---	1510	1500	1140	942	858	662	976
30	1100	1120	1410	1400	---	1510	1490	1100	967	845	729	954
31	1130	---	1600	1170	---	1460	---	1020	---	709	739	---
TOTAL	33237	33720	37940	43530	36808	45500	43050	42670	27588	25980	13865.00	27825
MEAN	1072	1124	1224	1404	1315	1468	1435	1376	920	838	447	928
MAX	1170	1230	1600	1750	1400	2090	1580	1710	1020	987	952	1030
MIN	965	1000	1060	1170	998	1150	1230	1020	28	177	0.00	745
AC-FT	65930	66880	75250	86340	73010	90250	85390	84640	54720	51530	27500	55190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	1153	1139	1188	1280	1316	1459	1452	1351	1172	1084	1045	1092					
MAX	1394	1527	1533	1720	1871	1972	1927	1939	1698	1412	1379	1278					
(WY)	1999	1999	1999	1998	1998	1995	1995	1998	1998	1998	1998	2000					
MIN	941	562	987	996	749	1053	1014	947	914	838	447	900					
(WY)	1995	2001	1995	1992	1994	1992	1994	1992	1994	2003	2003	1994					

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1987 - 2003	
ANNUAL TOTAL	426561		411713.00			
ANNUAL MEAN	1169		1128		1227	
HIGHEST ANNUAL MEAN					1572	
LOWEST ANNUAL MEAN					955	
HIGHEST DAILY MEAN	1750	Jan 3	2090	Mar 16	2490	Mar 13 1995
LOWEST DAILY MEAN	796	Sep 16	0.00	Aug 5	0.00	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	909	Sep 13	26	Aug 5	0.00	Nov 6 2000
ANNUAL RUNOFF (AC-FT)	846100		816600		888900	
10 PERCENT EXCEEDS	1380		1490		1620	
50 PERCENT EXCEEDS	1130		1130		1190	
90 PERCENT EXCEEDS	999		766		952	

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

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

DRAINAGE AREA.—3,761 mi², excluding Goose Lake Basin.

PERIOD OF RECORD.—August 1975 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 2,798.21 ft above NGVD of 1929 (levels by Pacific Gas and Electric Co.).

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 30,000 ft³/s, Feb. 20, 1986, gage height, 17.03 ft; minimum daily, 496 ft³/s, Aug. 9, 2003.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of January 1974 reached a stage of 14.8 ft, from floodmarks on right bank, discharge, 22,600 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 4,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 13	0015	5,200	8.93

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1170	1240	1260	2180	1440	1650	1990	3180	1560	1270	973	1270
2	1130	1270	1320	1780	1600	1500	2020	2980	1620	1280	1120	1260
3	1180	1230	1370	2050	1680	1470	2070	2950	1650	1280	1270	1240
4	1130	1270	1340	1800	1860	1400	2280	2930	1580	1270	789	1250
5	1200	1250	1340	1550	1820	1500	2160	2990	1590	1160	568	1270
6	1210	1250	1320	1550	1780	1480	1910	2930	1500	1180	551	1280
7	1210	1200	1370	1780	1760	1480	2060	3020	1580	1260	512	1280
8	1200	1410	1300	1920	1690	1450	2250	3740	1370	1260	500	1280
9	1200	1390	1300	1780	1540	1460	2260	4790	1490	1280	496	1340
10	1190	1430	1380	1800	1570	1470	2240	4660	1440	1320	515	1420
11	1190	1390	1340	1740	1690	1540	2020	4860	1380	1250	621	1430
12	1250	1360	1380	1530	1760	1680	1820	4890	1340	1260	649	1450
13	1260	1370	1350	1760	1800	1580	1740	4790	1370	1170	730	1500
14	1290	1380	1490	2420	1730	1760	2080	4620	1320	1190	768	1480
15	1220	1380	1470	2670	1570	2590	2150	4360	1200	1190	783	1450
16	1130	1330	1590	2680	1590	2780	2040	4040	1210	1220	846	1430
17	1230	1340	1920	2140	1660	3020	2040	3780	1390	1200	879	1450
18	1230	1240	1960	1990	1710	2790	1980	3430	1330	1130	907	1490
19	1210	1470	1630	1680	1790	2490	1810	2960	1330	1100	919	1480
20	1250	1310	1600	1780	1810	2130	1700	2790	1350	1290	946	1470
21	1220	1400	1660	1990	1740	2260	1680	2610	1250	1180	996	1470
22	1270	1350	1540	1970	1710	1960	1850	2480	1410	1130	1050	1480
23	1240	1390	1460	1950	1540	1770	1970	2170	1260	1200	1070	1490
24	1270	1330	1490	1970	1550	1970	2000	1900	1340	1190	1070	1490
25	1240	1350	1490	1890	1570	2110	2710	1690	1350	1170	1100	1480
26	1200	1340	1430	1680	1590	2230	3200	1880	1340	1140	1090	1480
27	1260	1360	1500	1780	1640	2360	3160	1800	1310	1110	1080	1490
28	1310	1350	1550	1940	1690	2410	3700	1650	1290	1130	1120	1490
29	1250	1310	1770	1970	---	2500	3530	1630	1220	1120	1140	1510
30	1240	1360	1820	1940	---	2390	3460	1570	1240	1110	1220	1480
31	1280	---	2400	1670	---	2030	---	1410	---	973	1240	---
TOTAL	37860	40050	47140	59330	46880	61210	67880	95480	41610	37013	27518	42380
MEAN	1221	1335	1521	1914	1674	1975	2263	3080	1387	1194	888	1413
MAX	1310	1470	2400	2680	1860	3020	3700	4890	1650	1320	1270	1510
MIN	1130	1200	1260	1530	1440	1400	1680	1410	1200	973	496	1240
AC-FT	75100	79440	93500	117700	92990	121400	134600	189400	82530	73420	54580	84060

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1401	1622	1809	2292	2807	3142	2522	2309	1659	1313	1265	1320
MAX	1776	3181	3834	6060	8539	6539	5614	6883	4582	1809	1618	1628
(WY)	1999	1982	1984	1997	1986	1993	1982	1995	1998	1998	1998	1998
MIN	939	1133	1214	1222	1268	1294	1173	1050	1012	954	828	784
(WY)	1995	1993	1993	1991	1994	1992	1992	1992	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1975 - 2003	
ANNUAL TOTAL	544250		604351			
ANNUAL MEAN	1491		1656		1949	
HIGHEST ANNUAL MEAN					2914	
LOWEST ANNUAL MEAN					1149	
HIGHEST DAILY MEAN	3720	Jan 3	4890	May 12	28800	Feb 20 1986
LOWEST DAILY MEAN	1010	Sep 13	496	Aug 9	496	Aug 9 2003
ANNUAL SEVEN-DAY MINIMUM	1130	Jul 31	538	Aug 5	538	Aug 5 2003
MAXIMUM PEAK FLOW			5200	May 13	30000	Feb 20 1986
MAXIMUM PEAK STAGE			8.93	May 13	17.03	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	1080000		1199000		1412000	
10 PERCENT EXCEEDS	2020		2440		3240	
50 PERCENT EXCEEDS	1360		1470		1510	
90 PERCENT EXCEEDS	1160		1130		1170	

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

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

DRAINAGE AREA.—7.53 mi².

PERIOD OF RECORD.—October 1989 to September 1997, October 1998 to current year (operated as low-flow station only).

GAGE.—Water-stage recorder and sharp-crested weir. Elevation of gage is 3,900 ft above NGVD of 1929, from topographic map.

REMARKS.—During times of powerplant operation, the minimum release requirement is 15 ft³/s; flow is computed to 80 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Snow Mountain Hydro, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 3863.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	16	16	16	37	16	16	16	16	18	16	16
2	16	16	16	16	16	16	16	16	16	27	16	16
3	16	16	16	16	16	16	16	16	16	16	16	16
4	16	16	16	16	16	16	16	16	16	16	17	16
5	16	16	16	16	16	16	16	16	16	16	16	16
6	16	16	16	16	16	16	16	16	16	16	16	16
7	16	21	22	16	26	16	16	16	16	16	16	16
8	16	20	16	16	16	16	16	19	16	16	16	16
9	16	16	16	16	16	16	16	18	16	16	16	18
10	16	16	18	26	16	16	16	16	16	16	16	16
11	16	16	16	40	16	16	16	16	16	16	16	16
12	16	16	16	35	16	16	16	20	16	16	16	16
13	16	16	16	55	16	19	16	38	16	16	16	16
14	16	16	29	16	16	16	16	16	16	16	16	16
15	16	16	49	16	16	17	16	16	16	16	16	16
16	16	16	56	16	16	16	16	16	16	16	16	16
17	16	16	42	16	16	16	16	16	16	16	16	16
18	16	16	19	16	16	16	16	16	16	16	16	16
19	16	16	16	16	16	16	16	16	16	16	16	16
20	16	16	16	16	16	16	16	16	16	16	17	16
21	16	16	16	16	16	16	16	16	16	16	16	16
22	16	16	16	16	16	16	16	16	16	16	18	16
23	16	16	16	16	16	16	16	16	16	16	16	16
24	16	16	18	26	16	16	16	16	16	17	16	16
25	16	16	16	55	16	16	16	16	16	16	16	16
26	16	16	16	49	16	16	17	16	16	16	16	35
27	16	16	39	23	16	16	18	16	16	16	16	19
28	16	16	61	45	16	16	17	17	16	16	16	16
29	18	16	16	16	---	16	16	16	16	16	16	16
30	16	16	16	16	---	16	16	16	16	16	16	20
31	16	---	35	16	---	18	---	16	---	16	16	---
TOTAL	500	489	708	706	479	502	484	528	480	510	500	508
MEAN	16.1	16.3	22.8	22.8	17.1	16.2	16.1	17.0	16.0	16.5	16.1	16.9
MAX	18	21	61	55	37	19	18	38	16	27	18	35
MIN	16	16	16	16	16	16	16	16	16	16	16	16
AC-FT	992	970	1400	1400	950	996	960	1050	952	1010	992	1010
a	2480	2380	2090	2140	2230	2560	2660	2680	2230	2220	2240	2090

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

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

LOCATION.—Lat 40°55'08", long 121°33'02", in NW 1/4 SW 1/4 sec.5, T.36 N., R.4 E., [Shasta County](#), Hydrologic Unit 18020003, on right bank, at Hat No. 1 Diversion Dam on Hat Creek, and 6.5 mi northeast of Burney.

DRAINAGE AREA.—347 mi².

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

GAGE.—Water-stage recorder and Cipolletti weir. Elevation of gage is 3,180 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. The minimum release requirement is 2.0 ft³/s at all times. Flow is computed to 9.4 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2661.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	8.3	8.3	8.5	8.4	8.3	8.3	8.7	8.5	8.5	8.5	8.8
2	3.3	8.3	8.2	8.6	8.4	8.3	8.4	8.6	8.5	8.3	8.5	8.7
3	3.3	8.3	8.5	8.5	8.4	8.3	8.4	8.6	8.5	8.3	8.5	8.7
4	3.3	8.3	8.3	8.5	9.2	8.3	8.4	8.5	8.6	8.3	8.5	8.7
5	3.3	8.3	8.2	8.4	8.5	8.3	8.5	8.6	8.6	8.3	8.5	8.8
6	3.3	8.3	8.2	8.3	8.5	8.3	8.4	8.6	8.6	8.3	8.5	8.9
7	3.3	8.2	8.2	8.4	8.5	8.3	8.5	8.5	8.6	8.4	8.5	9.0
8	3.3	8.3	8.3	8.4	8.5	8.3	8.5	8.5	8.5	8.4	8.5	8.9
9	3.2	8.1	8.2	8.4	8.5	8.5	8.4	8.4	8.6	8.4	8.5	8.9
10	3.2	8.8	8.3	8.5	8.5	8.5	8.4	8.4	8.6	8.4	8.4	8.8
11	3.2	9.2	8.2	8.5	8.5	8.6	8.4	8.5	8.7	8.3	8.4	8.5
12	3.2	8.6	8.4	8.5	8.5	8.4	8.5	8.4	8.5	8.3	8.3	8.6
13	3.2	8.1	8.8	8.5	8.5	8.4	8.5	8.2	8.5	8.3	8.4	8.6
14	3.2	8.2	8.5	8.6	8.5	8.5	8.4	8.3	8.5	8.4	8.5	8.6
15	3.2	8.2	8.5	8.6	8.5	8.9	8.4	8.5	8.5	8.4	e8.5	8.7
16	3.2	8.3	8.5	8.5	8.5	8.5	8.4	8.6	8.5	8.3	e8.5	8.5
17	3.2	8.4	8.2	8.5	8.5	8.4	8.4	8.6	8.5	8.2	8.5	8.4
18	3.2	8.4	8.2	8.5	8.5	8.4	8.3	8.6	8.5	8.4	9.0	8.6
19	3.2	8.4	8.2	8.4	8.5	8.8	8.3	8.5	8.4	8.7	9.0	8.8
20	3.2	8.3	8.4	8.4	8.5	8.4	8.3	8.5	8.4	8.7	8.9	8.6
21	3.2	8.3	8.4	8.4	8.4	8.3	8.2	8.5	8.5	8.7	9.3	8.6
22	3.3	8.4	8.4	8.4	8.5	8.3	8.2	8.5	8.5	8.8	8.9	8.6
23	3.2	8.4	8.4	8.4	8.4	8.3	8.3	8.5	8.5	8.8	9.2	8.5
24	3.2	8.6	8.3	8.5	8.4	8.3	8.5	8.6	8.6	8.6	8.7	8.5
25	3.2	8.4	8.4	8.5	8.4	8.3	8.7	8.6	8.5	8.5	8.4	8.5
26	3.2	8.3	8.4	8.4	8.4	8.3	8.7	8.6	8.5	8.5	8.5	8.6
27	3.2	8.3	8.5	8.4	8.4	8.3	8.7	8.5	8.5	8.5	8.5	8.8
28	3.2	8.2	8.6	8.4	8.4	8.3	8.7	8.5	8.5	8.6	8.7	8.9
29	3.2	8.2	8.6	8.4	---	8.3	8.7	8.5	8.5	8.5	8.7	8.8
30	3.2	8.2	8.6	8.4	---	8.3	8.7	8.6	8.5	8.4	8.5	8.8
31	5.5	---	8.6	8.4	---	8.2	---	8.6	---	8.5	8.7	---
TOTAL	102.3	250.6	259.8	262.1	237.7	259.9	253.5	264.1	255.7	262.0	267.0	260.7
MEAN	3.30	8.35	8.38	8.45	8.49	8.38	8.45	8.52	8.52	8.45	8.61	8.69
MAX	5.5	9.2	8.8	8.6	9.2	8.9	8.7	8.7	8.7	8.8	9.3	9.0
MIN	3.2	8.1	8.2	8.3	8.4	8.2	8.2	8.2	8.4	8.2	8.3	8.4
AC-FT	203	497	515	520	471	516	503	524	507	520	530	517

e Estimated.

11358800 HAT CREEK NO. 1 POWERPLANT NEAR BURNEY, CA

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

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

GAGE.—Discharge computed from powerplant output.

REMARKS.—Water is diverted from left bank of Hat Creek at NW 1/4 SW 1/4 sec.5, T.36 N., R.8 W., through a canal to powerplant and then into Hat Creek. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2661.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 518 ft³/s, Nov. 2, 1998; no flow several days most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275	316	333	358	361	335	328	329	296	299	266	266
2	275	319	333	353	361	333	340	323	294	300	271	264
3	279	324	334	350	356	334	339	321	293	299	272	260
4	282	330	335	348	239	328	342	324	295	297	276	261
5	281	333	335	347	350	332	341	321	298	302	279	264
6	279	333	334	345	347	332	326	320	309	298	275	269
7	279	333	333	343	343	332	338	313	311	292	266	267
8	272	352	331	342	341	330	335	320	309	284	270	267
9	270	356	332	343	339	330	332	316	313	282	275	264
10	271	350	332	349	341	330	314	321	318	274	270	267
11	270	345	332	351	343	331	314	325	325	270	269	258
12	270	343	330	348	344	326	319	319	327	266	269	266
13	270	343	332	356	348	330	329	294	326	268	269	266
14	270	339	346	374	346	337	324	279	326	269	269	266
15	271	338	375	375	345	308	310	283	316	271	272	265
16	270	335	375	367	356	361	309	297	315	269	274	233
17	269	336	369	356	349	355	309	302	312	269	271	199
18	269	337	357	356	347	346	310	299	314	268	267	202
19	268	337	349	354	345	291	308	293	312	269	264	235
20	267	338	349	352	344	341	305	290	314	271	259	268
21	268	338	347	351	342	337	295	277	317	270	259	267
22	268	337	342	353	326	336	286	281	316	270	263	267
23	269	336	338	357	339	338	278	281	316	269	268	270
24	276	334	334	362	339	337	299	280	320	270	265	271
25	291	334	336	360	337	335	332	286	307	270	265	268
26	300	334	335	357	322	342	335	286	313	268	266	267
27	311	333	349	356	338	345	341	281	309	268	269	267
28	308	334	368	350	337	337	342	289	306	271	271	267
29	317	333	374	354	---	338	338	299	309	271	271	262
30	320	333	364	353	---	331	332	306	305	266	267	262
31	319	---	373	354	---	330	---	292	---	264	266	---
TOTAL	8704	10083	10706	10974	9525	10348	9650	9347	9341	8574	8333	7775
MEAN	281	336	345	354	340	334	322	302	311	277	269	259
MAX	320	356	375	375	361	361	342	329	327	302	279	271
MIN	267	316	330	342	239	291	278	277	293	264	259	199
AC-FT	17260	20000	21240	21770	18890	20530	19140	18540	18530	17010	16530	15420
a	23710	26590	18140	29220	25780	28370	26780	26740	25790	24380	23430	20610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	301	323	344	349	331	343	315	289	297	284	267	270
MEAN	301	323	344	349	331	343	315	289	297	284	267	270
MAX	432	437	433	422	431	408	393	384	430	410	344	349
(WY)	1987	1999	1999	1997	1999	2000	1999	1998	1998	1998	1998	1998
MIN	187	72.5	248	266	69.5	258	203	150	200	195	170	192
(WY)	1993	1990	1995	1993	1996	1992	1992	1991	1994	1994	1992	1994

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR			FOR 2003 WATER YEAR			WATER YEARS 1987 - 2003		
ANNUAL TOTAL	112836			113360					
ANNUAL MEAN	309			311			309		
HIGHEST ANNUAL MEAN							383		
LOWEST ANNUAL MEAN							225		
HIGHEST DAILY MEAN	388			Jan 3			375		
LOWEST DAILY MEAN	246			Apr 10			199		
ANNUAL SEVEN-DAY MINIMUM	267			Sep 8			238		
ANNUAL RUNOFF (AC-FT)	223800						224100		
10 PERCENT EXCEEDS	360						351		
50 PERCENT EXCEEDS	294						318		
90 PERCENT EXCEEDS	269						267		

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

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

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

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

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 2,980 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. The minimum release requirement is 8.0 ft³/s at all times. Flow is computed to 15 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2661.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	9.4	8.5	8.6	8.7	8.4	8.6	9.0	9.1	8.5	8.6	8.8
2	9.4	8.8	8.5	8.5	8.7	8.4	8.6	8.6	8.8	8.2	8.7	8.9
3	9.4	8.8	8.5	8.4	8.7	8.4	8.5	8.6	8.5	8.7	8.6	8.8
4	9.4	8.7	8.5	8.4	8.9	8.3	8.6	8.6	8.5	8.8	8.6	8.8
5	9.4	8.7	8.5	8.5	8.7	---	8.5	8.6	8.6	8.8	8.7	8.7
6	9.4	8.7	8.5	8.6	8.7	8.6	8.5	8.6	8.5	8.7	8.6	8.5
7	9.4	8.6	8.5	8.6	8.6	8.6	8.5	8.6	8.5	8.6	8.6	8.5
8	9.3	8.7	8.8	8.6	8.7	8.6	8.5	8.6	---	8.6	8.7	8.6
9	9.3	8.8	---	8.6	8.7	8.5	8.5	8.6	8.4	8.7	8.6	8.7
10	9.3	8.7	---	8.6	8.7	8.6	8.3	8.6	8.9	8.7	8.6	8.7
11	9.3	8.6	---	8.8	8.8	8.5	8.3	8.7	8.6	8.6	8.7	8.8
12	9.3	8.6	---	8.7	8.7	8.4	8.3	8.6	8.3	8.7	8.6	8.7
13	9.3	8.5	---	8.8	8.6	8.5	8.3	8.4	8.3	8.7	8.5	8.7
14	9.3	8.5	---	9.1	8.6	8.5	8.4	8.7	8.2	8.7	8.7	8.7
15	9.3	8.5	---	8.9	8.6	8.7	8.4	9.0	8.3	8.7	8.6	8.7
16	9.3	8.5	---	8.4	8.8	8.9	8.3	9.4	8.6	8.7	8.5	8.6
17	9.3	8.5	---	8.3	8.7	8.7	8.4	9.5	---	8.7	8.9	8.8
18	9.3	8.5	---	8.2	8.7	8.6	8.4	9.5	8.8	8.8	8.8	9.1
19	9.3	8.5	---	8.1	8.6	8.7	8.4	9.1	9.1	8.8	8.7	8.8
20	9.2	8.5	8.5	8.5	8.6	9.0	8.4	8.5	8.5	8.8	8.7	8.8
21	9.1	8.5	8.0	8.9	8.6	8.5	8.4	8.4	8.5	8.9	8.7	8.7
22	9.2	8.5	8.3	9.0	8.6	8.4	8.6	8.6	8.4	8.9	8.8	8.7
23	9.2	8.5	8.5	9.0	8.6	8.4	8.4	8.5	8.4	8.8	8.8	8.8
24	9.3	8.4	8.4	8.9	8.6	8.4	8.6	8.5	8.7	8.7	8.6	8.7
25	9.3	8.4	8.5	8.4	8.5	8.4	9.2	8.4	8.4	8.6	8.6	8.6
26	9.5	8.4	8.6	8.4	8.5	8.5	9.3	8.6	8.4	8.6	8.7	8.6
27	9.5	8.5	8.7	8.4	8.5	8.6	9.3	8.6	8.5	8.6	8.7	8.5
28	9.5	8.5	9.0	8.6	8.5	8.5	9.3	8.6	8.6	8.6	8.7	8.5
29	9.4	8.5	8.9	8.5	---	8.5	9.3	8.7	8.5	8.7	8.8	8.4
30	9.2	8.5	8.7	8.5	---	8.5	9.2	9.0	8.5	8.7	8.8	8.4
31	9.7	---	8.8	8.6	---	8.5	---	9.2	---	8.7	8.8	---
TOTAL	289.4	257.8	---	266.4	242.2	---	258.3	270.9	---	269.3	269.0	260.6
MEAN	9.34	8.59	---	8.59	8.65	---	8.61	8.74	---	8.69	8.68	8.69
MAX	9.7	9.4	---	9.1	8.9	---	9.3	9.5	---	8.9	8.9	9.1
MIN	9.1	8.4	---	8.1	8.5	---	8.3	8.4	---	8.2	8.5	8.4
AC-FT	574	511	---	528	480	---	512	537	---	534	534	517

NOTE: Canal out of service Dec. 9-19 and all flow remained in the natural channel.

11361000 BURNEY CREEK AT BURNEY FALLS, NEAR BURNEY, CA

LOCATION.—Lat 41°01'03", long 121°39'11", unsurveyed, [Shasta County](#), Hydrologic Unit 18020003, on right bank, 0.4 mi downstream from Burney Falls, 0.4 mi upstream from Camp Britton, and 9.0 mi north of Burney.

DRAINAGE AREA.—182 mi².

PERIOD OF RECORD.—March 1921 to November 1922, July 2003 to September 2003 (operated as a low-flow station only).

GAGE.—Water-stage recorder. Elevation of gage is 2,750 ft above NGVD of 1929, from topographic map.

REMARKS.—Records excellent. Flow is computed to 665 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 393 ft³/s, Mar. 21, 1921; minimum daily, 141 ft³/s, Sept. 29, 1921.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	164	174
2	---	---	---	---	---	---	---	---	---	---	165	174
3	---	---	---	---	---	---	---	---	---	---	164	175
4	---	---	---	---	---	---	---	---	---	---	167	170
5	---	---	---	---	---	---	---	---	---	---	178	167
6	---	---	---	---	---	---	---	---	---	---	181	168
7	---	---	---	---	---	---	---	---	---	---	173	169
8	---	---	---	---	---	---	---	---	---	---	175	168
9	---	---	---	---	---	---	---	---	---	---	174	168
10	---	---	---	---	---	---	---	---	---	---	176	169
11	---	---	---	---	---	---	---	---	---	---	180	171
12	---	---	---	---	---	---	---	---	---	---	184	171
13	---	---	---	---	---	---	---	---	---	---	178	170
14	---	---	---	---	---	---	---	---	---	---	170	170
15	---	---	---	---	---	---	---	---	---	166	167	174
16	---	---	---	---	---	---	---	---	---	166	167	173
17	---	---	---	---	---	---	---	---	---	166	171	169
18	---	---	---	---	---	---	---	---	---	166	174	169
19	---	---	---	---	---	---	---	---	---	165	174	171
20	---	---	---	---	---	---	---	---	---	165	171	172
21	---	---	---	---	---	---	---	---	---	165	170	174
22	---	---	---	---	---	---	---	---	---	165	169	174
23	---	---	---	---	---	---	---	---	---	165	169	176
24	---	---	---	---	---	---	---	---	---	165	169	174
25	---	---	---	---	---	---	---	---	---	165	168	174
26	---	---	---	---	---	---	---	---	---	165	168	178
27	---	---	---	---	---	---	---	---	---	165	173	180
28	---	---	---	---	---	---	---	---	---	165	180	173
29	---	---	---	---	---	---	---	---	---	165	184	171
30	---	---	---	---	---	---	---	---	---	165	183	172
31	---	---	---	---	---	---	---	---	---	164	178	---
TOTAL	---	---	---	---	---	---	---	---	---	---	5364	5158
MEAN	---	---	---	---	---	---	---	---	---	---	173	172
MAX	---	---	---	---	---	---	---	---	---	---	184	180
MIN	---	---	---	---	---	---	---	---	---	---	164	167
AC-FT	---	---	---	---	---	---	---	---	---	---	10640	10230

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA

- 11361400 LAKE BRITTON NEAR BURNEY.**—Lat 41°01'20", long 121°40'32", in SW 1/4 SW 1/4 sec.19, T.37 N., R.3 E., [Shasta County](#), Hydrologic Unit 18020003, Shasta National Forest, at control house on right bank 200 ft upstream from dam on Pit River, 1.1 mi downstream from Clark Creek, 1.3 mi northwest of Burney Falls, and 9 mi north of Burney.
- DRAINAGE AREA.—4,607 mi², excluding Goose Lake Basin.
- PERIOD OF RECORD.—October 1965 to current year (monthend contents only). Fragmentary records for water years 1925–65 in files of the Pacific Gas & Electric Co.
- GAGE.—Remote telemark read once daily. Datum of gage is 19.53 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated Dec. 1, 1976, provided by Pacific Gas & Electric Co.
- REMARKS.—Reservoir is formed by gravity-type concrete dam. Storage began July 15, 1925. Usable capacity, 41,877 acre-ft, between elevations 2,665.0 ft, invert of sluice gate, and 2,758.0 ft, top of flash boards. Dead storage, 30 acre-ft. Normal operating pool is from elevation 2,744.0 ft, capacity, 26,183 acre-ft, to 2,757.0 ft, capacity, 40,626 acre-ft. Figures given represent total contents. Lake is used for power generation and recreation. See schematic diagram of [Pit and McCloud River Basins](#). Records prior to water year 1977 reported usable contents only.
- COOPERATION.—Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project no. 233. Contents not rounded to U.S. Geological Survey standards prior to water year 2003.
- EXTREMES (AT 2400) FOR PERIOD OF RECORD.—Maximum total contents, 47,922 acre-ft, Feb. 20, 1986, elevation, 2,762.50 ft; minimum total contents, 26,755 acre-ft, Oct. 9, 1976, elevation, 2,744.60 ft.
- EXTREMES (AT 2400) FOR CURRENT YEAR.—Maximum contents, 40,100 acre-ft, Apr. 26, elevation, 2,756.60 ft; minimum, 30,300 acre-ft, Mar. 14, elevation, 2,748.10 ft.
- 11363920 IRON CANYON RESERVOIR NEAR BIG BEND.**—Lat 41°02'41", long 121°58'52", in SW 1/4 SE 1/4 sec.21, T.37 N., R.1 W., [Shasta County](#), Hydrologic Unit 18020003, Shasta National Forest, in control house on left bank 500 ft upstream from Iron Canyon Dam on Iron Canyon Creek, 3.7 mi northwest of Big Bend.
- DRAINAGE AREA.—11.1 mi².
- PERIOD OF RECORD.—December 1965 to current year (monthend contents only).
- GAGE.—Water-stage recorder. Datum of gage is 2,680 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated May 17, 1965, provided by Pacific Gas & Electric Co.
- REMARKS.—Reservoir is formed by a rockfill dam completed in 1965. Usable capacity, 24,197 acre-ft, between elevations 2,525.00 ft, invert of sluice pipe, and 2,665.00 ft, crest of spillway. Dead storage, 44 acre-ft. Normal operating pool is from elevation 2,565.0 ft, capacity, 990 acre-ft, to 2,664.0 ft, capacity, 23,738 acre-ft. Water is diverted from Lake McCloud (station 11367740) through a tunnel to Iron Canyon Reservoir and then into the Pit River via James B. Black Powerplant (station 11363910). Figures given represent total contents. Water is used for power generation and recreation. See schematic diagram of [Pit and McCloud River Basins](#).
- COOPERATION.—Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project no. 2106. Contents not rounded to U.S. Geological Survey standards prior to water year 2003.
- EXTREMES (AT 2400) FOR PERIOD OF RECORD.—Maximum contents, 23,539 acre-ft, May 16, 22, 1977, elevation, 2,663.60 ft; normal minimum since reservoir first filled, 2,860 acre-ft, May 23, 24, 29, June 2, 7, 9, 14, 23, 24, 1966, elevation, 2,590.00 ft. Contents reduced to 195 acre-ft, elevation, 2,540.00 ft, Feb. 10, 1971, when reservoir was drained for inspection.
- EXTREMES (AT 2400) FOR CURRENT YEAR.—Maximum contents, 21,300 acre-ft, June 23, elevation, 2,658.90 ft; minimum, 3,770 acre-ft, Feb. 7, elevation, 2,597.50 ft.
- 11367740 LAKE McCLOUD NEAR McCLOUD.**—Lat 41°08'06", long 122°04'26", in SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., [Shasta County](#), Hydrologic Unit 18020004, Shasta National Forest, on McCloud Dam near spillway on McCloud River, 200 ft downstream from Panther Creek, and 8.8 mi southeast of McCloud.
- DRAINAGE AREA.—403 mi².
- PERIOD OF RECORD.—October 1965 to current year (monthend contents only).
- GAGE.—Water-stage recorder. Datum of gage is 2,690 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated June 29, 1965, provided by Pacific Gas & Electric Co.
- REMARKS.—Reservoir is formed by a rockfill dam completed in 1965. Usable capacity, 35,231 acre-ft, between elevations 2,471.30 ft, invert of sluice pipe, and 2,680.00 ft, maximum operational water surface. Dead storage, 3 acre-ft. Normal operating pool is from elevation 2,635.00 ft, capacity, 16,425 acre-ft, to 2,680.00 ft, capacity, 35,234 acre-ft. Water is diverted from Lake McCloud (station 11367740) through a diversion tunnel to Iron Canyon Reservoir (station 11363920) and then into the Pit River via James B. Black Powerplant (station 11363910). Figures given represent total contents. Water is used for power generation and recreation. See schematic diagram of [Pit and McCloud River Basins](#).
- COOPERATION.—Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project no 2106. Contents not rounded to U.S. Geological Survey standards prior to water year 2003.
- EXTREMES (AT 2400) FOR PERIOD OF RECORD.—Maximum contents, 35,967 acre-ft, Jan. 15, 1974, elevation, 2,681.40 ft; minimum since reservoir first filled, 13,017 acre-ft, Oct. 14–22, 1981, elevation, 2,632.50 ft.
- EXTREMES (AT 2400) FOR CURRENT YEAR.—Maximum contents, 32,300 acre-ft, Dec. 31 and July 4–7, elevation, 2,674.20 ft; minimum, 17,400 acre-ft, Mar. 6, 7, elevation, 2,637.90 ft.

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA—Continued

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	11361400 LAKE BRITTON			11363920 IRON CANYON RESERVOIR			11367740 LAKE McCLOUD		
	Elevation (ft)	Contents (acre- ft)	Change in contents (acre- ft)	Elevation (ft)	Contents (acre- ft)	Change in contents (acre- ft)	Elevation (ft)	Contents acre- ft)	Change in contents (acre- ft)
Sept. 30	2,750.45	32,824	—	2,643.40	14,901	—	2,655.40	23,849	—
Oct. 31	2,752.70	35,400	+2,576	2,639.10	13,400	-1,501	2,651.50	22,300	-1,549
Nov. 30	2,751.60	34,100	-1,300	2,635.70	12,300	-1,100	2,645.40	20,000	-2,300
Dec. 31	2,756.20	39,600	+5,500	2,607.50	5,320	-6,980	2,674.20	32,300	+12,300
CAL YR 2002		+9,724			-3,315			+11,914	
Jan. 31	2,755.40	38,600	-1,000	2,602.50	4,490	-830	2,659.80	25,700	-6,600
Feb. 28	2,751.10	33,600	-5,000	2,608.20	5,440	+950	2,639.20	17,800	-7,900
Mar. 31	2,755.70	39,000	+5,400	2,607.80	5,380	-60	2,664.80	27,900	+10,100
Apr. 30	2,755.80	39,100	+100	2,622.30	8,530	+3,150	2,665.70	28,300	+400
May 31	2,753.60	36,500	-2,600	2,627.90	10,000	+1,470	2,673.00	31,700	+3,400
June 30	2,753.00	35,800	-700	2,653.80	19,000	+9,000	2,674.00	32,200	+500
July 31	2,752.70	35,400	-400	2,646.70	16,500	-2,500	2,667.70	29,200	-3,000
Aug. 31	2,755.30	38,500	+3,100	2,641.70	14,300	-2,200	2,662.60	26,900	-2,300
Sept. 30	2,754.10	37,100	-1,400	2,644.50	15,300	+1,000	2,656.20	24,200	-2,700
WTR YR 2003		+4,276			+399			+351	

11362500 PIT RIVER BELOW PIT NO. 4 DAM, CA

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

DRAINAGE AREA.—4,648 mi², excluding Goose Lake Basin.

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

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

GAGE.—Water-stage recorder. Elevation of gage is 2,358 ft above NGVD of 1929, from river-profile map. Prior to November 1922, water-stage recorder at site at Pecks Bridge 7.4 mi upstream at different datum. November 1922 to June 20, 1927, at site at Lindsay Flat 1.8 mi upstream at different datum. June 20, 1927, to Sept. 5, 1990, at site 200 ft downstream at datum 0.15 ft lower.

REMARKS.—Low flow completely regulated by small reservoirs and powerplants, total usable reservoir capacity, 253,000 acre-ft. Many diversions upstream from station; diversion to Pit No. 4 Powerplant began June 9, 1955. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 233.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 33,700 ft³/s, Feb. 20, 1986, gage height, 18.70 ft; minimum daily, prior to diversion to Pit No. 4 Powerplant in 1955, 234 ft³/s, Sept. 13, 1953; minimum daily, since diversion to Pit No. 4 Powerplant, 22 ft³/s, Dec. 2–4, 1969.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193	192	186	363	194	184	191	958	188	186	191	182
2	192	192	186	188	191	186	194	654	195	189	185	189
3	192	190	185	186	191	189	205	338	199	190	185	186
4	192	189	187	191	188	190	198	239	199	186	183	190
5	192	190	187	187	193	191	197	213	201	185	182	182
6	191	190	185	186	198	191	184	260	198	186	181	182
7	191	194	186	188	187	195	185	245	194	183	182	188
8	191	196	192	189	189	199	198	454	196	184	185	187
9	189	192	191	187	187	199	206	2220	193	185	187	181
10	189	191	196	186	186	191	190	2130	190	185	189	186
11	189	191	197	186	187	188	194	2290	186	186	197	187
12	187	189	195	186	190	186	193	2280	185	190	189	190
13	186	191	190	189	193	192	187	2210	185	190	187	189
14	186	194	203	676	196	192	187	1980	188	185	185	187
15	186	195	202	1190	196	195	186	1490	189	188	193	188
16	186	193	200	464	195	189	186	826	189	185	188	185
17	186	192	184	182	192	1450	202	647	186	183	188	186
18	186	191	187	188	195	2000	201	460	185	182	190	183
19	186	191	192	191	191	1980	195	202	184	181	184	184
20	186	190	194	189	192	2000	193	193	183	183	185	185
21	191	188	196	192	194	1930	192	187	183	182	193	186
22	185	193	197	194	187	1780	191	199	182	185	192	182
23	191	190	189	196	202	748	195	199	181	185	193	191
24	192	188	196	196	198	760	198	196	189	186	191	189
25	244	186	195	194	195	752	198	198	190	182	191	192
26	257	186	195	189	190	1280	338	200	187	178	192	189
27	187	186	199	186	191	1440	1230	193	187	184	188	194
28	185	189	209	190	188	194	1200	188	186	183	188	192
29	195	186	199	190	---	189	1420	189	185	179	187	193
30	194	184	199	188	---	189	1080	196	186	188	182	189
31	192	---	440	192	---	190	---	192	---	191	184	---
TOTAL	5989	5709	6239	7799	5376	19939	10114	22426	5669	5735	5817	5614
MEAN	193	190	201	252	192	643	337	723	189	185	188	187
MAX	257	196	440	1190	202	2000	1420	2290	201	191	197	194
MIN	185	184	184	182	186	184	184	187	181	178	181	181
AC-FT	11880	11320	12380	15470	10660	39550	20060	44480	11240	11380	11540	11140
a	97280	108000	119900	129400	120100	141500	139000	165000	99990	88840	69470	96190
b	99480	111800	130600	166700	138800	146000	177000	212200	117700	104200	79580	110600

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

SACRAMENTO RIVER BASIN

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

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

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

SUMMARY STATISTICS

WATER YEARS 1927 - 1954

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2003, BY WATER YEAR (WY)

	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
MEAN	229	231	429	956	1048	1176	793	542	269	168	170	162
MAX	2189	2436	3791	7250	7657	5545	3416	4770	2788	490	458	268
(WY)	1955	1955	1965	1970	1986	1995	1982	1995	1998	1955	1992	1973
MIN	96.8	66.4	49.8	50.0	49.0	49.7	88.3	128	128	137	120	79.8
(WY)	1962	1957	1979	1981	1981	1981	1961	1961	1961	1964	1955	1955

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1955 - 2003

ANNUAL TOTAL	77178	106426	
ANNUAL MEAN	211	292	512
HIGHEST ANNUAL MEAN			1868 1955
LOWEST ANNUAL MEAN			98.4 1961
HIGHEST DAILY MEAN	1790 Aug 12	2290 May 11	31100 Feb 20 1986
LOWEST DAILY MEAN	129 Jun 25	178 Jul 26	22 Dec 2 1969
ANNUAL SEVEN-DAY MINIMUM	155 Jun 25	182 Jul 23	27 Dec 1 1969
MAXIMUM PEAK FLOW		3430 May 9	33700 Feb 20 1986
MAXIMUM PEAK STAGE		7.96 May 9	18.70 Feb 20 1986
ANNUAL RUNOFF (AC-FT)	153100	211100	370900
10 PERCENT EXCEEDS	199	258	1210
50 PERCENT EXCEEDS	186	190	159
90 PERCENT EXCEEDS	171	185	61

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

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

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

DRAINAGE AREA.—13.2 mi².

PERIOD OF RECORD.—October 1993 to September 1996, October 1996 to current year (operated as a low-flow station only).

GAGE.—Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 2,320 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11362880) and flow over a sharp-crested weir (station 11362890). Water is diverted upstream of weirs through a tunnel to Nelson Creek Powerplant (station 11362800), returning to Nelson Creek at its confluence with the Pit River. Flow is computed to 100 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 623 ft³/s, Feb. 19, 1996; minimum daily, 7.4 ft³/s, Sept. 8, 21, 22, 1994.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	9.6	10	56	34	17	24	57	17	17	16	13
2	10	9.7	10	50	34	16	22	56	17	17	17	13
3	10	9.8	10	45	29	16	19	58	17	17	18	13
4	11	9.8	10	40	26	17	21	70	17	17	17	13
5	11	9.8	10	42	22	17	18	70	17	17	16	12
6	11	9.8	10	32	21	16	16	67	17	17	16	12
7	10	17	10	17	17	16	17	62	17	17	16	12
8	10	42	10	16	18	17	20	70	17	17	16	12
9	10	28	10	16	17	17	22	68	17	17	16	12
10	10	30	14	22	17	16	21	62	17	17	16	12
11	10	15	12	28	17	16	18	60	17	17	15	11
12	10	14	12	43	16	17	21	79	17	19	15	12
13	10	13	43	72	17	16	27	---	17	20	15	11
14	10	12	73	---	21	17	31	70	17	19	15	11
15	10	12	68	---	17	29	30	52	17	18	15	11
16	10	e12	65	69	29	42	28	42	17	18	15	11
17	10	e11	41	60	27	47	26	37	17	18	15	11
18	10	e11	23	52	22	42	25	34	17	18	14	11
19	10	e11	22	45	18	34	24	30	17	18	14	11
20	10	e10	27	37	17	30	29	27	17	18	14	11
21	10	e10	32	27	17	26	23	24	17	17	14	11
22	10	e10	28	42	17	24	16	22	17	17	14	11
23	10	e10	23	61	16	39	17	20	17	17	14	11
24	7.7	e10	21	79	17	38	36	24	17	17	14	11
25	9.2	e10	20	55	17	33	42	16	17	17	14	11
26	9.2	e10	18	44	17	39	41	16	17	17	13	11
27	9.2	10	41	53	16	38	41	16	17	17	13	11
28	9.4	10	---	48	16	32	44	16	17	16	13	11
29	9.3	10	79	38	---	27	48	16	17	16	13	11
30	9.6	10	42	32	---	24	55	17	17	16	13	11
31	9.6	---	62	31	---	22	---	17	---	16	13	---
TOTAL	306.2	396.5	---	---	569	797	822	---	510	536	459	345
MEAN	9.88	13.2	---	---	20.3	25.7	27.4	---	17.0	17.3	14.8	11.5
MAX	11	42	---	---	34	47	55	---	17	20	18	13
MIN	7.7	9.6	---	---	16	16	16	---	17	16	13	11
AC-FT	607	786	---	---	1130	1580	1630	---	1010	1060	910	684
a	0	0	193	1910	2300	2300	2800	2520	869	90	0	0

e Estimated.

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

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

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

DRAINAGE AREA.—8.18 mi².

PERIOD OF RECORD.—October 1993 to September 1996, October 1996 to current year (operated as a low-flow station only).

GAGE.—Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 2,360 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11362940) and flow over a sharp-crested weir (station 11362945). Water is diverted upstream of weirs through a pipe to Nelson Creek (station 11362900). Flows computed to 50 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 267 ft³/s, Mar. 15, 1995; minimum daily, 0.07 ft³/s, Aug. 12 to Sept. 23, 1994, and Oct. 11, 1994.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.2	6.3	---	20	14	22	---	---	e4.7	4.3	3.2
2	1.2	1.2	6.5	---	20	14	21	---	---	e4.8	5.4	3.2
3	1.2	1.2	6.7	---	21	14	21	---	---	e4.8	5.3	3.3
4	1.2	1.3	7.0	---	21	13	21	---	e22	e4.8	4.9	3.2
5	1.2	1.6	7.2	---	22	13	20	---	e20	e4.8	4.6	3.0
6	1.2	1.6	7.5	---	22	12	19	---	e18	e4.9	4.6	3.1
7	1.2	3.0	7.7	---	23	12	20	---	e16	e5.0	4.4	3.1
8	1.2	6.2	7.9	---	21	12	21	---	e15	e5.0	4.4	3.2
9	1.2	4.2	8.3	---	19	11	22	---	e14	e5.0	4.3	3.3
10	1.2	4.4	10	---	18	11	23	---	e13	e5.1	4.3	3.3
11	1.2	3.4	9.4	---	17	11	23	---	e12	e5.2	4.2	3.2
12	1.1	3.3	9.6	---	17	11	---	---	e11	e5.3	4.2	3.1
13	1.1	3.3	17	---	18	12	---	---	e10	e5.3	4.1	3.0
14	1.2	3.4	---	---	19	17	---	---	e9.1	e5.3	4.0	3.0
15	1.2	3.4	---	---	20	---	---	---	e8.3	e5.3	4.0	3.0
16	1.2	3.6	---	---	---	---	---	---	e7.8	5.4	3.9	3.0
17	1.2	3.8	23	---	24	---	---	---	e7.2	5.3	3.8	3.0
18	1.2	3.9	19	18	24	24	---	---	e6.7	5.2	3.8	3.0
19	1.2	4.0	16	18	23	23	---	---	e6.2	5.2	3.8	2.9
20	1.2	4.2	15	18	22	24	---	---	e6.0	5.1	3.7	2.8
21	1.2	4.4	15	18	21	23	---	---	e5.6	5.1	3.7	2.6
22	1.2	4.5	17	19	19	23	---	---	e5.3	5.0	3.9	2.2
23	1.2	4.6	17	19	18	24	---	---	e5.2	4.9	3.9	2.2
24	1.2	4.8	17	15	18	24	---	---	e5.1	5.0	3.8	2.2
25	1.2	4.9	17	16	17	23	---	---	e4.8	4.9	3.6	2.1
26	1.2	5.1	18	16	16	24	---	---	e4.7	4.7	3.6	2.1
27	1.2	5.3	22	17	16	23	---	---	e4.6	4.6	3.5	2.1
28	1.2	5.6	13	17	15	23	---	---	e4.6	4.5	3.4	2.1
29	1.2	5.8	22	18	---	22	---	---	e4.7	4.5	3.3	2.1
30	1.2	6.0	---	18	---	21	---	---	e4.7	4.4	3.3	2.1
31	1.2	---	---	19	---	21	---	---	---	4.3	3.3	---
TOTAL	36.9	113.2	---	---	---	---	---	---	---	153.4	125.3	83.7
MEAN	1.19	3.77	---	---	---	---	---	---	---	4.95	4.04	2.79
MAX	1.2	6.2	---	---	---	---	---	---	---	5.4	5.4	3.3
MIN	1.1	1.2	---	---	---	---	---	---	---	4.3	3.3	2.1
AC-FT	73	225	---	---	---	---	---	---	---	304	249	166

e Estimated.

11363000 PIT RIVER AT BIG BEND, CA

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

DRAINAGE AREA.—4,711 mi², excluding Goose Lake Basin.

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

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

GAGE.—Water-stage recorder. Datum of gage is 1,674.47 ft above NGVD of 1929. Prior to Dec. 28, 1912, nonrecording gage; Dec. 28, 1912, to June 21, 1924, water-stage recorder at same site, at datum 7.69 ft higher. June 22, 1924, to Sept. 30, 1988, at site 200 ft downstream at same datum.

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

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 233.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 49,000 ft³/s, Jan. 25, 1970, gage height, 18.17 ft, in gage well, 19.0 ft, from floodmarks, site then in use, from rating curve extended above 17,000 ft³/s; maximum gage height, 18.70 ft, Feb. 20, 1986, site then in use; minimum daily, 692 ft³/s, July 9, 1925; since diversion to Pit No. 5 Powerplant, minimum daily, 34 ft³/s, Mar. 29, 1955.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 6,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 2	0345	13,200	13.31	May 10	1130	6,370	11.06

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	160	158	588	321	214	263	2910	228	172	167	157
2	155	168	160	278	301	212	261	2560	226	176	171	156
3	160	172	165	248	291	215	257	2780	225	176	160	158
4	157	169	163	236	278	210	278	2690	214	173	160	157
5	159	163	165	224	260	204	264	2350	214	162	168	154
6	164	157	160	218	258	205	254	2340	215	169	174	151
7	159	170	154	219	246	209	249	2310	211	162	157	157
8	159	178	159	215	243	206	259	2540	210	161	158	159
9	156	165	156	204	236	202	261	3720	208	161	155	160
10	156	160	169	251	233	208	268	4580	199	162	158	156
11	159	145	153	310	230	209	261	4430	198	163	161	158
12	157	151	155	353	227	209	292	4230	196	158	162	157
13	160	160	227	478	240	213	312	4120	197	158	156	161
14	160	152	313	1010	250	278	303	3880	185	168	154	160
15	154	157	279	1970	253	584	291	3450	193	162	157	160
16	151	165	471	936	334	444	281	2420	189	166	150	157
17	155	167	256	378	294	353	282	2360	190	164	153	149
18	161	167	184	351	278	312	272	2360	189	159	164	151
19	161	158	166	331	270	297	269	1960	210	160	168	154
20	156	153	179	311	255	294	265	1670	208	159	158	159
21	158	157	211	297	250	276	266	1400	191	163	163	169
22	156	153	174	366	240	289	259	864	191	158	170	161
23	157	149	157	435	240	339	263	280	185	160	171	161
24	159	149	156	396	237	299	371	269	187	160	164	155
25	155	149	156	371	239	288	375	262	182	161	159	156
26	164	155	171	353	233	315	1190	266	177	159	157	153
27	160	158	397	358	225	290	3300	251	174	159	164	161
28	153	157	841	343	225	289	3070	242	176	160	162	153
29	153	158	504	325	---	272	3460	236	176	157	159	160
30	174	160	412	310	---	261	3260	235	172	159	166	157
31	169	---	557	305	---	253	---	223	---	158	165	---
TOTAL	4911	4782	7728	12968	7187	8449	21256	64188	5916	5045	5011	4717
MEAN	158	159	249	418	257	273	709	2071	197	163	162	157
MAX	174	178	841	1970	334	584	3460	4580	228	176	174	169
MIN	151	145	153	204	225	202	249	223	172	157	150	149
AC-FT	9740	9490	15330	25720	14260	16760	42160	127300	11730	10010	9940	9360

SACRAMENTO RIVER BASIN

11363000 PIT RIVER AT BIG BEND, CA—Continued

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

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

SUMMARY STATISTICS

WATER YEARS 1911 - 1943

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2003, BY WATER YEAR (WY)

	203	216	479	1032	1204	1379	1080	679	281	136	137	128
MEAN	203	216	479	1032	1204	1379	1080	679	281	136	137	128
MAX	2322	2469	3889	8804	9457	6658	8441	5420	3052	203	448	284
(WY)	1944	1944	1965	1970	1986	1995	1952	1995	1998	1998	1992	1986
MIN	58.8	56.0	45.0	51.4	57.1	52.6	49.9	114	78.5	63.5	60.9	60.1
(WY)	1949	1979	1979	1949	1977	1977	1977	1977	1944	1944	1944	1945

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1944 - 2003

ANNUAL TOTAL	84663	152158	
ANNUAL MEAN	232	417	577
HIGHEST ANNUAL MEAN			1638 1995
LOWEST ANNUAL MEAN			86.5 1977
HIGHEST DAILY MEAN	1860 Aug 25	4580 May 10	36500 Feb 21 1986
LOWEST DAILY MEAN	137 Feb 28	145 Nov 11	34 Mar 29 1955
ANNUAL SEVEN-DAY MINIMUM	152 Nov 20	152 Nov 20	40 Dec 7 1978
MAXIMUM PEAK FLOW		13200 May 2	49000 Jan 25 1970
MAXIMUM PEAK STAGE		13.31 May 2	18.70 Feb 20 1986
ANNUAL RUNOFF (AC-FT)	167900	301800	417700
10 PERCENT EXCEEDS	312	474	1530
50 PERCENT EXCEEDS	176	189	143
90 PERCENT EXCEEDS	156	156	77

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

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA

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

PERIOD OF RECORD.—December 1965 to current year.

GAGE.—Discharge computed from powerplant output.

REMARKS.—Water is diverted from Lake McCloud (station 11367740) at SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., through McCloud–Iron Canyon Diversion Tunnel (station 11367720) to Iron Canyon Reservoir (station 11363920), then through the penstock for powerplant and into the Pit River. Records are combined flow of diversion from McCloud River at McCloud Dam plus Iron Canyon Creek. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2106.

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

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	629	748	628	1620	1260	581	1220	1520	1370	686	701	841
2	604	750	611	1620	1240	969	1140	1200	1340	789	412	885
3	670	748	511	1370	1420	939	1180	1280	1250	809	690	977
4	610	659	593	1260	1230	828	1330	1360	1230	815	650	741
5	697	618	760	1270	1310	860	1510	1410	1290	773	715	775
6	404	665	666	1240	1310	808	1390	1260	1230	897	597	473
7	503	707	699	1310	1320	764	1400	1300	1040	941	626	480
8	519	736	722	1410	1140	645	1190	1350	1080	1040	619	509
9	680	841	689	1280	1200	636	1170	1360	757	1020	335	586
10	686	835	540	1330	1260	937	1210	1420	724	1210	320	926
11	752	898	631	1290	1040	756	1190	1380	603	1200	576	932
12	629	848	673	1230	1010	1290	953	1320	436	904	734	1030
13	639	860	885	1220	1130	1080	901	1060	427	1030	650	1020
14	574	821	715	1440	1220	1100	1200	1000	276	1000	851	967
15	540	671	731	1560	1170	1180	1310	1320	340	937	941	905
16	666	461	840	1560	1130	1180	1300	1510	392	848	941	674
17	559	625	1270	1330	1160	1170	1330	1180	408	844	1080	645
18	647	684	1430	1360	1200	1690	1510	1060	423	850	1000	562
19	749	522	1400	1390	1100	1550	1330	1200	444	634	989	578
20	770	677	1380	1040	1000	1320	1280	714	414	770	1120	622
21	752	632	1510	1250	1000	1310	1380	935	312	749	852	862
22	695	606	1310	1460	915	1360	1170	1290	556	647	903	577
23	743	678	1580	1250	1110	1100	616	1190	428	707	979	624
24	787	640	1240	1440	1170	1460	699	1040	740	554	892	591
25	641	591	642	1240	1050	1680	995	1120	1000	797	1040	580
26	624	582	854	1190	1000	1510	1170	1190	1030	757	987	619
27	743	543	868	1210	917	1480	1080	1310	1030	727	939	516
28	582	410	1110	1480	903	1350	1070	1320	1110	825	966	568
29	592	514	1780	1440	---	1160	1120	1150	818	847	664	502
30	723	585	1940	1250	---	1120	1330	1240	583	811	720	507
31	669	---	1810	1230	---	1290	---	1090	---	752	832	---
TOTAL	20078	20155	31018	41570	31915	35103	35674	38079	23081	26170	24321	21074
MEAN	648	672	1001	1341	1140	1132	1189	1228	769	844	785	702
MAX	787	898	1940	1620	1420	1690	1510	1520	1370	1210	1120	1030
MIN	404	410	511	1040	903	581	616	714	276	554	320	473
AC-FT	39820	39980	61520	82450	63300	69630	70760	75530	45780	51910	48240	41800
a	118100	129900	150600	191800	157000	192600	187800	174500	134600	120400	96900	125600

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

MEAN	750	757	893	987	1049	1177	1146	1015	886	838	811	782
MAX	1122	1401	1538	1651	1625	1565	1670	1797	1735	1260	1101	1225
(WY)	1976	1974	1974	1970	1998	1995	1966	1967	1967	1966	1983	1983
MIN	505	428	433	500	373	581	421	368	523	533	465	515
(WY)	1993	1992	1992	1992	1978	1991	1990	1977	1987	1994	1992	1992

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1966 - 2003
ANNUAL TOTAL	305915	348238	
ANNUAL MEAN	838	954	921
HIGHEST ANNUAL MEAN			1313
LOWEST ANNUAL MEAN			547
HIGHEST DAILY MEAN	1940	Dec 30	1940
LOWEST DAILY MEAN	256	Jan 25	276
ANNUAL SEVEN-DAY MINIMUM	411	Jun 12	385
ANNUAL RUNOFF (AC-FT)	606800	690700	667200
10 PERCENT EXCEEDS	1240	1370	1480
50 PERCENT EXCEEDS	770	935	888
90 PERCENT EXCEEDS	540	572	410

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

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

LOCATION.—Lat 41°02'22", long 121°59'03", in NW 1/4 NW 1/4 sec.28, T.37 N., R.1 W., [Shasta County](#), Hydrologic Unit 18020003, on left bank, 0.2 mi downstream from Iron Canyon Dam, and 4.2 mi west of Big Bend.

DRAINAGE AREA.—11.2 mi².

PERIOD OF RECORD.—August 1966 to current year (beginning October 1994, operated as a low-flow station only).

REVISED RECORDS.—WDR CA-95-4: Drainage area.

GAGE.—Water-stage recorder, 60° sharp-crested V-notch weir, and concrete control with flashboards in 2- by 10-ft opening. Datum of gage is 2,461.52 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.—Flow is completely regulated by Iron Canyon Reservoir (station 11363920). There is an interbasin diversion from Lake McCloud (station 11367740) to Iron Canyon Reservoir and then through a tunnel to James B. Black Powerplant on the Pit River (station 11363910). This station records fishwater release only. The minimum release requirement is 3.0 ft³/s at all times. Flow is computed to 12.0 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2106.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 650 ft³/s, Feb. 5, 1986, gage height unknown (flashboards removed from weir), from equation for a 4- by 4-ft slide gate. Flow was the result of full travel test of slide gate at Iron Canyon Dam; maximum gage height, 3.24 ft, Feb. 25, 1978 (flashboards in weir), was the result of failure of the James B. Black Penstock; no flow, July 15–18, 1967.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	6.4	5.0	4.7	4.1	4.1	4.1	4.8	4.9	6.4	6.4	6.0
2	7.6	6.4	5.0	4.6	4.2	4.2	4.2	4.7	4.9	6.4	6.4	5.9
3	7.6	6.4	5.0	4.5	4.1	4.2	4.2	4.7	4.9	6.4	6.6	5.7
4	7.2	6.0	5.0	4.5	4.0	4.2	4.2	4.7	4.8	6.4	6.8	5.6
5	7.2	6.0	5.0	4.5	4.0	4.2	4.2	4.7	4.8	6.4	6.8	5.6
6	7.2	6.0	5.0	4.5	3.9	4.3	4.2	4.7	4.9	6.4	6.8	5.6
7	7.2	6.6	4.9	4.5	3.8	4.3	3.9	4.7	4.9	6.4	6.8	5.6
8	7.2	7.1	4.9	4.4	3.8	4.3	3.8	4.7	4.9	6.4	6.8	5.9
9	7.2	6.7	4.9	4.4	3.8	4.4	3.9	4.7	5.0	6.4	6.8	6.0
10	6.9	6.1	4.8	4.4	3.8	4.4	3.9	4.8	5.0	6.4	6.8	6.0
11	6.8	5.8	4.8	4.5	3.8	4.4	4.0	4.8	5.0	6.2	6.8	6.0
12	6.8	5.8	4.8	4.5	3.9	4.4	4.2	4.7	5.2	6.0	6.8	6.0
13	6.8	5.9	4.8	4.6	4.0	4.2	4.4	4.8	5.3	6.0	6.8	6.7
14	6.8	5.6	5.2	4.7	3.9	4.5	4.5	4.8	5.5	6.0	6.8	6.7
15	6.8	5.6	5.3	4.7	3.9	4.8	4.4	4.8	5.6	6.0	6.8	6.4
16	6.6	5.5	6.1	4.5	4.3	4.6	4.4	4.8	5.6	6.0	6.8	6.4
17	6.4	5.3	5.0	4.5	4.1	4.4	4.3	4.8	5.8	6.0	6.8	6.6
18	6.1	5.3	4.8	4.4	4.0	4.4	4.2	4.8	6.0	6.0	6.6	6.8
19	6.0	5.2	4.7	4.4	4.0	4.3	4.0	4.9	6.0	6.0	6.4	6.8
20	6.0	4.9	4.7	4.4	3.9	4.2	4.0	4.9	6.0	6.0	6.4	6.8
21	6.0	4.9	4.7	4.5	3.9	4.2	4.0	4.9	6.0	6.0	6.4	6.8
22	5.9	4.9	4.6	4.4	4.0	4.2	4.0	4.9	6.0	6.0	6.4	6.8
23	5.5	4.9	4.6	4.5	4.1	4.4	4.2	4.9	6.2	6.0	6.4	6.6
24	5.4	4.9	4.5	4.4	4.1	4.3	4.5	4.9	6.4	6.0	6.4	6.4
25	5.9	4.9	4.4	4.4	3.9	4.2	4.6	4.9	6.4	6.0	6.4	6.4
26	6.0	4.9	4.5	4.4	3.9	4.1	4.6	4.9	6.7	6.0	6.4	6.4
27	6.4	4.9	5.1	4.4	4.0	3.9	4.6	4.9	6.8	6.1	6.2	6.4
28	6.3	4.9	6.6	4.3	4.1	3.8	4.6	5.0	6.6	6.4	6.0	6.4
29	6.0	4.9	5.4	4.2	---	3.8	4.8	5.0	6.4	6.4	6.0	6.4
30	6.0	5.0	4.9	4.1	---	3.9	4.8	5.0	6.4	6.4	6.0	6.4
31	6.1	---	4.9	4.1	---	4.1	---	5.0	---	6.4	6.0	---
TOTAL	203.5	167.7	153.9	137.9	111.3	131.7	127.7	149.6	168.9	191.9	202.6	188.1
MEAN	6.56	5.59	4.96	4.45	3.98	4.25	4.26	4.83	5.63	6.19	6.54	6.27
MAX	7.6	7.1	6.6	4.7	4.3	4.8	4.8	5.0	6.8	6.4	6.8	6.8
MIN	5.4	4.9	4.4	4.1	3.8	3.8	3.8	4.7	4.8	6.0	6.0	5.6
AC-FT	404	333	305	274	221	261	253	297	335	381	402	373

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

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

DRAINAGE AREA.—34.8 mi².

PERIOD OF RECORD.—October 1987 to September 1988, October 1989 to September 1990 (operated as low-flow station only). October 1990 to September 1996, October 2000 to September 2001, October 2002 to September 2003.

GAGE.—Water-stage recorder and sharp-crested weir. Elevation of gage is 1,580 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 1988, at site 750 ft upstream at different datum.

REMARKS.—During times of powerplant operation the minimum flow requirement is 15 ft³/s, except March to May when the minimum release requirement is 40 ft³/s. Flows computed to 130 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Shasta Hydroelectric, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project 7282.

EXTREMES FOR PERIOD OF RECORD.—(Water years 1991–96) Maximum discharge, 1,690 ft³/s, Jan. 13, 1995, gage height, 4.84 ft, from rating curve extended above 50 ft³/s on basis of theoretical computation of flow over weir; minimum daily, 4.4 ft³/s, Sept. 13, 14, 16, 2003.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAILY MEAN VALUES

(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	15	14	14	14	39	39	17	17	14	14
2	14	15	14	14	14	14	39	39	16	17	14	14
3	15	15	14	14	14	14	39	39	16	16	14	14
4	14	14	14	14	14	26	39	39	17	16	14	14
5	14	15	14	14	14	15	39	39	17	15	14	14
6	15	15	14	14	14	14	39	43	16	15	14	14
7	14	14	14	14	14	14	39	41	16	15	14	14
8	14	15	14	14	14	17	39	40	16	15	14	14
9	14	15	14	14	14	16	39	39	16	15	14	14
10	14	14	14	14	14	14	39	38	17	14	14	14
11	14	15	14	14	14	14	39	37	17	14	14	14
12	14	15	14	14	14	14	39	36	17	14	14	14
13	14	14	24	14	14	14	39	36	17	14	14	14
14	14	15	17	14	14	14	39	36	20	14	14	14
15	14	15	28	14	14	14	39	39	19	14	14	14
16	14	14	14	14	14	14	39	38	19	14	14	14
17	14	15	14	14	14	14	39	35	18	14	14	14
18	14	14	14	14	14	15	39	34	17	14	14	14
19	15	14	14	14	14	15	39	33	17	14	14	14
20	14	14	14	14	14	16	39	31	16	14	14	14
21	15	15	14	14	19	15	39	31	16	14	14	14
22	15	19	14	14	15	15	39	30	15	14	14	14
23	14	18	14	14	14	16	39	30	15	14	14	14
24	16	18	14	14	14	15	39	29	15	14	14	14
25	14	18	14	14	14	16	39	29	16	14	14	14
26	15	18	14	14	14	15	39	28	17	14	14	14
27	14	18	14	14	14	15	39	27	17	14	14	14
28	19	18	14	14	14	15	39	27	16	14	14	14
29	14	23	14	14	---	15	39	26	18	14	14	14
30	14	14	14	14	---	15	39	25	18	14	14	14
31	15	---	14	14	---	15	---	24	---	14	14	---
TOTAL	448	471	462	434	398	469	1170	1057	504	449	434	420
MEAN	14.5	15.7	14.9	14.0	14.2	15.1	39.0	34.1	16.8	14.5	14.0	14.0
MAX	19	23	28	14	19	26	39	43	20	17	14	14
MIN	14	14	14	14	14	14	39	24	15	14	14	14
AC-FT	889	934	916	861	789	930	2320	2100	1000	891	861	833
a	543	430	1370	1140	2310	4660	1220	61	30	0	0	0

a Discharge, in acre-feet, for Roaring Creek Powerplant (station 11364155), provided by Shasta Hydroelectric.

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

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	13	15	---	96	40	40	---	30	16	19	6.0
2	13	13	15	---	78	40	40	---	15	16	14	5.7
3	14	13	15	105	59	40	40	---	16	16	14	5.5
4	14	13	15	76	47	40	44	---	15	16	14	5.5
5	14	14	15	56	39	40	40	---	15	16	15	5.5
6	13	14	15	49	30	40	40	---	16	16	14	5.5
7	13	18	15	38	22	40	40	---	15	16	14	5.7
8	13	22	15	27	17	40	40	---	16	16	14	6.0
9	13	16	15	20	15	40	40	---	16	16	14	6.7
10	13	16	20	54	15	40	40	---	29	16	14	7.0
11	13	16	20	---	15	40	40	130	38	16	14	5.7
12	12	16	19	---	16	40	45	111	15	16	14	5.0
13	12	16	29	---	19	40	51	98	15	16	14	4.4
14	12	16	38	---	20	42	49	86	15	16	17	4.4
15	12	16	27	---	18	---	41	73	15	16	20	4.6
16	12	16	47	---	82	114	40	63	16	16	19	4.4
17	12	16	45	---	52	68	40	49	16	16	19	8.0
18	13	16	43	---	37	49	40	41	16	16	19	14
19	13	16	42	---	33	41	40	40	16	16	12	14
20	13	16	36	122	24	56	40	40	16	16	7.7	14
21	13	18	38	105	17	40	40	40	16	16	8.5	13
22	13	22	17	---	15	49	40	41	16	16	9.9	13
23	13	22	23	---	15	103	41	41	16	16	9.6	14
24	13	22	15	---	15	66	---	41	16	16	8.5	14
25	13	19	15	---	16	54	---	41	16	16	7.7	13
26	13	14	16	---	16	64	---	41	16	16	7.7	14
27	13	14	110	---	15	45	117	42	16	16	7.5	13
28	13	14	---	---	15	40	---	41	16	17	7.0	13
29	13	14	---	107	---	40	---	41	16	20	6.7	14
30	13	14	---	93	---	40	---	41	16	19	6.2	13
31	13	---	---	85	---	40	---	43	---	20	6.0	---
TOTAL	400	485	---	---	858	---	---	---	521	508	387.0	271.6
MEAN	12.9	16.2	---	---	30.6	---	---	---	17.4	16.4	12.5	9.05
MAX	14	22	---	---	96	---	---	---	38	20	20	14
MIN	12	13	---	---	15	---	---	---	15	16	6.0	4.4
AC-FT	793	962	---	---	1700	---	---	---	1030	1010	768	539
a	0	186	2020	6160	5290	4530	5440	5360	2200	645	0	0

a Discharge, in acre-feet, for Roaring Creek Powerplant (station 11364155), provided by Shasta Hydroelectric.

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

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

DRAINAGE AREA.—29.6 mi².

PERIOD OF RECORD.—October 1987 to September 1988, October 1990 to September 1996. October 1989 to September 1990, October 1997 to September 1998, October 1999 to current year (operated as low-flow station only).

GAGE.—Water-stage recorder and sharp-crested weir. Elevation of gage is 3,460 ft above NGVD of 1929, from topographic map.

REMARKS.—During times of powerplant operation the minimum flow requirement is 15 ft³/s. Flows computed to 70 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Shasta Hydroelectric, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—(Water years 1991–96) Maximum discharge, 1,930 ft³/s, Oct. 29, 1992, gage height, 7.06 ft, from outside highwater mark, from rating curve extended above 42 ft³/s on basis of theoretical computation of flow over weir; minimum daily, 3.8 ft³/s, Aug. 18 to Sept. 8, 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAILY MEAN VALUES

(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	13	20	---	19	40	19	18	19	17	11	9.2
2	8.8	10	18	---	19	30	21	18	18	16	11	8.8
3	8.4	8.0	18	---	19	22	20	18	18	16	11	8.8
4	8.0	8.0	18	---	19	19	21	18	18	17	11	8.8
5	7.7	8.0	19	---	19	20	40	18	18	17	12	8.8
6	8.0	8.0	23	---	19	60	22	18	19	16	12	8.8
7	8.4	8.0	18	---	30	---	18	19	18	16	11	9.2
8	8.8	9.0	19	---	---	58	18	18	18	16	11	9.2
9	8.4	8.0	18	---	18	44	36	19	19	15	10	9.2
10	8.8	8.0	18	---	25	51	---	18	19	15	10	9.2
11	8.8	10	18	---	18	66	35	18	18	14	10	9.2
12	8.8	16	18	---	19	---	22	18	19	14	10	8.8
13	8.8	20	19	57	20	68	18	19	18	14	10	8.8
14	8.8	17	18	43	19	50	18	19	19	14	9.6	8.8
15	8.8	13	18	27	19	38	18	18	22	14	9.6	8.8
16	8.8	12	19	18	19	31	18	19	24	14	9.6	8.8
17	8.8	15	19	18	19	23	19	19	23	13	9.6	8.8
18	8.8	13	19	18	19	19	19	18	23	13	9.6	8.8
19	8.8	13	17	18	33	18	19	19	22	13	9.6	8.8
20	8.8	19	18	19	---	18	18	19	22	13	9.6	8.4
21	8.8	30	19	22	---	19	18	18	22	13	10	8.4
22	8.8	27	19	18	---	19	18	18	23	13	10	8.4
23	8.8	18	18	18	---	22	18	18	21	13	9.6	8.4
24	8.8	18	18	18	---	20	18	19	21	12	9.6	8.4
25	8.8	18	19	19	---	18	19	19	20	12	9.6	8.4
26	8.0	19	19	18	---	19	19	19	20	12	9.6	8.4
27	7.7	19	19	18	67	18	18	18	18	12	9.6	8.4
28	7.7	18	39	18	54	19	18	19	18	12	9.6	8.4
29	7.7	19	19	19	---	19	19	19	18	11	9.2	8.8
30	16	20	34	19	---	18	19	18	18	11	8.8	9.2
31	25	---	---	18	---	18	---	18	---	11	9.2	---
TOTAL	288.6	442.0	---	---	---	---	---	571	593	429	312.0	263.2
MEAN	9.31	14.7	---	---	---	---	---	18.4	19.8	13.8	10.1	8.77
MAX	25	30	---	---	---	---	---	19	24	17	12	9.2
MIN	7.7	8.0	---	---	---	---	---	18	18	11	8.8	8.4
AC-FT	572	877	---	---	---	---	---	1130	1180	851	619	522
a	0	169	1990	4130	2860	5020	4080	2390	236	0	0	0

a Discharge, in acre-feet, for Hatchet Creek Powerplant (station 11364250), provided by Shasta Hydroelectric.

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

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	9.0	10	---	---	19	56	---	18	18	14	11
2	9.6	10	10	---	67	19	36	---	18	18	18	11
3	9.6	10	10	---	37	20	26	---	18	18	20	11
4	9.6	10	11	45	26	19	24	---	18	18	17	11
5	8.8	9.0	11	46	20	19	19	---	18	21	16	11
6	8.8	8.0	11	45	19	19	19	---	18	21	15	10
7	8.8	17	11	25	19	19	27	---	18	21	14	11
8	8.8	30	11	20	19	20	38	---	18	21	14	11
9	8.4	19	11	20	19	20	45	---	18	20	13	13
10	8.4	18	15	37	20	20	39	---	18	19	13	12
11	8.4	19	13	---	19	19	32	---	18	19	12	11
12	8.4	19	11	---	20	20	48	69	18	18	12	8.8
13	8.4	17	26	---	20	20	67	56	18	18	12	8.8
14	8.4	16	---	---	19	36	56	49	18	17	12	8.8
15	8.4	15	---	---	20	---	46	45	18	18	11	8.8
16	8.4	14	---	---	57	---	38	38	18	18	10	8.8
17	8.4	14	---	---	35	---	34	40	18	17	10	8.8
18	8.4	14	32	---	24	---	28	28	18	16	10	8.8
19	8.8	14	27	---	20	---	21	21	18	16	11	8.8
20	9.6	14	25	---	19	---	19	19	18	16	11	8.4
21	9.6	12	19	---	19	63	20	20	18	16	12	8.4
22	9.6	10	19	---	19	---	20	18	18	15	14	8.4
23	9.6	10	20	---	19	---	20	18	18	15	14	8.4
24	9.6	10	19	---	19	---	---	18	18	16	13	8.4
25	9.6	10	---	---	19	---	---	18	18	16	12	8.4
26	9.6	10	---	---	19	---	---	18	18	15	12	9.2
27	9.6	10	---	---	19	---	---	18	18	15	12	8.8
28	9.6	10	---	---	19	68	---	18	18	14	12	8.4
29	9.6	10	---	---	---	51	---	18	18	14	11	8.8
30	10	10	---	---	---	38	---	68	18	14	11	9.2
31	10	---	---	---	---	35	---	68	---	14	11	---
TOTAL	282.0	398.0	---	---	---	---	---	---	540	532	399	288.2
MEAN	9.10	13.3	---	---	---	---	---	---	18.0	17.2	12.9	9.61
MAX	10	30	---	---	---	---	---	---	18	21	20	13
MIN	8.4	8.0	---	---	---	---	---	---	18	14	10	8.4
AC-FT	559	789	---	---	---	---	---	---	1070	1060	791	572
a	0	0	1470	4950	4010	3730	5100	4900	1370	30	0	0

a Discharge, in acre-feet, for Hatchet Creek Powerplant (station 11364250), provided by Shasta Hydroelectric.

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA

LOCATION.—Lat 40°50'38", long 122°00'05", in NE 1/4 SW 1/4 sec.32, T.35 N., R.1 W., [Shasta County](#), Hydrologic Unit 18020003, Shasta National Forest, on left bank, 0.7 mi downstream from Pit No. 7 Dam and Powerplant, 1.4 mi upstream from Potem Creek, and 4.1 mi west of town of Montgomery Creek.

DRAINAGE AREA.—4,952 mi², excluding Goose Lake Basin.

PERIOD OF RECORD.—October 1944 to current year (monthly discharge only December 1964 to May 1965). Monthly discharge only for some periods, published in WSP 1315-A.

CHEMICAL DATA: Water years 1951, 1953, 1955–81.

WATER TEMPERATURE: Water years 1951, 1954–57, 1959.

REVISED RECORDS.—WSP 1931: Drainage area. WDR CA-86-4: 1983 (M).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 1,000.00 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). October 1944 to Feb. 17, 1963, at site 0.7 mi upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 1.5 mi upstream at different datum. May 21, 1965, to June 20, 1981, at site 0.9 mi downstream at datum 1,036.00 ft above NGVD of 1929.

REMARKS.—Low flow completely regulated by many reservoirs and powerplants, total usable reservoir capacity, 337,000 acre-ft. Many diversions upstream from station for irrigation. Diversion from McCloud River to Iron Canyon Reservoir (station 11363920) began December 1965. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2106.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 73,000 ft³/s, Jan. 24, 1970, gage height, 32.36 ft, site and datum then in use; maximum gage height, 74.65 ft, Feb. 19, 1986; minimum daily, 30 ft³/s, July 12, 27, 1975, result of construction work below Pit No. 7 Powerplant.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2480	2780	3090	9770	5360	3970	e6010	e8430	e5490	e3000	2910	2650
2	2650	2850	2970	8070	6550	3870	e6550	e8190	e4970	e2860	2670	3900
3	2840	2760	2820	6730	5850	3910	e5910	e8360	e4940	e3350	2390	3490
4	3070	3250	3090	6240	4630	3950	e6040	e8390	e4420	e2960	2490	3480
5	2800	3540	3080	6240	4540	3950	e5770	e8380	e4730	e1780	2490	3450
6	2790	3920	3510	6280	5260	3960	e6430	e8380	e4610	e3300	1830	2480
7	2770	3930	2910	7320	5840	3960	e6270	e7470	e3260	e3830	1810	2530
8	2440	3680	3120	5060	6580	3940	e5280	e7940	e4220	e3730	1850	2860
9	2220	2690	3030	4030	6680	3920	e4380	e7850	e4600	e3930	1090	2860
10	2120	2900	2780	4660	4770	3920	e5460	e7860	e1330	e3650	923	3100
11	2660	2950	2570	6080	3880	3940	e6660	e8000	e4150	e4100	3090	3290
12	2790	2940	2740	6710	3940	5210	e6100	e8250	e3470	e2010	3150	2960
13	2780	3120	3970	7120	4010	6030	e7140	e8100	e3910	e2900	2580	3290
14	2720	3500	5040	10300	4070	5920	e5140	e8050	e2190	e3310	2230	2800
15	2830	3220	5940	10000	4170	7640	e6120	e8410	e3350	e4070	2590	2500
16	2940	3040	5770	10300	5020	e3820	e6590	e8160	e3480	e3260	2090	3230
17	2500	3110	6830	8190	6620	e3820	e6120	e7090	e3460	e3320	2620	3020
18	2530	3080	6180	8120	6030	e3820	e4840	e8110	e2710	3490	3100	2960
19	2290	3060	4770	6010	4320	e3820	e5770	e6940	e3390	2700	2900	2950
20	2570	2930	5950	5360	6020	e3870	e5230	e5870	e3020	2770	2810	2660
21	2530	2670	6090	6880	5090	e3830	e5780	e4540	e1480	3140	3270	2930
22	3060	2310	5320	7910	3970	e3810	e7330	e6730	e2760	2810	2970	2810
23	3310	2030	5880	7480	4660	e3820	e4280	e6280	e3250	2940	2800	3190
24	3370	2670	4890	8010	5500	e3850	e6180	e5340	e3510	2860	3060	3020
25	1790	3080	3960	6420	5250	e3880	e7590	e4880	e4070	2650	3420	3230
26	899	2880	4120	6870	5180	e5400	e7250	e5980	e4430	4160	3010	3040
27	2660	2670	5670	6250	4850	e6980	e7970	e6000	e3780	916	3330	2870
28	3540	2400	10900	6330	4470	e5520	e8190	e4790	e3560	2700	3080	2710
29	2880	2490	12800	6820	---	e6400	e8270	e4080	e3250	3490	2740	2690
30	2430	2730	8570	6500	---	e6760	e8290	e4770	e3880	3160	2250	2970
31	2450	---	10500	6280	---	e6560	---	e3580	---	3050	2230	---
TOTAL	81709	89180	158860	218340	143110	144050	188940	215200	109670	96196	79773	89920
MEAN	2636	2973	5125	7043	5111	4647	6298	6942	3656	3103	2573	2997
MAX	3540	3930	12800	10300	6680	7640	8290	8430	5490	4160	3420	3900
MIN	899	2030	2570	4030	3880	3810	4280	3580	1330	916	923	2480
AC-FT	162100	176900	315100	433100	283900	285700	374800	426800	217500	190800	158200	178400
a	14400	14000	15100	14100	13600	12900	15200	14500	14300	14600	14500	14100
b	179000	191300	268800	328100	276200	327300	343100	385600	209600	198200	166900	185200
c	32900	32800	33200	27800	33800	33200	33700	33200	31600	32700	32800	33000

e Estimated.

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

b Discharge, in acre-feet, for Pit No. 6 Powerplant (station 11364150), provided by Pacific Gas & Electric Co.

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

SACRAMENTO RIVER BASIN

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA—Continued

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

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

SUMMARY STATISTICS

WATER YEARS 1945 - 1965

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

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

MEAN	3393	4075	4767	6568	7110	7888	6525	5463	4005	3278	3090	3109
MAX	5865	8683	9814	20890	18670	16030	12920	11900	8911	4633	4187	4257
(WY)	1997	1997	1982	1970	1986	1983	1982	1995	1998	1998	1983	1998
MIN	2286	2533	2408	2632	2784	3241	2626	2404	2268	2291	2049	1428
(WY)	1993	1993	1991	1991	1991	1977	1977	1992	1992	1994	1992	1966

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1966 - 2003

ANNUAL TOTAL	1408109	1614948	
ANNUAL MEAN	3858	4425	4928
HIGHEST ANNUAL MEAN			7693 1974
LOWEST ANNUAL MEAN			2808 1992
HIGHEST DAILY MEAN	12800 Dec 29	12800 Dec 29	53900 Jan 23 1970
LOWEST DAILY MEAN	899 Oct 26	899 Oct 26	30 Jul 12 1975
ANNUAL SEVEN-DAY MINIMUM	2380 Oct 25	1780 Aug 4	939 Sep 5 1966
MAXIMUM PEAK FLOW		44900 Jan 14	73000 Jan 24 1970
MAXIMUM PEAK STAGE		72.76 Jan 14	74.65 Feb 19 1986
ANNUAL RUNOFF (AC-FT)	2793000	3203000	3570000
10 PERCENT EXCEEDS	6040	7470	8450
50 PERCENT EXCEEDS	3370	3830	4010
90 PERCENT EXCEEDS	2380	2530	2160

11367500 McCLOUD RIVER NEAR McCLOUD, CA

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

DRAINAGE AREA.—358 mi².

PERIOD OF RECORD.—April 1931 to current year.

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

GAGE.—Water-stage recorder. Datum of gage is 2,711.2 ft above NGVD of 1929, from river-profile map.

REMARKS.—Two small diversions upstream from station for irrigation and one 22-in. pipeline for town of McCLOUD. See schematic diagram of [Pit and McCLOUD River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2106

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15,400 ft³/s, Jan. 1, 1997, gage height, 11.22 ft, from rating curve extended above 8,800 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 524 ft³/s, Nov. 23, 24, 1932.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0715	2,640	3.85	Mar. 15	1215	3,600	4.72
Dec. 28	1800	4,160	5.19				

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	716	707	695	1120	1170	873	1150	1230	1050	861	842	833
2	716	707	695	1040	1170	867	1130	1210	1030	860	850	831
3	716	707	695	983	1100	863	1080	1210	1020	859	853	831
4	716	706	695	946	1060	860	1070	1260	1000	860	854	837
5	716	706	695	917	1030	856	1040	1230	992	861	853	837
6	716	706	695	896	1010	850	1020	1200	980	860	852	834
7	716	740	694	879	982	849	1000	1190	972	858	850	834
8	716	761	694	866	967	849	999	1230	967	856	848	834
9	716	730	693	856	945	849	994	1200	958	855	847	838
10	716	727	697	869	931	849	995	1150	945	854	846	836
11	716	718	695	933	921	855	1010	1130	939	854	845	833
12	715	716	695	1070	911	863	1060	1130	934	853	844	832
13	715	713	726	1430	916	899	1140	1130	927	852	844	830
14	715	709	1210	1580	934	1300	1130	1130	917	851	844	830
15	714	706	1410	1480	946	3010	1100	1140	909	850	843	830
16	714	706	1980	1270	1080	2110	1070	1140	902	848	842	830
17	714	705	1220	1150	1040	1660	1060	1130	895	846	841	828
18	713	704	981	1090	995	1420	1050	1100	891	845	840	828
19	713	702	905	1060	976	1300	1020	1080	900	845	840	828
20	713	701	879	1030	958	1240	1010	1070	909	849	843	827
21	713	700	848	1010	941	1190	1010	1070	898	849	843	826
22	712	700	823	1080	931	1180	1010	1090	890	848	845	825
23	711	700	808	1410	923	1400	1010	1120	887	848	843	823
24	712	699	800	1280	915	1260	1220	1140	883	849	840	823
25	712	696	791	1220	906	1180	1240	1160	877	849	839	823
26	710	695	795	1190	898	1210	1170	1140	873	847	839	823
27	709	695	930	1230	889	1170	1150	1120	871	846	839	823
28	709	695	3160	1290	881	1120	1180	1110	868	844	838	822
29	709	695	2550	1190	---	1080	1250	1100	865	843	837	823
30	708	695	1530	1130	---	1060	1260	1090	861	843	836	823
31	708	---	1280	1130	---	1060	---	1070	---	843	835	---
TOTAL	22115	21247	31964	34625	27326	36132	32628	35500	27810	26386	26155	24875
MEAN	713	708	1031	1117	976	1166	1088	1145	927	851	844	829
MAX	716	761	3160	1580	1170	3010	1260	1260	1050	861	854	838
MIN	708	695	693	856	881	849	994	1070	861	843	835	822
AC-FT	43870	42140	63400	68680	54200	71670	64720	70410	55160	52340	51880	49340

SACRAMENTO RIVER BASIN

11367500 McCLOUD RIVER NEAR McCLOUD, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	766	790	866	912	976	1050	1126	1122	950	836	797	776
MAX	1030	1569	1879	2348	2155	2220	1896	2182	1574	1219	1101	1059
(WY)	1984	1974	1956	1970	1958	1983	1974	1938	1998	1983	1983	1983
MIN	536	537	534	539	549	568	674	606	574	561	556	544
(WY)	1933	1933	1933	1933	1933	1935	1994	1992	1992	1934	1992	1932

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	303791		346763			
ANNUAL MEAN	832		950		916	
HIGHEST ANNUAL MEAN					1406	
LOWEST ANNUAL MEAN					589	
HIGHEST DAILY MEAN	3160	Dec 28	3160	Dec 28	11900	Jan 1 1997
LOWEST DAILY MEAN	693	Dec 9	693	Dec 9	524	Nov 23 1932
ANNUAL SEVEN-DAY MINIMUM	694	Dec 3	694	Dec 3	528	Nov 20 1932
MAXIMUM PEAK FLOW			4160		15400	
MAXIMUM PEAK STAGE			5.19		11.22	
ANNUAL RUNOFF (AC-FT)	602600		687800		663500	
10 PERCENT EXCEEDS	967		1210		1260	
50 PERCENT EXCEEDS	771		863		842	
90 PERCENT EXCEEDS	709		709		618	

11367720 McCLOUD-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD, CA

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

PERIOD OF RECORD.—December 1965 to current year.

REVISED RECORDS.—WDR CA-75-4: 1973.

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

REMARKS.—Water is diverted from Lake McCloud (station 11367740) via tunnel to Iron Canyon Reservoir (station 11363920) and then via penstock into James B. Black Powerplant (station 11363910) on the Pit River. Diversion began Dec. 1, 1965. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2106.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 1,890 ft³/s, several days during May and June 1967; no flow several days in 1965–68, 1971, 1978, June 8, 10, 2001.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	530	546	492	1280	1160	790	1150	1050	1050	685	673	688
2	528	551	496	1190	1150	799	1130	1060	1050	687	656	692
3	524	556	484	1290	1160	798	1130	1070	1050	689	634	694
4	520	552	489	1250	1140	780	1140	1100	1050	690	632	692
5	526	543	516	1210	1140	768	1140	1110	1050	689	629	687
6	520	539	521	1170	1140	752	1160	1110	1040	697	628	650
7	506	551	529	1160	1150	736	1160	1110	1020	712	626	618
8	497	567	537	1150	1110	703	1130	1120	1000	730	622	604
9	508	587	553	1140	1090	679	1110	1130	958	748	588	585
10	522	601	536	1120	1090	706	1100	1140	915	773	562	589
11	532	614	536	1110	1050	698	1080	1150	866	792	551	617
12	527	618	537	1100	1010	778	1040	1150	809	787	561	643
13	527	623	574	1100	1000	808	1010	1120	761	792	571	670
14	521	626	639	1140	1010	873	1030	1090	706	791	588	685
15	512	610	679	1180	1000	1020	1050	1100	664	790	612	693
16	516	566	768	1210	1000	1070	1070	1130	637	780	632	684
17	508	557	811	1200	1020	1090	1080	1120	612	771	653	663
18	515	553	851	1190	1020	1150	1110	1090	595	764	692	633
19	529	530	888	1190	1010	1180	1120	1080	584	740	707	610
20	542	532	918	1140	983	1180	1110	1030	573	733	708	598
21	548	529	963	1130	964	1180	1120	1020	554	723	721	618
22	547	522	935	1160	925	1180	1100	1030	562	706	716	605
23	550	527	1020	1160	934	1160	1010	1030	555	697	716	590
24	558	527	1010	1190	945	1180	963	1020	578	677	720	580
25	547	523	927	1170	931	1220	964	1020	617	682	724	568
26	537	515	883	1160	912	1240	980	1020	653	684	734	679
27	540	506	856	1150	884	1250	980	1040	680	680	734	667
28	540	479	996	1180	857	1230	980	1050	706	670	737	655
29	533	474	1120	1200	---	1190	986	1040	711	675	731	644
30	538	480	1210	1190	---	1160	1010	1040	693	678	706	634
31	538	---	1260	1170	---	1160	---	1030	---	678	692	---
TOTAL	16386	16504	23534	36380	28785	30508	32143	33400	23299	22390	20456	19235
MEAN	529	550	759	1174	1028	984	1071	1077	777	722	660	641
MAX	558	626	1260	1290	1160	1250	1160	1150	1050	792	737	694
MIN	497	474	484	1100	857	679	963	1020	554	670	551	568
AC-FT	32500	32740	46680	72160	57100	60510	63760	66250	46210	44410	40570	38150

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

	660	677	811	890	969	1099	1127	1018	887	783	746	709
MEAN	660	677	811	890	969	1099	1127	1018	887	783	746	709
MAX	1028	1205	1362	1451	1583	1592	1624	1729	1854	1305	1150	1123
(WY)	1984	1984	1974	1970	1970	1970	1966	1967	1967	1967	1971	1983
MIN	0.000	0.000	333	383	439	562	445	388	416	409	343	383
(WY)	1966	1966	1992	1992	1991	1991	1990	1977	1992	1992	1992	1992

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1966 - 2003
ANNUAL TOTAL	261467	303020	
ANNUAL MEAN	716	830	864
HIGHEST ANNUAL MEAN			1260
LOWEST ANNUAL MEAN			453
HIGHEST DAILY MEAN	1260	Dec 31	1290
LOWEST DAILY MEAN	474	Nov 29	474
ANNUAL SEVEN-DAY MINIMUM	485	Nov 28	485
ANNUAL RUNOFF (AC-FT)	518600	601000	626000
10 PERCENT EXCEEDS	1010	1160	1390
50 PERCENT EXCEEDS	646	761	802
90 PERCENT EXCEEDS	525	531	493

11367760 McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD, CA

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

DRAINAGE AREA.—404 mi².

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

GAGE.—Water-stage recorder. Datum of gage is 2,398.76 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to Apr. 7, 1972, at datum 3.00 ft higher.

REMARKS.—Low flow regulated by Lake McCloud (station 11367740) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (station 11363920) in Pit River Basin. This station records fishwater release. The minimum release requirement is 40 ft³/s at all times. Prior to water year 1974, flow was computed up to 400 ft³/s. During water years 1975–81, because of channel changes, flow was computed up to 200 ft³/s. Currently, because of maximum required release, flow is computed to 220 ft³/s. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2106.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	182	181	181	---	191	109	80	66	141	178	184	187
2	182	181	181	217	190	111	85	65	143	178	184	187
3	182	182	181	213	188	115	88	65	145	178	184	187
4	182	183	181	210	179	115	88	65	145	178	185	187
5	182	183	181	208	160	117	94	65	146	178	184	187
6	182	183	182	206	159	121	96	65	147	179	184	187
7	182	182	187	204	159	125	101	64	148	179	184	189
8	181	156	194	202	158	125	100	63	151	179	184	189
9	182	173	194	200	157	125	98	63	151	180	185	189
10	182	176	194	200	146	126	98	63	156	181	186	189
11	182	176	193	201	107	127	97	62	166	182	186	189
12	182	175	193	205	99	127	77	62	168	181	186	189
13	182	175	194	213	96	128	62	62	168	182	187	189
14	181	175	207	216	96	90	63	62	169	182	187	188
15	182	175	213	213	96	88	57	63	170	182	187	188
16	182	176	---	209	98	72	61	79	171	182	187	188
17	182	176	214	198	97	69	60	85	171	182	187	188
18	182	176	208	195	97	67	60	94	172	182	187	190
19	181	177	204	193	97	65	60	103	172	182	187	192
20	181	180	202	193	96	64	59	107	172	182	187	192
21	181	181	201	192	96	63	68	109	173	182	186	191
22	181	181	200	193	96	63	68	114	174	184	186	191
23	181	181	198	194	96	62	68	115	174	184	186	191
24	181	181	197	194	95	60	59	119	175	184	186	191
25	181	181	195	193	95	59	60	121	175	184	187	191
26	181	181	194	192	95	58	59	123	176	184	187	192
27	181	181	205	192	102	58	59	127	176	184	187	192
28	181	180	---	192	108	61	62	130	176	184	187	191
29	181	181	---	192	---	68	66	132	177	184	187	192
30	181	181	---	191	---	75	68	135	178	184	186	192
31	181	---	---	191	---	79	---	138	---	184	186	---
TOTAL	5627	5350	---	---	3449	2792	2221	2786	4926	5629	5763	5685
MEAN	182	178	---	---	123	90.1	74.0	89.9	164	182	186	190
MAX	182	183	---	---	191	128	101	138	178	184	187	192
MIN	181	156	---	---	95	58	57	62	141	178	184	187
AC-FT	11160	10610	---	---	6840	5540	4410	5530	9770	11170	11430	11280

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

LOCATION.—Lat 41°06'39", long 122°05'42", in NE 1/4 SW 1/4 sec.33, T.38 N., R.2 W., [Shasta County](#), Hydrologic Unit 18020004, Shasta National Forest, on right bank at Ah-Di-Na, 1.8 mi downstream from Squirrel Creek, 3.9 mi downstream from McCloud Dam, and 9.6 mi south of McCloud.

DRAINAGE AREA.—427 mi².

PERIOD OF RECORD.—October 1964 to current year.

REVISED RECORDS.—WDR CA-98-4: 1997 (m).

GAGE.—Water-stage recorder. Elevation of gage is 2,160 ft above NGVD of 1929, from topographic map.

REMARKS.—Low flow completely regulated by Lake McCloud (station 11367740) 3.9 mi upstream since November 1965. Diversion to Iron Canyon Reservoir (station 11363920) through McCloud-Iron Canyon diversion tunnel (station 11367720) started Dec. 1, 1965. This station records fishwater release. The minimum release requirements range from 160 to 210 ft³/s per schedule outlined in Federal Energy Regulatory Commission License 2106. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2106.

EXTREMES FOR PERIOD OF RECORD.—Prior to completion of McCloud Dam in 1965, maximum discharge, 9,660 ft³/s, Dec. 22, 1964, gage height, 9.43 ft, from rating curve extended above 2,500 ft³/s; minimum daily, 86 ft³/s, Oct. 1–26, 1964. Since completion of McCloud Dam, maximum discharge, 31,700 ft³/s, Jan. 1, 1997, gage height, 14.77 ft, from rating curve extended above 8,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 41 ft³/s, Dec. 18–20, 1971 (caused by valve malfunction at McCloud Dam).

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 21, 1955, reached a stage of 12.5 ft, discharge, 17,800 ft³/s, from rating curve extended above 2,500 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 28	1730	2,410	4.96

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	228	228	454	361	185	189	357	212	223	223	222
2	230	228	228	401	350	185	187	322	211	223	226	225
3	230	229	228	368	336	188	187	313	213	223	227	225
4	230	233	228	347	316	186	191	318	210	222	226	224
5	230	232	228	335	286	185	188	301	209	222	225	224
6	230	231	229	330	278	187	187	281	208	223	224	223
7	230	271	234	327	271	191	190	267	208	222	224	227
8	230	237	244	325	265	190	193	265	211	223	223	228
9	230	239	244	325	260	190	198	249	210	223	225	228
10	230	245	253	354	244	190	201	233	213	223	227	228
11	230	235	245	442	195	191	201	220	224	224	226	228
12	230	231	245	608	184	191	217	211	225	224	226	227
13	230	226	286	829	183	200	253	204	224	223	226	226
14	230	225	576	843	181	260	269	200	224	224	226	225
15	230	225	629	710	187	772	252	198	224	224	226	225
16	230	225	1170	565	254	495	233	207	224	223	226	225
17	230	225	520	486	236	384	216	206	223	222	225	224
18	230	225	377	451	222	313	205	209	223	223	225	227
19	230	225	328	437	214	273	196	212	228	223	225	230
20	230	226	313	421	204	249	189	211	227	222	225	230
21	230	228	301	404	198	224	195	209	224	222	225	229
22	230	228	291	446	194	226	191	210	224	225	225	228
23	230	228	280	547	190	260	193	208	224	225	225	228
24	230	228	271	492	187	242	265	210	224	226	224	228
25	230	228	264	451	183	225	279	210	224	226	225	228
26	228	228	263	428	180	214	268	210	224	225	225	228
27	228	228	520	429	184	199	256	209	224	224	224	228
28	228	228	2040	424	186	190	314	210	223	224	223	228
29	228	228	1160	395	---	188	400	210	223	224	223	228
30	228	228	651	373	---	187	419	210	224	223	222	228
31	228	---	541	362	---	187	---	210	---	223	222	---
TOTAL	7118	6921	13615	14109	6529	7547	6922	7290	6589	6926	6969	6802
MEAN	230	231	439	455	233	243	231	235	220	223	225	227
MAX	230	271	2040	843	361	772	419	357	228	226	227	230
MIN	228	225	228	325	180	185	187	198	208	222	222	222
AC-FT	14120	13730	27010	27990	12950	14970	13730	14460	13070	13740	13820	13490

SACRAMENTO RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	249	279	311	449	408	464	352	343	260	225	223	233
MAX	919	1140	1863	2211	1770	2107	2102	1498	1173	1035	992	954
(WY)	1966	1974	1965	1970	1986	1983	1965	1965	1965	1965	1965	1965
MIN	180	182	93.2	93.4	119	167	166	162	160	159	155	182
(WY)	1978	1978	1972	1972	1972	1977	1968	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL TOTAL	89668		97337			
ANNUAL MEAN	246		267		316	
HIGHEST ANNUAL MEAN					1326	
LOWEST ANNUAL MEAN					168	
HIGHEST DAILY MEAN	2040	Dec 28	2040	Dec 28	25200	Jan 1 1997
LOWEST DAILY MEAN	178	May 11	180	Feb 26	41	Dec 18 1971
ANNUAL SEVEN-DAY MINIMUM	180	May 9	184	Feb 24	42	Dec 15 1971
MAXIMUM PEAK FLOW			2410		31700	
MAXIMUM PEAK STAGE			4.96		14.77	
ANNUAL RUNOFF (AC-FT)	177900		193100		228900	
10 PERCENT EXCEEDS	269		375		462	
50 PERCENT EXCEEDS	219		226		209	
90 PERCENT EXCEEDS	201		193		169	

11368000 McCLOUD RIVER ABOVE SHASTA LAKE, CA

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

DRAINAGE AREA.—604 mi².

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

TEMPERATURE: Water years 1956–59.

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

GAGE.—Water-stage recorder. Datum of gage is 1,100.00 ft above NGVD of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.—Low flow completely regulated by Lake McCloud (station 11367740) 16.5 mi upstream since Nov. 3, 1965. Diversions to Iron Canyon Reservoir (station 11363920) began Dec. 1, 1965. See schematic diagram of [Pit and McCloud River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2106.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 51,300 ft³/s, Jan. 1, 1997, gage height, 29.00 ft, from rating curve extended above 15,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 109 ft³/s, Dec. 16–20, 1971. Minimum prior to regulation by Lake McCloud, 825 ft³/s, Jan. 3, 1950.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 4,500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0645	12,300	19.06	Jan. 13	0445	5,450	15.13
Dec. 28	1715	15,800	20.66	Mar. 15	0915	6,480	15.81

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	283	294	304	3290	1160	576	707	2570	544	428	345	321
2	284	295	304	2260	1100	557	679	2010	528	427	373	323
3	288	296	303	1790	1030	553	671	1770	521	418	388	322
4	289	299	304	1540	960	540	773	1630	511	414	378	328
5	291	300	304	1400	886	526	750	1480	500	410	363	337
6	288	300	303	1340	840	517	721	1360	495	409	358	329
7	286	528	305	1300	805	516	701	1250	492	406	358	330
8	289	675	320	1260	777	505	695	1190	496	406	352	333
9	289	449	328	1230	749	501	690	1090	489	400	348	338
10	289	490	404	1380	724	495	682	1010	484	394	349	346
11	289	405	350	1920	651	489	675	951	495	394	346	338
12	294	361	340	3110	617	485	848	896	492	397	341	332
13	295	345	640	5340	628	501	1340	852	488	397	339	328
14	295	329	3670	5310	605	941	1670	824	482	396	338	324
15	293	321	4040	4200	617	4800	1530	799	473	392	336	321
16	293	319	8350	2940	1120	3050	1340	779	466	390	333	321
17	293	315	2960	2250	1010	2240	1200	754	461	385	332	320
18	294	312	1670	1950	915	1730	1080	728	462	381	330	323
19	296	308	1270	1750	864	1430	986	709	465	378	326	327
20	296	309	1340	1600	802	1240	917	691	480	375	327	329
21	296	310	1700	1490	755	1080	891	672	464	371	329	327
22	296	308	1320	1630	722	1040	847	658	456	371	339	325
23	296	308	1070	2170	694	1120	834	640	450	368	344	323
24	296	308	922	1940	672	1040	1270	630	445	387	338	322
25	297	305	821	1730	644	962	1430	623	439	393	331	321
26	297	304	807	1580	619	929	1530	612	434	377	329	321
27	293	304	3280	1540	603	845	1420	591	433	370	331	321
28	293	304	13900	1480	590	793	1820	579	431	364	327	320
29	294	304	8640	1360	---	757	3030	573	430	357	327	320
30	294	304	4800	1260	---	726	3580	562	430	350	324	322
31	294	---	5040	1200	---	709	---	552	---	346	321	---
TOTAL	9060	10309	70109	64540	22159	32193	35307	30035	14236	12051	10600	9792
MEAN	292	344	2262	2082	791	1038	1177	969	475	389	342	326
MAX	297	675	13900	5340	1160	4800	3580	2570	544	428	388	346
MIN	283	294	303	1200	590	485	671	552	430	346	321	320
AC-FT	17970	20450	139100	128000	43950	63850	70030	59570	28240	23900	21030	19420

11370000 SHASTA LAKE NEAR REDDING, CA

LOCATION.—Lat 40°43'08", long 122°25'12", in SE 1/4 NW 1/4 sec.15, T.33 N., R.5 W., [Shasta County](#), Hydrologic Unit 18020005, in Shasta Dam on Sacramento River, near right bank, 2 mi downstream from Squaw Creek, and 9.5 mi north of Redding.

DRAINAGE AREA.—6,421 mi², excluding Goose Lake Basin.

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

CHEMICAL DATA: Water years 1978–80.

GAGE.—Water-stage recorder. Datum of gage is 1,068.39 ft above NGVD of 1929 (levels by U.S. Bureau of Reclamation). Prior to July 10, 1944, nonrecording gage at various sites near dam at same datum. Contents based on capacity table dated May 8, 1967, provided by U.S. Bureau of Reclamation.

REMARKS.—Lake is formed by concrete gravity-type dam completed in 1949; regulation began Dec. 30, 1943. Usable capacity, 4,436,400 acre-ft, between elevations 737.75 ft, invert of lowest set of river outlets, and 1,067.0 ft, top of flashboard gates on drum-type spillway gates. Operating pool from elevation, 840.0 ft, capacity, 587,127 acre-ft to 1,067.0 ft, capacity, 4,552,090 acre-ft. Dead storage, 115,800 acre-ft. Installation of flashboard gates on top of drum gates completed Nov. 12, 1964. All water passes down the Sacramento River, most of which is through powerplant at dam. Figures given represent total contents at 2400 hours. Lake is used for flood control, power generation, irrigation, and recreation. See schematic diagram of [Pit and McCloud River Basins](#).

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

EXTREMES (AT 2400 HOURS) FOR PERIOD OF RECORD.—Maximum contents, 4,550,300 acre-ft, May 19, 1967, elevation, 1,066.94 ft; minimum since first filling, 562,600 acre-ft, Sept. 13, 1977, elevation, 836.68 ft.

EXTREMES (AT 2400 HOURS) FOR CURRENT YEAR.—Maximum contents, 4,536,624 acre-ft, Apr. 30, elevation, 1,066.48 ft; minimum, 2,307,582 acre-ft, Dec. 12, elevation, 974.36 ft.

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

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

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2554758	2405498	2332271	3257834	3536012	3587098	4118773	4525024	4432181	4074214	3529948	3252328
2	2554148	2398484	2329224	3274655	3541080	3590937	4135871	4507841	4427216	4060621	3517089	3249454
3	2554555	2390724	2325986	3280190	3549189	3593240	4151307	4487142	4421667	4048461	3500235	3243948
4	2556178	2386462	2323509	3285004	3553497	3596823	4171019	4468280	4414366	4033273	3482674	3240357
5	2552725	2382006	2320271	3288134	3557804	3600662	4184581	4453295	4407064	4016220	3465200	3238444
6	2549880	2382006	2318564	3290303	3566712	3604757	4200425	4446841	4399205	4002220	3446784	3234632
7	2546424	2391499	2316481	3296809	3575116	3608595	4215478	4441267	4388158	3988533	3430405	3230344
8	2542359	2393824	2314588	3299701	3585051	3611161	4228556	4442441	4380309	3974327	3418047	3228438
9	2536057	2392274	2312315	3306930	3594776	3614762	4237680	4449188	4371896	3959614	3405212	3225103
10	2532024	2389562	2310422	3321443	3599894	3621449	4247674	4458576	4356846	3943586	3392915	3222482
11	2528203	2385881	2307960	3345475	3591193	3627622	4261099	4472701	4346138	3927859	3383328	3218909
12	2524180	2382975	2307582	3391932	3583010	3636113	4281473	4487142	4332238	3908962	3374520	3214860
13	2521163	2380263	2322557	3452994	3575880	3649811	4313435	4491858	4319496	3891728	3363999	3209647
14	2518749	2378907	2387043	3508013	3569004	3672870	4339478	4494222	4302770	3876419	3353022	3203249
15	2517342	2376200	2444235	3543107	3566712	3746069	4363503	4497479	4288360	3868492	3340415	3197325
16	2514928	2373888	2539106	3563402	3573588	3790736	4384670	4501920	4273151	3839544	3334524	3195429
17	2511327	2371384	2573178	3572314	3583519	3824647	4402693	4500439	4258525	3821188	3326773	3191165
18	2508127	2368880	2596882	3576389	3589145	3851276	4416410	4498367	4241963	3803443	3320717	3188571
19	2504926	2366568	2616622	3575880	3583774	3876419	4427800	4494518	4227134	3783583	3315145	3186685
20	2500725	2365220	2661434	3572824	3581227	3899248	4439214	4488616	4212920	3764519	3308858	3183855
21	2491144	2362138	2701915	3571041	3577662	3918946	4453002	4480953	4197312	3749496	3305484	3179611
22	2482988	2358285	2724546	3576898	3575370	3939247	4463565	4477122	4183732	3728991	3303075	3177017
23	2477418	2355602	2739208	3579699	3575116	3960976	4465922	4474175	4174116	3708819	3300183	3174423
24	2470679	2354452	2750513	3577917	3575625	3978687	4470933	4472112	4165387	3691330	3298255	3171593
25	2460592	2351963	2758844	3570532	3575625	3997019	4480364	4469459	4152997	3672091	3294881	3170886
26	2448169	2348898	2766764	3563147	3577153	4018971	4483016	4466217	4143719	3653947	3289580	3168292
27	2440497	2346025	2827024	3565537	3579445	4039342	4483016	4462097	4132507	3630709	3284522	3165944
28	2435579	2341237	2986036	3546908	3584283	4054818	4520571	4455349	4118773	3610132	3279228	3162894
29	2429320	2337985	3071966	3541333	---	4071715	4533054	4448015	4102871	3588378	3273692	3160314
30	2421105	2334938	3140398	3540827	---	4088375	4536624	4442441	4088097	3567985	3266231	3159376
31	2414071	---	3223197	3536772	---	4103708	---	4435987	---	3547162	3258552	---
a	987.04	979.46	1017.34	1031.82	1032.61	1051.46	1066.48	1066.09	1062.94	1050.40	1029.86	1018.56
b	-144130	-79133	+888259	+313575	+47511	+519425	+432916	-100637	-347890	-540935	-288610	-99176
MAX	2556178	2405498	3223197	3579699	3599894	4103708	4536624	4525024	4432181	4074214	3529948	3252328
MIN	2414071	2334938	2307582	3257834	3536012	3587098	4118773	4435987	4088097	3547162	3258552	3159376

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

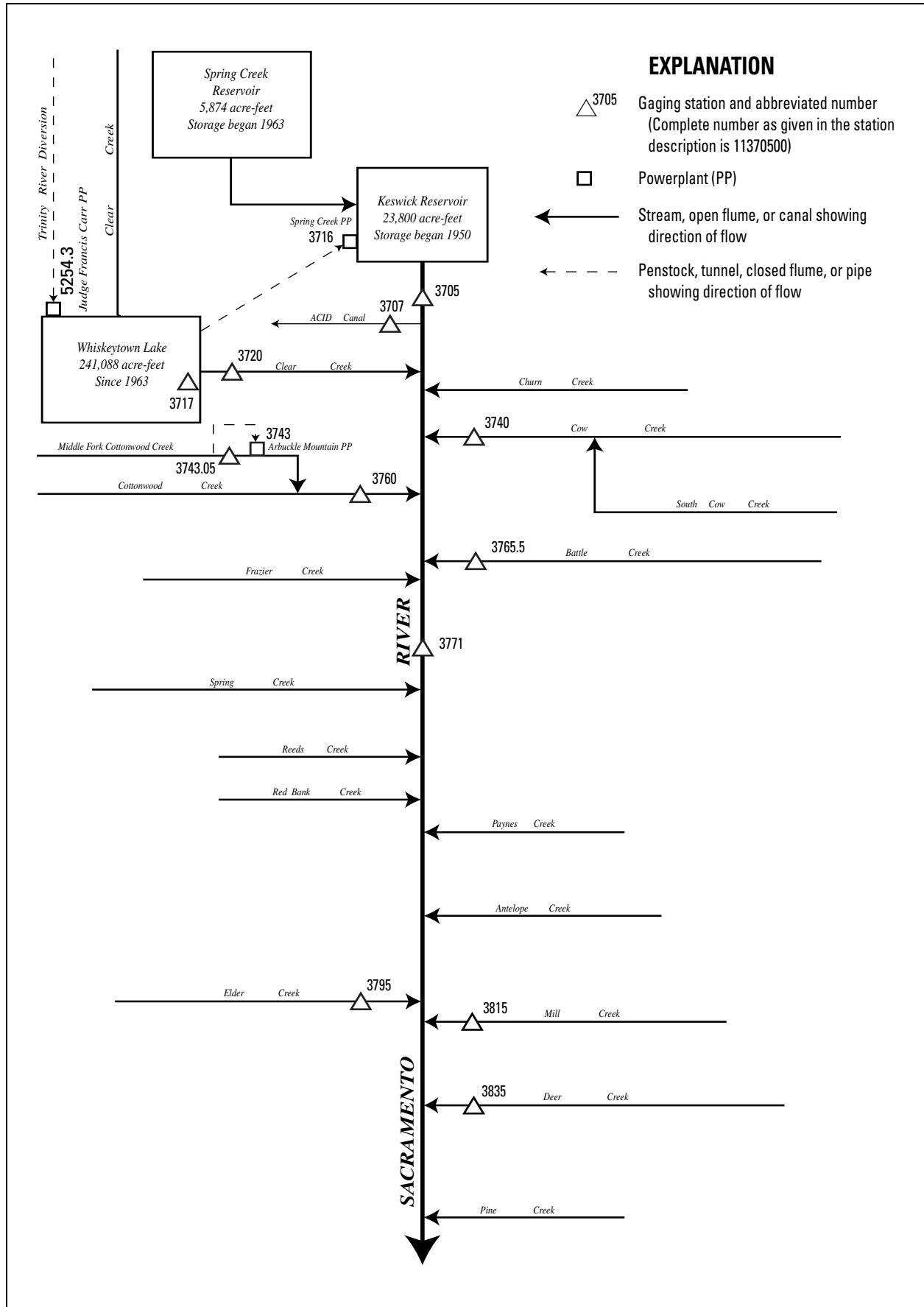


Figure 25. Diversions and storage in upper Sacramento River Basin.

11370500 SACRAMENTO RIVER AT KESWICK, CA

LOCATION.—Lat 40°36'04", long 122°26'36", in SW 1/4 NW 1/4 sec.28, T.32 N., R.5 W., *Shasta County*, Hydrologic Unit 18020101, on right bank, 0.4 mi upstream from Middle Creek, 0.8 mi downstream from Keswick Dam, 1.6 mi downstream from Keswick, and 10 mi downstream from Shasta Dam.

DRAINAGE AREA.—6,468 mi², excluding Goose Lake Basin.

PERIOD OF RECORD.—October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

CHEMICAL DATA: Water years 1951–94. Published as "near Keswick" in 1951 and 1953, and as "at Keswick Dam, near Keswick" in 1968–69.

BIOLOGICAL DATA: Water years 1979–81.

SPECIFIC CONDUCTANCE: Water years 1978–94.

WATER TEMPERATURE: Water years 1978–94.

SEDIMENT DATA: Water years 1978–94.

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 479.81 ft above NGVD of 1929. Prior to Oct. 1, 1939, at site 1.5 mi upstream at datum 20.2 ft higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 mi upstream at datum 15.2 ft higher. Aug. 20, 1960, to July 3, 1973, auxiliary water-stage recorder at city of Redding pumping plant 2.1 mi downstream.

REMARKS.—Records excellent. Flow completely regulated by Shasta Lake (station 11370000) beginning Dec. 30, 1943. Minor regulation by Keswick Reservoir since 1950, total capacity, 23,800 acre-ft, operational capacity, 4,170 acre-ft, between normal operating elevations of 579.0 ft and 586.0 ft. No diversion between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (station 11371700), through a tunnel to Spring Creek Powerplant (station 11371600), and then into Keswick Reservoir. See schematic diagrams of [upper Sacramento River Basin](#) and [Pit and McCloud River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 186,000 ft³/s, Feb. 23, 1940, gage height, 47.2 ft, site and datum then in use, from rating curve extended above 75,000 ft³/s, on basis of peak discharge at Kennet, plus 4,000 ft³/s estimated inflow; minimum observed, 2,730 ft³/s, Aug. 22, 1939. Since regulation by Shasta Dam in 1943, maximum discharge, 81,400 ft³/s, Apr. 1, 1974, gage height, 31.92 ft; maximum gage height, 32.71 ft, Jan. 4, 1997; minimum discharge, 154 ft³/s, May 15, 1948.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7300	7760	5700	15700	12300	6140	3470	29900	12100	12000	15100	9040
2	6430	7750	5690	15400	10600	5950	3500	29700	13000	11700	14400	9080
3	6300	7730	5700	14800	9180	5760	3490	30500	13200	11800	14400	8630
4	6060	7750	5690	12900	8030	5560	3510	28000	13200	12200	14300	8130
5	6080	7210	5690	12600	6990	5350	3500	25300	13100	12100	14100	7560
6	6110	6270	5480	12700	6490	5150	3500	21600	13200	12300	14000	7180
7	6120	6150	5470	11100	6450	4860	3510	18300	12900	12300	13200	7170
8	6130	6160	5470	9630	6470	4550	3540	16300	13100	12600	11900	7170
9	6120	6180	5380	8200	6480	4400	3470	13900	13000	13700	10300	7190
10	6340	6170	5330	7190	6850	4240	3450	11800	13000	14500	10200	7180
11	6320	6150	5220	6990	12100	4230	3500	10200	14100	14600	10200	7870
12	7200	6120	5110	7330	12400	4230	3620	9930	14100	14500	10200	8410
13	7270	6140	5070	10500	12500	4280	3710	12700	14200	14600	10200	8670
14	7180	6090	5310	16200	12500	4290	3730	14400	14200	14400	10200	8660
15	7240	5930	5130	15800	12600	4800	3660	14400	14200	14500	10200	8600
16	7240	5690	5390	15600	11200	4440	4670	14400	14200	14500	9220	7740
17	7720	5710	4830	15600	9710	4360	4610	14500	14200	14600	9130	7700
18	7770	5710	4720	15600	11100	4320	4620	14400	14200	14400	9180	7720
19	7730	5660	4580	15600	13400	4300	5540	14400	13600	14300	9180	7730
20	7730	5530	5230	15600	12900	4270	5570	14300	13100	14400	9060	7760
21	7690	5170	4900	15800	13000	4270	5680	14400	12500	14400	8270	7770
22	7640	4950	4550	15900	11400	4160	7540	14400	12100	14400	8190	7650
23	7700	5020	4530	18900	11100	4050	9910	14400	11600	14700	8190	7700
24	7820	4990	4460	19500	11000	3920	14800	12800	11600	14600	8200	7720
25	7650	5100	4410	19300	9810	3780	14900	12800	11600	14400	8700	7660
26	7710	5090	7340	19400	8450	3770	14100	13700	11700	15100	9140	7590
27	7730	4960	10800	19400	7400	3750	14100	13800	12000	15200	9080	7660
28	7730	5570	10800	18900	6440	3840	13700	13500	12400	15200	9080	7670
29	7730	5700	10600	16600	---	3870	28800	13600	12900	15100	9170	7650
30	7730	5680	9810	14400	---	3650	29900	13300	12700	15200	9040	7150
31	7730	---	13200	14000	---	3560	---	12200	---	15100	8990	---
TOTAL	221250	180090	191590	447140	278850	138100	231600	507830	391000	433400	324720	235410
MEAN	7137	6003	6180	14420	9959	4455	7720	16380	13030	13980	10470	7847
MAX	7820	7760	13200	19500	13400	6140	29900	30500	14200	15200	15100	9080
MIN	6060	4950	4410	6990	6440	3560	3450	9930	11600	11700	8190	7150
AC-FT	438800	357200	380000	886900	553100	273900	459400	1007000	775500	859600	644100	466900

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA—Continued

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

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

SUMMARY STATISTICS

WATER YEARS 1946 - 1962

ANNUAL MEAN	8141
HIGHEST ANNUAL MEAN	13910 1958
LOWEST ANNUAL MEAN	5364 1950
HIGHEST DAILY MEAN	75800 Feb 21 1958
LOWEST DAILY MEAN	2360 Mar 15 1950
ANNUAL SEVEN-DAY MINIMUM	2440 Mar 9 1950
MAXIMUM PEAK FLOW	78800 Feb 21 1958
MAXIMUM PEAK STAGE	31.55 Feb 21 1958
ANNUAL RUNOFF (AC-FT)	5898000
10 PERCENT EXCEEDS	11600
50 PERCENT EXCEEDS	7000
90 PERCENT EXCEEDS	3720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	6211	7126	9566	11390	13480	11340	8793	10690	11620	12830	11580	8252
MAX	10290	23430	27340	41600	40420	47170	26840	17410	15590	15070	14700	11800
(WY)	1984	1974	1974	1997	1998	1983	1974	1995	1998	2000	1998	1971
MIN	3431	3182	2847	3258	3268	2869	3096	6953	7342	7754	8070	4564
(WY)	1978	1993	1978	1993	1990	1991	1991	1992	1992	1992	1992	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	2978250	3580980	
ANNUAL MEAN	8160	9811	10230
HIGHEST ANNUAL MEAN			18230 1974
LOWEST ANNUAL MEAN			5390 1992
HIGHEST DAILY MEAN	15100 Jul 15	30500 May 3	79700 Mar 31 1974
LOWEST DAILY MEAN	3830 Feb 25	3450 Apr 10	2360 Mar 17 1989
ANNUAL SEVEN-DAY MINIMUM	4010 Feb 20	3500 Apr 5	2460 Mar 12 1989
MAXIMUM PEAK FLOW		31100 Apr 29	81400 Apr 1 1974
MAXIMUM PEAK STAGE		23.06 Apr 29	32.71 Jan 4 1997
INSTANTANEOUS LOW FLOW			154 May 15 1948
ANNUAL RUNOFF (AC-FT)	5907000	7103000	7412000
10 PERCENT EXCEEDS	14200	14800	15000
50 PERCENT EXCEEDS	7680	8600	8510
90 PERCENT EXCEEDS	4130	4410	4050

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

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

PERIOD OF RECORD.—April to September 1989, April 1991 to current year (beginning October 1994, irrigation season only).

GAGE.—Water-stage recorder. Elevation of gage is 480 ft above NGVD of 1929, from topographic map.

REMARKS.—Records fair. Canal diverts from Sacramento River 0.3 mi downstream from Southern Pacific Railroad bridge and 0.1 mi upstream from Highway 273; water is used for irrigation. See schematic diagrams for [upper Sacramento River Basin](#) and [Pit and McCloud River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 370 ft³/s, June 9, 1989; no flow at times each year.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	253	---	---	---	---	---	---	114	279	269	251	242
2	250	---	---	---	---	---	---	131	277	271	253	241
3	249	---	---	---	---	---	---	132	282	272	254	244
4	246	---	---	---	---	---	---	131	278	276	250	242
5	244	---	---	---	---	---	---	131	274	280	247	240
6	247	---	---	---	---	---	---	127	276	220	247	240
7	250	---	---	---	---	---	---	123	272	59	243	242
8	249	---	---	---	---	---	---	122	276	150	241	246
9	242	---	---	---	---	---	16	151	280	251	233	243
10	242	---	---	---	---	---	88	156	286	269	235	240
11	245	---	---	---	---	---	131	162	281	223	238	242
12	241	---	---	---	---	---	132	165	285	264	234	246
13	240	---	---	---	---	---	132	179	284	272	232	246
14	238	---	---	---	---	---	130	182	278	279	234	245
15	238	---	---	---	---	---	128	182	285	277	234	244
16	240	---	---	---	---	---	131	177	286	272	233	242
17	246	---	---	---	---	---	130	178	283	270	229	243
18	241	---	---	---	---	---	129	235	282	266	238	246
19	233	---	---	---	---	---	131	269	285	265	247	247
20	226	---	---	---	---	---	134	292	282	270	242	242
21	221	---	---	---	---	---	210	281	294	270	239	241
22	195	---	---	---	---	---	209	263	282	267	237	243
23	161	---	---	---	---	---	194	264	270	268	236	244
24	94	---	---	---	---	---	175	265	267	268	237	244
25	---	---	---	---	---	---	165	261	273	259	247	244
26	---	---	---	---	---	---	162	267	270	257	254	243
27	---	---	---	---	---	---	162	270	263	259	250	243
28	---	---	---	---	---	---	154	269	264	268	247	241
29	---	---	---	---	---	---	159	273	267	264	245	239
30	---	---	---	---	---	---	112	268	276	257	244	239
31	---	---	---	---	---	---	---	271	---	252	244	---
TOTAL	---	---	---	---	---	---	---	6291	8337	7864	7495	7284
MEAN	---	---	---	---	---	---	---	203	278	254	242	243
MAX	---	---	---	---	---	---	---	292	294	280	254	247
MIN	---	---	---	---	---	---	---	114	263	59	229	239
AC-FT	---	---	---	---	---	---	---	12480	16540	15600	14870	14450

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA

LOCATION.—Lat 40°37'41", long 122°27'59", in NE 1/4 SE 1/4 sec.18, T.32 N., R.5 W., [Shasta County](#), Hydrologic Unit 18020112, at powerplant on Spring Creek, 0.4 mi northwest of Keswick, and 4.9 mi northwest of Redding.

PERIOD OF RECORD.—December 1963 to current year.

GAGE.—Discharge computed from powerplant output.

REMARKS.—Water is released from Whiskeytown Lake (station 11371700) through a tunnel to powerplant and then into Keswick Reservoir.

Spring Creek Reservoir releases into Keswick Reservoir at Spring Creek Powerplant. See schematic diagrams of [upper Sacramento River Basin](#) and [Pit and McCloud River Basins](#).

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

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 4,800 ft³/s, May 2, 1983; no flow for many days most years.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2482	32	14	4298	1249	945	1376	239	2087	867	3019	2460
2	2597	14	14	3508	1370	641	1386	278	2698	964	2530	2472
3	2979	354	14	1485	1573	699	1454	251	2260	986	2480	1954
4	2990	606	14	703	1297	778	1418	248	1967	954	2536	2003
5	892	484	14	252	1059	797	1382	1259	1857	974	2531	2007
6	797	1341	14	784	1539	856	1431	1976	1912	938	2526	2015
7	983	1100	14	516	1204	720	1381	1980	1420	1008	2508	2015
8	1002	1216	14	679	1179	14	1389	2408	2805	960	2501	1946
9	21	413	14	1253	1140	14	14	2318	1866	2048	2520	2060
10	1033	14	14	548	1242	1080	14	2287	2011	2127	2544	2009
11	896	171	14	1896	1318	1133	14	2091	2165	1780	1615	1995
12	2157	269	14	1789	1194	1071	14	2041	1893	2526	1953	2028
13	2357	237	14	3072	1157	1023	14	1997	1934	2512	1990	1980
14	2355	256	2058	4291	1194	440	14	1855	2016	2524	1980	2003
15	2417	272	3170	3458	1232	1682	14	2343	2064	1234	1999	2511
16	2470	281	915	1972	1692	2125	740	2725	2058	1100	1929	2499
17	2482	255	3220	810	2043	2173	748	1890	2121	1522	1922	2516
18	2598	229	3056	867	1470	2148	745	1746	1951	1548	1927	2462
19	3277	400	2818	1053	2458	2197	535	1925	1928	1453	2401	2519
20	976	171	1749	868	2088	2182	744	2091	1892	1542	2397	2447
21	251	14	2530	656	1698	2062	751	1977	2009	1457	2948	2428
22	14	14	1962	919	2214	2032	509	2012	1778	1407	2947	2458
23	16	14	289	1165	2453	2036	829	2334	1998	1580	2893	2474
24	30	14	756	963	2947	2033	1967	2334	2321	1549	2921	2576
25	17	14	766	1003	1252	2031	1974	2312	1051	1422	2999	2555
26	14	14	272	823	1011	2029	1975	2135	1050	1974	2971	2527
27	14	20	1936	830	842	2028	275	2374	1001	1895	2494	2548
28	539	14	4299	253	1263	2025	384	2127	1011	2342	2529	2541
29	528	14	4265	249	---	2023	297	2088	1020	895	2517	2581
30	774	14	4257	882	---	1367	251	1884	1027	1564	2485	2517
31	756	---	3863	511	---	1349	---	2045	---	1146	2471	---
TOTAL	40714	8261	42363	42356	42378	43733	24039	57570	55171	46798	75983	69106
MEAN	1313	275	1367	1366	1514	1411	801	1857	1839	1510	2451	2304
MAX	3277	1341	4299	4298	2947	2197	1975	2725	2805	2526	3019	2581
MIN	14	14	14	249	842	14	14	239	1001	867	1615	1946
AC-FT	80760	16390	84030	84010	84060	86740	47680	114200	109400	92820	150700	137100
a	63	177	2610	9250	1130	1270	1730	4140	954	480	294	0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	1506	1161	1053	1260	1534	1507	1294	1493	1861	2279	2202	2040
MAX	3691	3174	4032	4532	4498	4364	4405	4265	3866	3886	3654	3526
(WY)	1989	1967	1974	1974	1974	1983	1983	1983	1969	1968	1977	1988
MIN	18.3	0.000	1.55	2.10	0.000	64.3	5.23	5.45	113	195	201	81.4
(WY)	1996	2002	1992	1991	1995	1996	1987	1991	1996	1996	1996	1996

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	390779	548472	
ANNUAL MEAN	1071	1503	1597
HIGHEST ANNUAL MEAN			3389
LOWEST ANNUAL MEAN			80.8
HIGHEST DAILY MEAN	4299	Dec 28	4800
LOWEST DAILY MEAN	0	Apr 16	0
ANNUAL SEVEN-DAY MINIMUM	0.00	Apr 16	0.00
ANNUAL RUNOFF (AC-FT)	775100		1157000
10 PERCENT EXCEEDS	2330		3420
50 PERCENT EXCEEDS	789		1460
90 PERCENT EXCEEDS	14		0.00

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

11371700 WHISKEYTOWN LAKE NEAR IGO, CA

LOCATION.—Lat 40°37'03", long 122°31'31", unsurveyed, [Shasta County](#), Hydrologic Unit 18010112, Whiskeytown–Shasta–Trinity National Recreation Area, at outlet works to Spring Creek Powerplant, on Clear Creek, 1.8 mi downstream from Whiskey Creek, and 7.8 mi northeast of Igo.

DRAINAGE AREA.—200 mi².

PERIOD OF RECORD.—May 1963 to current year. Prior to October 1964 published as "Whiskeytown Reservoir near Igo".

GAGE.—Water-stage recorder. Datum of gage is 1,232.87 ft above NGVD of 1929 (levels by U.S. Bureau of Reclamation). Contents based on capacity table dated April 1962 provided by U.S. Bureau of Reclamation.

REMARKS.—Lake is formed by earth and rockfill dam. Storage began in May 1963. Usable capacity, 241,088 acre-ft, between elevations 972.0 ft, invert of sluice pipe, and 1,210.00 ft, crest of glory hole spillway. Dead storage, 8 acre-ft. Normal operating pool is from elevation 1,197.0 ft, capacity, 201,288 acre-ft, to 1,210.0 ft, capacity, 241,096 acre-ft. Transbasin water enters the reservoir through Judge Francis Carr Powerplant (station 11525430) and is released through Spring Creek Tunnel to Spring Creek Powerplant (station 11371600) and Keswick Reservoir. Figures given represent total contents at 2400 hours. Lake is used for power generation and recreation. See schematic diagrams of [upper Sacramento River Basin](#) and [Pit and McCloud River Basins](#).

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

EXTREMES (AT 2400 HOURS) FOR PERIOD OF RECORD.—Maximum contents, 258,600 acre-ft, Mar. 2, 1983, elevation, 1,215.34 ft; minimum since first filling, 145,562 acre-ft, Dec. 27, 1992, elevation, 1,176.05 ft.

EXTREMES (AT 2400 HOURS) FOR CURRENT YEAR.—Maximum contents, 247,764 acre-ft, Apr. 30, elevation, 1,212.06 ft; minimum, 201,668 acre-ft, Feb. 24, elevation, 1,197.13 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1962)

1,015	714	1,040	3,055	1,080	15,076	1,140	73,960
1,020	994	1,050	4,898	1,100	27,542	1,180	155,276
1,030	1,797	1,060	7,418	1,120	46,701	1,220	274,389

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237959	215563	205682	210454	205829	201931	206978	246756	238535	238247	237418	237545
2	238439	215533	205358	206419	205888	202398	207482	245944	237704	238247	238375	237895
3	238151	214416	205063	205594	205505	202661	207719	245424	237259	238311	237609	238407
4	237927	212820	204798	205888	205623	202836	209977	244937	237355	238407	238087	238247
5	237895	211532	205240	206801	206036	202807	211293	243030	237768	238471	238087	238151
6	237863	208581	205004	206595	205623	202807	210933	241096	237991	238471	238215	238087
7	237450	208076	205594	206860	205653	203099	212610	239335	239239	238055	238023	237991
8	237101	205888	205270	206743	205770	204769	214326	237927	237863	238055	238279	238183
9	238535	205034	205004	205770	205947	206477	216136	237577	237704	237736	237736	238279
10	237991	204769	204798	206477	205888	206242	217868	237450	237673	237768	237514	238183
11	238023	205181	204533	204857	205653	205829	218810	237991	237418	238439	239015	238087
12	237482	206153	204916	207037	205623	205564	220921	238055	237641	238471	238695	238023
13	236560	205446	206301	208521	205888	206124	225541	238343	237895	238407	238567	237863
14	235639	205829	210784	206566	205829	207096	229903	238823	238023	238407	238951	237673
15	234465	205093	211832	204504	206419	210394	232887	238535	237927	237831	238983	237927
16	233360	205977	222886	204034	206625	209204	234149	237482	237641	237355	239303	238055
17	232288	205240	219604	205152	205535	206949	234908	237418	237418	237927	238023	237736
18	230811	205888	214990	205711	205653	205888	235353	237514	237482	238375	237959	237577
19	228089	204857	211023	205653	204916	206301	235893	237641	237577	238439	237800	237831
20	225882	205711	211203	205682	204916	206389	235956	237387	237800	236942	237704	237577
21	224860	205417	208789	205977	205505	205918	236211	237291	237514	237641	238567	237387
22	224490	205122	206271	206065	204887	205829	236656	237863	238183	238311	239463	237545
23	224058	205682	206477	205770	203742	205270	236656	238343	238119	238023	240072	237228
24	223565	205417	205623	205711	201668	205829	235098	237895	237259	237927	240008	236942
25	223225	205122	204592	205476	202807	205947	234054	237831	238311	238599	237704	237005
26	222793	204798	204857	205446	202690	206271	232666	237991	238311	238087	237355	237418
27	222361	205947	206654	204680	202778	206595	234275	237545	238183	238439	237069	237704
28	220921	206625	213481	205800	202106	206242	238535	237609	238119	236624	236942	237259
29	219573	206301	213360	206271	---	206330	247113	237704	237991	237387	237323	237291
30	217838	206036	212550	205535	---	206301	247764	238503	237831	237863	237482	237609
31	216106	---	214507	205476	---	206890	---	238503	---	238055	237545	---
a	1201.99	1198.62	1201.46	1198.43	1197.28	1198.91	1212.06	1209.19	1208.98	1209.05	1208.89	1208.91
b	-21153	-10070	+8471	-9031	-3370	+4784	+40874	-9261	-672	+224	-510	+64
MAX	238535	215563	222886	210454	206625	210394	247764	246756	239239	238599	240072	238407
MIN	216106	204769	204533	204034	201668	201931	206978	237291	237259	236624	236942	236942

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11372000 CLEAR CREEK NEAR IGO, CA

LOCATION.—Lat 40°30'48", long 122°31'23", unsurveyed, [Shasta County](#), Hydrologic Unit 18020112, on left bank, at old highway bridge on Redding-Igo Road, 1.0 mi northeast of Igo, 7.0 mi downstream from Whiskeytown Dam, 8.3 mi southwest of Redding, and 10.4 mi upstream from mouth.

DRAINAGE AREA.—228 mi².

PERIOD OF RECORD.—October 1940 to current year.

CHEMICAL DATA: Water years 1958–79.

WATER TEMPERATURE: Water years 1965–79.

REVISED RECORDS.—WSP 1345: Drainage area. WSP 1395: 1941(M). WRD CA-03-04: 1983(P).

GAGE.—Water-stage recorder. Datum of gage is 672.99 ft above NGVD of 1929.

REMARKS.—Records good. Low flow completely regulated by Whiskeytown Lake (station 11371700) since May 1963. Transbasin diversion from Trinity River through Judge Francis Carr Powerplant (station 11525430) to Whiskeytown Lake began in April 1963. Diversions from Whiskeytown Lake to Spring Creek Powerplant (station 11371600) began in December 1963. See schematic diagrams of [upper Sacramento River Basin](#) and [Pit and McCloud River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 24,500 ft³/s, Dec. 21, 1955, gage height, 13.75 ft; minimum daily, 9.0 ft³/s, Sept. 4–7, 1950. Since completion of Whiskeytown Dam in 1963, maximum discharge, 18,400 ft³/s, Mar. 3, 1983, gage height, 12.73 ft, from rating curve extended above 12,000 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 30 ft³/s, Oct. 10, 11, 1977.

REVISIONS.—The discharge for water year 1983 peak has been revised to 18,400 ft³/s, Mar. 3, 1983, gage height, 12.73 ft.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	206	208	712	284	246	250	3080	193	96	94	92
2	205	206	208	508	278	244	250	2390	190	96	101	91
3	206	206	208	424	274	245	249	2030	188	96	99	92
4	206	206	208	375	268	243	263	1770	186	96	97	107
5	206	206	208	346	261	241	252	1380	184	96	96	148
6	205	206	207	328	257	239	250	627	184	96	96	146
7	205	228	206	315	255	239	249	377	184	96	96	146
8	208	228	206	307	253	239	247	363	183	96	96	150
9	208	213	207	296	252	239	246	343	178	96	96	163
10	208	212	208	344	250	239	247	328	165	96	96	163
11	208	209	208	369	249	238	247	321	164	96	96	163
12	208	209	208	1030	247	236	317	311	163	96	98	182
13	208	208	337	1230	256	260	536	302	163	96	96	211
14	208	208	761	755	249	331	511	294	162	96	95	212
15	208	208	756	571	285	756	388	291	162	96	95	212
16	208	208	1250	472	373	427	362	286	161	96	96	207
17	208	208	374	415	299	350	339	280	159	96	96	199
18	208	208	293	378	284	315	319	277	159	96	95	199
19	208	207	354	352	280	300	304	274	159	96	95	199
20	206	206	1560	333	272	289	296	270	159	96	95	198
21	206	206	820	320	267	281	311	267	158	95	95	197
22	206	206	398	348	263	278	298	265	156	95	96	198
23	206	206	320	361	260	286	295	262	157	94	96	198
24	206	206	289	339	257	272	390	260	155	95	97	198
25	206	206	272	331	254	267	459	259	154	95	95	198
26	206	206	294	319	251	269	435	257	154	95	96	198
27	206	206	1080	731	249	262	383	254	153	95	93	198
28	206	207	1160	1130	247	257	426	252	137	94	93	198
29	206	207	774	451	---	254	1810	248	110	94	93	198
30	206	208	1850	291	---	252	3590	231	102	95	93	198
31	206	---	2170	288	---	252	---	211	---	94	92	---
TOTAL	6406	6260	17602	14769	7474	8846	14519	18360	4882	2961	2963	5259
MEAN	207	209	568	476	267	285	484	592	163	95.5	95.6	175
MAX	208	228	2170	1230	373	756	3590	3080	193	96	101	212
MIN	205	206	206	288	247	236	246	211	102	94	92	91
AC-FT	12710	12420	34910	29290	14820	17550	28800	36420	9680	5870	5880	10430

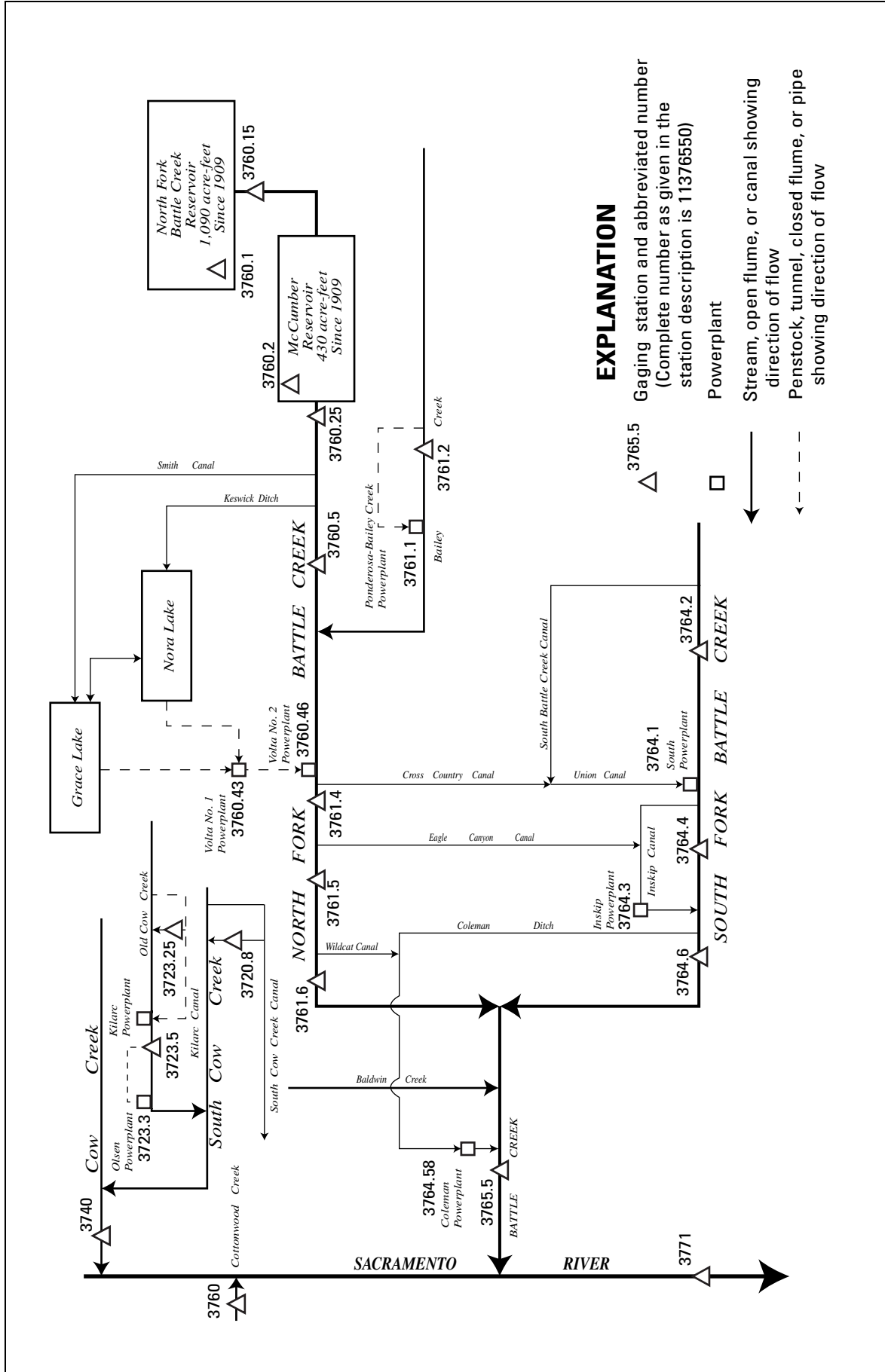


Figure 26. Diversions and storage in Battle Creek and Cow Creek Basins.

11372080 SOUTH COW CREEK CANAL DIVERSION TO SOUTH COW CREEK, NEAR WHITMORE, CA

LOCATION.—Lat 40°35'35", long 121°58'53", in NE 1/4 NW 1/4 sec.33, T.32 N., R.1 W., [Shasta County](#), Hydrologic Unit 18020118, on left bank, 2.5 mi northeast of Cow Creek Powerplant, and 4.3 mi southwest of Whitmore.

PERIOD OF RECORD.—October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1984–86 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Elevation of gage is 1,560 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. The minimum release requirements are 2.0 ft³/s during dry years and 4.0 ft³/s during normal years. Flow is computed to 7.8 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 606.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	4.8	5.1	5.6	6.5	5.6	5.7	6.5	6.8	5.5	5.5	5.3
2	4.8	4.8	5.1	5.2	6.4	5.5	5.9	6.3	6.7	5.5	5.4	5.3
3	4.8	4.8	5.2	5.7	6.2	5.5	5.7	---	6.6	5.5	5.5	5.3
4	4.8	4.8	5.1	6.5	6.0	5.4	5.7	7.2	6.4	5.5	5.5	5.3
5	4.8	4.8	5.1	6.4	5.8	5.3	5.6	6.8	6.3	5.5	5.5	5.3
6	4.8	4.8	5.1	6.3	5.7	5.3	5.5	6.6	6.3	5.5	5.5	5.3
7	4.8	4.8	5.1	6.2	5.7	5.3	5.4	7.1	6.2	5.5	5.5	5.3
8	4.8	4.8	5.1	6.1	5.6	4.9	5.8	7.4	6.2	5.5	5.5	5.3
9	4.8	5.1	5.5	6.1	5.5	4.9	6.1	7.2	6.1	5.5	5.5	5.3
10	4.8	5.2	---	---	5.5	5.2	6.2	7.1	5.9	5.5	5.5	5.3
11	4.8	5.1	5.1	---	5.6	5.1	6.2	6.6	5.8	5.5	5.5	5.3
12	4.8	5.1	5.2	---	5.7	5.1	---	6.3	5.8	5.5	5.5	5.3
13	4.8	5.2	---	---	5.9	5.3	---	6.2	5.7	5.5	5.5	5.3
14	4.8	5.1	---	---	5.9	---	6.8	6.2	5.7	5.5	5.5	5.3
15	4.8	5.1	---	6.9	---	---	6.7	6.2	5.5	5.5	5.5	5.3
16	4.8	5.1	---	6.1	---	6.0	6.5	6.2	5.5	5.5	5.5	5.3
17	4.8	5.1	---	5.6	6.8	6.3	6.4	6.2	5.3	5.5	5.5	5.3
18	4.8	5.1	5.5	5.8	6.4	6.0	6.2	6.1	5.4	5.5	5.5	5.3
19	4.8	5.1	5.5	6.1	6.4	5.8	6.1	6.0	5.5	5.5	5.5	5.3
20	4.8	5.1	6.6	6.0	6.3	5.9	6.1	5.9	5.5	5.5	5.6	5.3
21	4.8	5.1	6.7	5.9	6.2	5.7	6.1	5.9	5.5	5.5	5.5	5.3
22	4.8	5.1	5.7	---	6.1	5.7	6.0	5.9	5.5	5.5	5.6	5.3
23	4.8	5.1	5.2	---	6.1	6.2	6.0	5.9	---	5.5	5.6	5.3
24	4.8	5.1	4.7	7.5	6.0	5.9	---	5.9	5.5	5.5	5.6	5.3
25	4.8	5.1	5.2	7.6	5.9	5.8	---	5.9	5.5	5.5	5.6	5.3
26	4.8	5.1	5.8	7.3	5.8	---	6.9	5.8	5.5	5.5	5.6	5.3
27	4.8	5.1	---	7.3	5.8	5.9	6.6	5.8	5.5	5.5	5.6	5.3
28	4.8	5.1	---	7.0	5.7	6.1	6.7	6.5	5.5	5.5	5.4	5.3
29	4.8	5.1	5.3	6.4	---	5.9	6.5	7.1	5.5	5.5	5.3	5.3
30	4.8	5.2	5.4	6.3	---	5.7	7.0	7.0	5.5	5.5	5.3	5.3
31	4.8	---	---	6.2	---	5.6	---	6.9	---	5.5	5.3	---
TOTAL	148.8	150.9	---	---	---	---	---	---	---	170.5	170.4	159.0
MEAN	4.80	5.03	---	---	---	---	---	---	---	5.50	5.50	5.30
MAX	4.8	5.2	---	---	---	---	---	---	---	5.5	5.6	5.3
MIN	4.8	4.8	---	---	---	---	---	---	---	5.5	5.3	5.3
AC-FT	295	299	---	---	---	---	---	---	---	338	338	315

11372325 KILARC CANAL DIVERSION TO OLD COW CREEK, NEAR WHITMORE, CA

LOCATION.—Lat 40°41'13", long 121°48'27", in SW 1/4 NE 1/4 sec.25, T.32 N., R.1 E., [Shasta County](#), Hydrologic Unit 18020118, on right bank of Kilarc Canal, 3.6 mi upstream of Kilarc Powerplant, and 6.9 mi northeast of Whitmore.

PERIOD OF RECORD.—October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1983–86 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and Cipolletti weir. Elevation of gage is 3,840 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. The minimum release requirement is 2.0 ft³/s during dry or normal years. Flow is computed to 5.0 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project no. 606.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	3.1	3.0	3.5	4.1	3.0	3.9	3.9	3.6	2.7	2.7	2.8
2	2.8	3.1	3.0	3.3	4.0	2.9	3.8	3.9	3.6	2.7	2.8	2.8
3	2.8	3.1	3.0	3.2	3.9	2.9	3.7	3.9	3.4	2.7	2.8	2.8
4	2.8	3.1	3.0	3.2	3.8	2.9	3.6	4.0	3.4	2.7	2.7	2.8
5	2.8	3.1	3.0	3.1	3.8	2.8	3.6	3.9	3.5	2.7	2.7	2.8
6	2.8	3.1	3.0	3.1	3.8	2.8	3.6	3.9	3.5	2.7	2.7	2.8
7	2.8	3.1	3.0	3.5	3.7	2.8	3.5	3.9	3.5	2.7	2.7	2.8
8	2.8	3.5	2.9	4.1	3.7	2.8	3.6	3.9	3.5	2.7	2.7	2.8
9	2.8	3.1	3.0	3.9	3.6	2.8	3.6	3.9	3.5	2.7	2.7	2.8
10	2.8	3.4	3.2	4.5	3.6	2.9	3.6	3.9	3.5	2.7	2.7	2.8
11	2.8	2.8	2.9	4.7	3.5	2.9	3.6	3.9	3.5	2.7	2.7	2.8
12	2.8	2.8	2.9	4.7	3.5	3.0	3.7	3.9	3.5	2.7	2.7	2.8
13	2.8	3.1	4.4	4.9	3.6	3.4	3.6	4.0	3.5	2.7	2.7	2.8
14	2.8	3.1	4.9	4.9	3.7	3.8	3.6	4.0	3.4	2.7	2.7	2.8
15	2.9	3.0	4.6	3.5	3.7	3.7	3.6	4.0	3.4	2.7	2.7	2.8
16	2.9	2.9	4.5	3.0	3.7	2.9	3.5	4.0	3.4	2.7	2.7	2.8
17	2.9	2.9	3.9	3.1	3.6	2.8	3.6	4.0	3.2	2.7	2.7	2.8
18	2.8	2.8	3.2	3.1	3.6	2.7	3.6	3.9	3.0	2.7	2.7	2.8
19	2.8	2.9	3.1	3.1	3.5	2.7	3.6	3.9	3.0	2.7	2.7	2.8
20	2.9	3.1	3.1	3.1	3.5	2.7	3.6	3.9	4.0	2.7	2.8	2.8
21	2.8	3.1	2.9	3.2	3.5	2.7	3.6	3.7	3.7	2.7	2.8	2.8
22	2.8	3.1	2.7	3.4	3.5	2.8	3.6	3.6	2.8	2.7	2.8	2.8
23	2.8	3.1	2.7	3.3	3.4	2.9	3.6	3.6	2.8	2.7	2.8	2.8
24	2.8	3.0	2.7	2.9	3.4	2.8	3.9	3.6	2.7	2.7	2.8	2.8
25	2.8	3.0	2.6	2.9	3.3	2.8	3.7	3.7	2.8	2.7	2.8	2.8
26	2.7	3.0	2.7	2.8	3.3	3.1	3.6	3.7	2.9	2.7	2.8	2.8
27	2.8	3.0	4.2	2.8	3.2	3.0	3.8	3.6	2.9	2.7	2.8	2.8
28	2.9	3.0	4.3	2.9	3.0	3.1	3.9	3.7	2.8	2.7	2.8	2.8
29	2.8	3.0	3.8	2.9	---	3.0	3.9	3.6	2.8	2.7	2.8	2.8
30	3.0	3.0	3.6	3.4	---	3.4	3.9	3.6	2.7	2.7	2.8	2.8
31	3.1	---	3.5	4.0	---	3.7	---	3.6	---	2.7	2.8	---
TOTAL	87.7	91.4	103.3	108.0	100.5	92.5	110.0	118.6	97.8	83.7	85.1	84.0
MEAN	2.83	3.05	3.33	3.48	3.59	2.98	3.67	3.83	3.26	2.70	2.75	2.80
MAX	3.1	3.5	4.9	4.9	4.1	3.8	3.9	4.0	4.0	2.7	2.8	2.8
MIN	2.7	2.8	2.6	2.8	3.0	2.7	3.5	3.6	2.7	2.7	2.7	2.8
AC-FT	174	181	205	214	199	183	218	235	194	166	169	167

11372350 OLD COW CREEK BELOW DIVERSION TO OLSEN POWERPLANT, NEAR WHITMORE, CA

LOCATION.—Lat 40°40'10", long 121°53'27", in NW 1/4 SW 1/4 sec.32, T.33 N., R.1 E., [Shasta County](#), Hydrologic Unit 18020118, on right bank, 1.2 mi downstream from Kilarc Powerhouse, 2.2 mi upstream from Glendenning Creek, and 3.0 mi north of Whitmore.

DRAINAGE AREA.—32.6 mi².

PERIOD OF RECORD.—January 1990 to September 1991 (operated as low-flow station only); October 1996 to September 1997; October 1998 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 2,340 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records regulated bypass flow or natural flow only. During times of powerplant operation the minimum release requirement is 30 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Synergics Incorporated, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 8361.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,280 ft³/s, Jan. 1, 1997, gage height, 7.29 ft; minimum daily, 6.9 ft³/s, Aug. 7, 9, 1997.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	28	25	34	52	32	47	41	33	32	33	30
2	17	28	24	34	32	32	35	46	33	32	32	31
3	17	28	24	34	31	32	32	93	33	32	31	30
4	18	28	24	36	31	32	59	158	33	32	33	31
5	18	28	23	36	33	32	34	115	33	32	34	30
6	18	25	24	35	33	32	32	99	33	32	33	29
7	18	30	23	34	32	32	32	91	33	32	32	30
8	18	34	23	34	32	32	33	90	33	32	31	31
9	17	31	23	34	32	32	32	73	33	32	31	31
10	18	31	29	34	31	32	32	68	33	32	30	31
11	19	31	25	37	31	31	32	71	33	31	31	30
12	18	30	24	35	31	31	38	65	33	31	31	30
13	19	29	36	109	32	32	33	67	33	31	34	29
14	19	29	68	164	32	34	31	71	33	31	34	28
15	18	27	33	99	32	194	31	75	33	31	34	30
16	19	27	43	73	50	86	32	75	33	31	34	29
17	19	27	48	60	32	61	32	68	33	32	33	30
18	21	27	40	37	32	36	33	55	33	33	34	29
19	22	26	39	34	32	35	33	42	33	36	31	29
20	22	27	36	34	31	34	33	38	32	35	33	28
21	22	26	34	34	32	34	32	39	34	36	32	28
22	22	27	36	55	32	39	33	42	33	34	36	29
23	25	26	34	131	32	72	32	46	33	33	34	e28
24	27	26	31	77	31	54	143	52	33	36	33	28
25	27	26	30	77	31	37	80	55	33	34	34	29
26	27	25	34	52	31	164	52	43	32	33	32	28
27	27	25	43	59	32	89	34	37	32	32	33	28
28	27	25	187	52	32	57	54	39	32	33	31	28
29	27	24	76	34	---	36	47	36	33	31	32	29
30	27	25	37	33	---	34	60	34	32	33	31	28
31	28	---	38	31	---	36	---	33	---	34	31	---
TOTAL	658	826	1214	1662	927	1546	1263	1957	986	1011	1008	879
MEAN	21.2	27.5	39.2	53.6	33.1	49.9	42.1	63.1	32.9	32.6	32.5	29.3
MAX	28	34	187	164	52	194	143	158	34	36	36	31
MIN	17	24	23	31	31	31	31	33	32	31	30	28
AC-FT	1310	1640	2410	3300	1840	3070	2510	3880	1960	2010	2000	1740
a	0	0	301	4860	3220	4540	6100	7740	2890	250	14	0

e Estimated.

a Discharge, in acre-feet, for Olsen Powerplant (station 11372330), provided by Synergics Incorporated.

11372350 OLD COW CREEK BELOW DIVERSION TO OLSEN POWERPLANT, NEAR WHITMORE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.2	33.8	47.8	62.9	39.9	37.7	37.6	36.8	29.6	28.1	28.5	29.7
MAX	36.8	45.1	97.5	184	52.7	54.9	58.7	63.1	43.8	42.4	41.1	35.9
(WY)	1999	1999	1997	1997	1997	1999	1999	2003	1999	1999	1999	1999
MIN	21.2	27.5	29.1	27.1	20.4	17.4	18.2	16.7	17.1	10.4	19.7	25.7
(WY)	2003	2003	2001	2001	2001	2001	2001	2001	2001	1997	1997	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL TOTAL	11327		13937			
ANNUAL MEAN	31.0		38.2		36.9	
HIGHEST ANNUAL MEAN					47.2	
LOWEST ANNUAL MEAN					22.5	
HIGHEST DAILY MEAN	187	Dec 28	194	Mar 15	1510	Jan 1 1997
LOWEST DAILY MEAN	17	Oct 1	17	Oct 1	6.9	Aug 7 1997
ANNUAL SEVEN-DAY MINIMUM	18	Oct 1	18	Oct 1	7.1	Aug 5 1997
MAXIMUM PEAK FLOW			380	Mar 15	2280	Jan 1 1997
MAXIMUM PEAK STAGE			5.00	Mar 15	7.29	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	22470		27640		26730	
10 PERCENT EXCEEDS	36		59		45	
50 PERCENT EXCEEDS	31		32		33	
90 PERCENT EXCEEDS	24		25		19	

11374000 COW CREEK NEAR MILLVILLE, CA

LOCATION.—Lat 40°30'19", long 122°13'56", in NE 1/4 NW 1/4 sec.32, T.31 N., R.3 W., [Shasta County](#), Hydrologic Unit 18020101, on right bank, 2.9 mi upstream from mouth, 4.2 mi southwest of Millville, and 4.3 mi downstream from Little Cow Creek.

DRAINAGE AREA.—425 mi².

PERIOD OF RECORD.—October 1949 to current year.

CHEMICAL DATA: Water years 1959–66.

WATER TEMPERATURE: Water years 1966–71, 1973–76, 1978–79.

SEDIMENT DATA: Water year 1978.

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 385.7 ft above NGVD of 1929. Prior to June 11, 1987, at datum 3.00 ft higher.

REMARKS.—Records good. Numerous small diversions upstream from station for irrigation. See schematic diagrams of [upper Sacramento River and Battle Creek and Cow Creek Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 48,700 ft³/s, Nov. 16, 1981, gage height, 24.22 ft, present datum; maximum gage height, 24.55 ft, Dec. 27, 1951, present datum; minimum daily, 0.02 ft³/s, July 29, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of 1937 or 1940 reached a stage of 26.8 ft from floodmarks, present datum; probable backwater effect from high flows on the Sacramento River.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 13,900 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 31	0530	15,200	14.25	Jan. 14	1330	16,000	14.58

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	e20	90	2690	980	448	747	1980	411	103	41	38
2	22	e21	90	1480	1000	422	884	1540	378	101	52	35
3	21	e19	91	1070	815	410	891	2460	356	95	100	33
4	22	e20	90	848	726	404	1160	3800	333	94	83	37
5	23	e28	93	722	661	383	1050	2100	302	95	69	37
6	21	e46	97	630	615	369	832	1640	296	95	66	33
7	19	e72	97	567	574	359	730	1420	284	92	66	36
8	20	162	93	521	544	350	684	1290	272	85	63	43
9	21	172	90	489	515	340	657	1170	263	82	58	49
10	23	191	99	2450	490	345	636	1000	248	80	50	55
11	23	188	118	3580	471	343	624	924	234	76	48	50
12	23	128	101	4490	452	335	765	862	225	73	47	42
13	22	112	1100	7910	666	341	1200	812	218	70	45	34
14	21	104	7720	10600	796	595	1030	777	208	72	46	34
15	18	98	2560	3760	606	6720	811	762	192	70	44	35
16	19	96	4850	2120	4680	2630	737	753	180	60	44	39
17	24	95	2700	1490	2550	1610	716	716	168	63	45	43
18	26	94	819	1180	1200	1090	655	663	159	51	44	42
19	26	93	1130	1000	1340	893	601	617	158	55	39	37
20	25	91	3420	874	1040	1390	572	585	150	62	37	37
21	28	93	5190	819	827	976	573	569	157	61	37	36
22	28	92	1260	2770	726	1330	623	559	129	57	44	35
23	28	93	572	4340	658	3210	548	559	133	51	58	32
24	26	93	384	2070	609	1540	3490	566	137	49	53	32
25	26	89	304	2170	563	1110	3320	583	122	60	51	33
26	e26	88	1600	1540	520	2170	2120	557	119	52	47	34
27	e20	88	7190	1420	504	1380	1370	523	111	48	44	32
28	e18	89	6260	1470	468	1050	1830	504	111	51	45	30
29	e18	88	4380	1110	---	890	2450	492	105	43	43	36
30	e16	89	3040	965	---	796	4430	464	101	39	36	39
31	e18	---	7800	877	---	740	---	437	---	44	33	---
TOTAL	693	2752	63428	68022	25596	34969	36736	31684	6260	2129	1578	1128
MEAN	22.4	91.7	2046	2194	914	1128	1225	1022	209	68.7	50.9	37.6
MAX	28	191	7800	10600	4680	6720	4430	3800	411	103	100	55
MIN	16	19	90	489	452	335	548	437	101	39	33	30
AC-FT	1370	5460	125800	134900	50770	69360	72870	62850	12420	4220	3130	2240

e Estimated.

SACRAMENTO RIVER BASIN

11374000 COW CREEK NEAR MILLVILLE, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	123	473	1149	1740	1669	1362	851	552	229	63.8	38.1	47.5
MAX	1057	2539	3929	5593	5636	5275	3012	2375	1386	324	148	130
(WY)	1963	1982	1984	1970	1998	1983	1963	1998	1998	1998	1998	1983
MIN	19.4	58.3	76.1	80.7	103	118	63.0	54.1	13.5	0.63	0.74	3.19
(WY)	1992	1992	1991	1991	1977	1977	1977	1992	1992	1977	1977	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1950 - 2003	
ANNUAL TOTAL	191806.7		274975			
ANNUAL MEAN	525		753		687	
HIGHEST ANNUAL MEAN					1634	
LOWEST ANNUAL MEAN					66.8	
HIGHEST DAILY MEAN	11100	Feb 20	10600	Jan 14	32500	Dec 27 1951
LOWEST DAILY MEAN	9.7	Aug 15	16	Oct 30	0.02	Jul 29 1977
ANNUAL SEVEN-DAY MINIMUM	13	Aug 11	19	Oct 28	0.09	Jul 23 1977
MAXIMUM PEAK FLOW			16000	Jan 14	48700	Nov 16 1981
MAXIMUM PEAK STAGE			14.58	Jan 14	24.55	Dec 27 1951
ANNUAL RUNOFF (AC-FT)	380400		545400		497900	
10 PERCENT EXCEEDS	1030		2080		1640	
50 PERCENT EXCEEDS	118		218		190	
90 PERCENT EXCEEDS	16		29		24	

11374305 MIDDLE FORK COTTONWOOD CREEK BELOW DIVERSION TO ARBUCKLE MOUNTAIN POWERPLANT, NEAR PLATINA, CA

LOCATION.—Lat 40°24'35", long 122°52'52", in NW 1/4 SE 1/4 sec.4, T.29 N., R.9 W., [Shasta County](#), Hydrologic Unit 18020113, on left bank, 1.2 mi downstream from Cow Gulch, 1.0 mi upstream from Knob Gulch, and 2.4 mi northeast of the town of Platina.

DRAINAGE AREA.—46.0 mi².

PERIOD OF RECORD.—October 1997 to current year (low-flow records only, collected only seasonally during period of upstream diversion for power generation).

GAGE.—Water-stage recorder and V-notched weir. Elevation of gage is 2,050 ft above NGVD of 1929, from topographic map.

REMARKS.—No records computed above 90 ft³/s. Record is only collected during the part of the year when flow is generally high enough to allow for upstream diversion of water to Arbuckle Mountain Powerplant (station 11374300). This year, record was collected December 16 to June 20. Flow was above 90 ft³/s many days during the year. During times of powerplant operation, the minimum release requirement is 5.0 ft³/s. See schematic diagram of [upper Sacramento River Basin](#).

COOPERATION.—Records were collected by Arbuckle Mountain Hydro, LLC, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission Project no. 7178.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	5.6	5.6	6.1	---	5.8	---	---	---
2	---	---	---	---	6.5	5.6	6.7	---	5.8	---	---	---
3	---	---	---	33	5.6	5.8	5.8	---	5.8	---	---	---
4	---	---	---	---	5.6	5.8	5.8	---	5.9	---	---	---
5	---	---	---	---	5.6	6.1	5.8	90	5.8	---	---	---
6	---	---	---	---	5.6	5.8	5.8	77	5.8	---	---	---
7	---	---	---	---	5.6	5.8	5.8	62	5.8	---	---	---
8	---	---	---	87	5.6	5.8	5.8	50	5.8	---	---	---
9	---	---	---	---	5.6	5.8	5.8	34	5.8	---	---	---
10	---	---	---	---	5.6	5.8	5.8	17	5.8	---	---	---
11	---	---	---	---	5.6	5.8	5.8	6.1	5.9	---	---	---
12	---	---	---	---	5.6	5.8	6.1	6.5	5.8	---	---	---
13	---	---	---	---	5.6	6.1	9.2	5.8	5.8	---	---	---
14	---	---	---	---	5.6	5.9	29	6.1	5.8	---	---	---
15	---	---	---	---	6.9	---	18	5.8	5.8	---	---	---
16	---	---	---	---	55	59	22	5.8	5.8	---	---	---
17	---	---	---	---	16	28	27	6.1	5.8	---	---	---
18	---	---	7.9	---	5.6	6.3	10	5.8	5.8	---	---	---
19	---	---	11	83	5.6	5.8	5.6	18	5.8	---	---	---
20	---	---	---	61	5.6	5.6	5.8	5.8	8.1	---	---	---
21	---	---	---	48	5.6	6.5	5.8	5.8	---	---	---	---
22	---	---	---	47	6.5	5.8	5.6	5.8	---	---	---	---
23	---	---	---	50	5.6	5.8	11	5.8	---	---	---	---
24	---	---	---	36	10	5.8	---	5.8	---	---	---	---
25	---	---	10	23	5.9	5.9	87	5.8	---	---	---	---
26	---	---	12	18	5.6	5.8	80	5.8	---	---	---	---
27	---	---	75	5.8	5.6	5.8	77	5.8	---	---	---	---
28	---	---	---	5.6	5.6	5.8	---	5.8	---	---	---	---
29	---	---	---	5.6	---	5.8	---	9.0	---	---	---	---
30	---	---	---	5.6	---	5.8	---	5.8	---	---	---	---
31	---	---	---	5.6	---	5.8	---	6.5	---	---	---	---
TOTAL	---	---	---	---	224.4	---	---	---	---	---	---	---
MEAN	---	---	---	---	8.01	---	---	---	---	---	---	---
MAX	---	---	---	---	55	---	---	---	---	---	---	---
MIN	---	---	---	---	5.6	---	---	---	---	---	---	---
AC-FT	---	---	---	---	445	---	---	---	---	---	---	---
a	---	---	1050	5220	3270	3350	4340	4320	714	---	---	---

a Discharge, in acre-feet, for Arbuckle Mountain Powerplant (station 11374300), provided by Arbuckle Mountain Hydro, LLC.

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.—Lat 40°23'14", long 122°14'15", in NE 1/4 NE 1/4 sec.7, T.29 N., R.3 W., [Shasta County](#), Hydrologic Unit 18020102, on left bank, 2.2 mi east of Cottonwood, and 2.5 mi upstream from mouth.

DRAINAGE AREA.—927 mi².

PERIOD OF RECORD.—October 1940 to current year.

CHEMICAL DATA: Water years 1982–85.

WATER TEMPERATURE: Water years 1963–67, 1977–85.

SEDIMENT DATA: Water years 1957–67, 1977–85.

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

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 363.80 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers). Prior to July 26, 1963, on right bank at datum 3.59 ft higher. July 26, 1963, to Sept. 13, 1972, at site 250 ft downstream on right bank at present datum. Sept. 21, 1967, to Jan. 14, 1968, supplementary gage at a site 1,450 ft downstream on right bank at datum 2.35 ft higher.

REMARKS.—Records fair. Small diversions for irrigation upstream from station. At times during irrigation season, Cottonwood Creek receives water from the Sacramento River by way of Anderson–Cottonwood Irrigation District Canal. See schematic diagrams of [upper Sacramento River](#) and [Battle Creek and Cow Creek Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 86,000 ft³/s, Mar. 1, 1983, gage height, 21.59 ft, from rating curve extended above 34,000 ft³/s, on basis of runoff comparisons with upstream stations then in use; minimum, 15 ft³/s, several days during September 1945.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 11,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0730	31,400	14.92	Dec. 31	0630	39,800	15.86
Dec. 21	0100	15,400	11.64	Jan. 12	2145	18,500	12.10

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	41	83	6600	1610	817	826	3730	755	206	105	58
2	82	43	83	3740	1520	794	805	3180	706	205	102	55
3	83	41	82	2860	1430	776	766	3770	669	197	115	68
4	77	38	82	2580	1350	769	769	3910	646	193	133	66
5	69	42	83	2460	1280	746	735	3040	626	183	127	69
6	62	45	83	2300	1230	725	691	2640	604	174	103	62
7	86	58	84	2140	1170	704	671	2470	587	170	89	66
8	96	140	83	1990	1130	681	654	2280	569	161	98	68
9	90	188	81	1910	1090	666	650	2090	556	159	97	81
10	69	267	83	2500	1050	664	640	1880	545	158	95	68
11	67	354	86	3240	1020	641	650	1740	523	148	84	67
12	63	285	91	6680	989	626	741	1640	494	148	87	62
13	69	215	123	15700	1070	629	1220	1530	481	143	87	57
14	70	221	6450	11100	1060	1100	1640	1470	462	139	89	59
15	64	183	6350	5980	965	4380	1380	1420	433	140	84	59
16	66	156	19200	3970	1640	2670	1270	1340	412	138	82	67
17	69	137	5200	3190	1510	1940	1290	1240	390	136	72	64
18	79	124	2340	2860	1280	1510	1200	1160	367	137	68	59
19	73	115	2510	2650	1210	1290	1110	1090	359	140	67	64
20	69	108	5110	2450	1140	1210	1050	1050	344	131	67	61
21	80	103	8020	2300	1060	1080	1170	1020	327	125	75	62
22	88	100	2420	2360	1010	1070	1450	1000	318	123	66	71
23	106	99	1500	2970	978	1130	1240	1010	303	117	71	71
24	103	98	1130	2430	950	1010	1840	1020	299	110	70	66
25	85	94	925	2300	926	940	2360	1020	286	108	71	64
26	58	89	1100	2220	895	1060	2300	979	263	118	75	61
27	47	86	3080	2160	866	1140	2080	920	250	108	80	59
28	43	85	10500	2040	840	1000	2390	863	239	107	73	56
29	43	84	6290	1860	---	921	4000	845	225	102	63	53
30	39	84	5940	1720	---	862	5340	834	214	93	59	69
31	40	---	23800	1660	---	828	---	808	---	100	59	---
TOTAL	2217	3723	112992	110920	32269	34379	42928	52989	13252	4417	2613	1912
MEAN	71.5	124	3645	3578	1152	1109	1431	1709	442	142	84.3	63.7
MAX	106	354	23800	15700	1640	4380	5340	3910	755	206	133	81
MIN	39	38	81	1660	840	626	640	808	214	93	59	53
AC-FT	4400	7380	224100	220000	64010	68190	85150	105100	26290	8760	5180	3790

SACRAMENTO RIVER BASIN

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	126	350	1245	2179	2447	1952	1180	661	323	120	71.0	76.9
MAX	805	1828	5428	9193	12430	10770	4270	2447	2082	495	178	164
(WY)	1958	1985	1984	1995	1998	1983	1941	1983	1998	1998	1998	1983
MIN	50.6	52.2	49.8	60.3	76.3	146	136	165	74.5	36.8	26.4	30.8
(WY)	1995	1991	1991	1991	1977	1977	1977	1977	1977	1994	1945	1945

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	325409		414611			
ANNUAL MEAN	892		1136		887	
HIGHEST ANNUAL MEAN					2714	
LOWEST ANNUAL MEAN					94.4	
HIGHEST DAILY MEAN	23800	Dec 31	23800	Dec 31	54300	Jan 16 1974
LOWEST DAILY MEAN	38	Nov 4	38	Nov 4	15	Sep 7 1945
ANNUAL SEVEN-DAY MINIMUM	41	Oct 30	41	Oct 30	16	Sep 4 1945
MAXIMUM PEAK FLOW			39800		86000	
MAXIMUM PEAK STAGE			15.86		21.59	
ANNUAL RUNOFF (AC-FT)	645400		822400		642500	
10 PERCENT EXCEEDS	1690		2500		2100	
50 PERCENT EXCEEDS	183		462		227	
90 PERCENT EXCEEDS	58		65		58	

11376015 NORTH FORK BATTLE CREEK BELOW NORTH BATTLE CREEK DAM, NEAR MANZANITA LAKE, CA

LOCATION.—Lat 40°36'10", long 121°39'17", in SE 1/4 SE 1/4 sec.20, T.32 N., R.3 E., [Shasta County](#), Hydrologic Unit 18020118, Lassen National Forest, on left bank, 300 ft downstream from North Battle Creek Dam, and 6.7 mi northwest of Manzanita Lake.

DRAINAGE AREA.—6.40 mi².

PERIOD OF RECORD.—October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978–87 available in files of the U.S. Geological Survey. Fragmentary records for water years 1920–77 in files of the Pacific Gas & Electric Co.

GAGE.—Water-stage recorder and a compound weir consisting of a 5-ft rectangular and V-notch weir. Elevation of gage is 5,560 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. The minimum release requirement is 0.30 ft³/s Oct. 1–31 and Apr. 1 to Sept. 30. No license requirement Nov. 1 to Mar. 31, records not computed. Each fall, North Fork Battle Creek Reservoir is drafted and flows may exceed the rated limits of the weirs; flow is computed to 60 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1121.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	1.4	---	---	---	---	6.9	7.2	28	0.69	0.53	0.46
2	7.5	0.37	---	---	---	---	7.2	7.1	26	0.51	0.52	0.44
3	7.5	0.37	---	---	---	---	7.3	8.5	19	0.57	0.53	0.42
4	7.3	0.30	---	---	---	---	7.3	12	10	0.71	0.60	0.43
5	7.3	0.24	---	---	---	---	7.4	10	6.2	0.69	0.65	0.45
6	7.3	0.23	---	---	---	---	7.5	9.8	12	0.69	0.62	0.53
7	7.3	0.22	---	---	---	---	7.4	10	14	0.64	0.58	0.94
8	7.3	0.22	---	---	---	---	7.3	12	14	0.62	0.58	0.49
9	7.1	0.18	---	---	---	7.0	7.3	9.4	14	0.63	0.59	0.48
10	7.0	0.20	---	---	---	7.0	7.4	9.0	7.4	0.63	0.62	0.45
11	7.0	0.19	---	---	---	7.0	7.4	9.4	3.1	0.61	0.61	5.2
12	6.8	0.18	---	---	---	6.9	8.3	10	1.8	0.58	0.59	9.3
13	6.8	0.17	---	---	---	7.2	10	11	1.5	0.60	0.61	9.3
14	6.8	---	---	---	---	7.3	8.7	13	4.5	0.62	0.61	9.3
15	6.8	---	---	---	---	7.3	7.9	16	5.5	0.66	0.59	9.1
16	6.8	---	---	---	---	7.4	7.5	19	5.9	0.66	0.56	13
17	6.7	---	---	---	---	7.5	7.3	19	5.2	0.64	0.56	15
18	6.6	---	---	---	---	7.4	7.3	18	4.6	0.65	0.53	15
19	6.6	---	---	---	---	7.3	7.1	17	4.1	0.64	0.53	15
20	6.6	---	---	---	---	7.3	7.1	18	3.5	0.57	0.50	15
21	6.6	---	---	---	---	7.4	7.1	21	3.3	0.57	0.51	15
22	6.7	---	---	---	---	7.4	7.1	23	3.0	0.55	0.51	14
23	6.8	---	---	---	---	8.4	7.0	23	2.5	0.53	0.51	14
24	6.6	---	---	---	---	10	10	23	2.1	0.55	0.51	10
25	6.5	---	---	---	---	8.7	11	23	1.7	0.54	0.51	7.0
26	6.2	---	---	---	---	7.9	9.5	26	1.7	0.54	0.50	6.9
27	6.2	---	---	---	---	7.5	8.1	30	1.6	0.53	0.48	6.8
28	6.1	---	---	---	---	7.3	8.2	33	1.5	0.55	0.49	6.7
29	6.0	---	---	---	---	7.0	7.7	34	1.3	0.56	0.48	6.6
30	4.5	---	---	---	---	7.0	7.6	32	1.1	0.55	0.46	6.6
31	3.3	---	---	---	---	7.0	---	30	---	0.56	0.46	---
TOTAL	204.8	---	---	---	---	---	234.9	543.4	210.1	18.64	16.93	213.89
MEAN	6.61	---	---	---	---	---	7.83	17.5	7.00	0.60	0.55	7.13
MAX	7.5	---	---	---	---	---	11	34	28	0.71	0.65	15
MIN	3.3	---	---	---	---	---	6.9	7.1	1.1	0.51	0.46	0.42
AC-FT	406	---	---	---	---	---	466	1080	417	37	34	424
a	96	157	356	739	731	780	886	1005	1080	1010	923	492

a Contents, in acre-feet, at end of month for North Fork Battle Creek Reservoir (station 11376010), provided by Pacific Gas & Electric Co.

11376025 NORTH FORK BATTLE CREEK BELOW McCUMBER DAM, NEAR MANZANITA LAKE, CA

LOCATION.—Lat 40°32'15", long 121°43'53", in SW 1/4 SE 1/4 sec.15, T.31 N., R.2 E., [Shasta County](#), Hydrologic Unit 18020118, on right bank, 300 ft downstream from McCumber Dam, 3.0 mi northwest of Viola, and 9.0 mi west of Manzanita Lake.

DRAINAGE AREA.—27.6 mi².

PERIOD OF RECORD.—October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978–87 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and V-notch weir. Elevation of gage is 4,080 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. Prior to water year 1995 flow computed to 211 ft³/s. The minimum release requirement is 0.30 ft³/s at all times; flow is computed to 800 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1121.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	3.1	4.5	20	39	5.4	e43	e64	e63	5.9	2.6	2.0
2	6.7	2.9	4.5	19	38	5.4	e48	e64	e59	5.7	6.9	2.0
3	6.9	2.5	4.5	19	32	5.4	e37	e52	e56	5.2	5.0	2.0
4	7.2	2.5	4.5	18	32	5.1	e38	e65	e46	5.0	3.6	2.0
5	7.2	2.5	4.5	18	32	4.9	e35	e85	e35	4.5	3.1	2.0
6	7.2	2.5	4.5	18	32	4.9	e32	e100	e32	4.2	3.1	2.0
7	7.2	4.7	4.5	18	31	4.8	e31	e94	e38	4.1	2.9	2.0
8	7.2	6.7	4.5	12	31	4.5	e36	e117	e38	4.1	2.8	1.7
9	7.2	6.7	4.5	6.7	31	4.5	e42	e110	e36	3.6	2.8	1.6
10	7.2	6.7	6.0	6.7	30	4.5	e41	e95	e36	3.4	2.8	1.6
11	7.2	6.7	7.2	6.7	30	4.5	e43	e94	e27	3.1	2.5	12
12	7.2	8.3	7.2	8.9	30	4.5	e46	e92	e25	3.1	2.3	20
13	7.1	9.4	7.2	11	29	4.5	e59	e94	e24	3.0	2.2	20
14	6.7	9.4	7.2	72	28	4.5	e52	e87	e23	2.8	2.2	20
15	6.7	9.4	9.3	65	28	26	e48	e90	e25	2.8	2.2	19
16	6.5	9.4	13	40	27	45	e46	e92	e24	3.6	2.2	19
17	6.2	7.4	7.9	31	23	34	e46	e85	23	3.7	2.2	18
18	5.4	5.4	3.4	28	20	27	e45	e78	21	3.4	2.2	18
19	5.5	4.4	7.7	25	19	25	e30	e73	19	3.5	2.2	17
20	5.8	3.1	11	22	19	31	e41	e74	18	3.5	2.2	17
21	5.6	3.0	11	23	18	26	e42	e75	16	3.0	2.2	17
22	5.9	2.6	11	32	18	27	e41	e77	15	2.8	2.4	12
23	5.9	2.5	11	82	14	39	e40	e78	14	2.7	2.5	7.7
24	5.9	2.5	11	51	7.5	33	e95	e77	11	2.9	2.4	7.7
25	5.9	2.5	11	53	5.6	32	e61	e77	9.8	3.2	2.2	7.7
26	5.9	2.5	11	44	5.4	112	e61	e74	9.3	2.8	2.2	7.7
27	5.9	3.7	11	44	5.4	e83	e56	e74	8.4	2.9	2.2	7.4
28	6.3	4.5	11	53	5.4	e64	e64	e74	7.7	2.7	2.1	7.2
29	6.3	4.5	11	42	---	e47	e60	e74	7.0	2.5	2.0	7.2
30	6.3	4.5	13	36	---	e41	e64	e70	6.2	2.2	2.0	7.2
31	4.8	---	18	33	---	e40	---	e66	---	2.3	2.0	---
TOTAL	199.7	146.5	257.6	958.0	660.3	799.4	1423	2521	772.4	108.2	82.2	287.7
MEAN	6.44	4.88	8.31	30.9	23.6	25.8	47.4	81.3	25.7	3.49	2.65	9.59
MAX	7.2	9.4	18	82	39	112	95	117	63	5.9	6.9	20
MIN	4.8	2.5	3.4	6.7	5.4	4.5	30	52	6.2	2.2	2.0	1.6
AC-FT	396	291	511	1900	1310	1590	2820	5000	1530	215	163	571
a	122	126	299	428	207	436	445	445	428	e428	420	161

e Estimated.

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

POWERPLANTS IN BATTLE CREEK AND COW CREEK BASINS

- 11376043 VOLTA NO. 1 POWERPLANT NEAR MANTON, CA, Lat 40°27'34", long 121°51'57", in NW 1/4 NE 1/4 sec.16, T.30 N., R.1 E., [Shasta County](#), Hydrologic Unit 18020118, 1.7 mi north of Manton. Powerplant consists of one unit with a total of 8,550 KW normal operating capacity. See schematic diagram of [Battle Creek and Cow Creek Basins](#).
- 11376046 VOLTA NO. 2 POWERPLANT NEAR MANTON, CA, Lat 40°27'08", long 121°51'38", in NE 1/4 SW 1/4 sec.16, T.30 N., R.1 E., [Shasta County](#), Hydrologic Unit 18020118, 1.2 mi northeast of Manton. Powerplant consists of one unit with a total of 956 KW normal operating capacity. See schematic diagram of [Battle Creek and Cow Creek Basins](#).
- 11376410 SOUTH POWERPLANT NEAR MANTON, CA, Lat 40°23'45", long 121°52'38", in NE 1/4 SE 1/4 sec.5, T.29 N., R.1 E., [Tehama County](#), Hydrologic Unit 18020118, 2.7 mi south of Manton. Powerplant consists of one unit with a total of 6,750 KW normal operating capacity. See schematic diagram of [Battle Creek and Cow Creek Basins](#).
- 11376430 INSKIP POWERPLANT NEAR MANTON, CA, Lat 40°24'04", long 121°57'48", in NE 1/4 NW 1/4 sec.3, T.29 N., R.1 W., [Tehama County](#), Hydrologic Unit 18020118, 5.5 mi southwest of Manton. Powerplant consists of one unit with a total of 7,650 KW normal operating capacity. See schematic diagram of [Battle Creek and Cow Creek Basins](#).
- 11376458 COLEMAN POWERPLANT NEAR COTTONWOOD, CA, Lat 40°23'48", long 122°07'16", in SW 1/4 SW 1/4 sec.32, T.30 N., R.2 W., [Shasta County](#), Hydrologic Unit 18020006, 8.5 mi east of Cottonwood. Powerplant consists of one unit with a total of 12,150 KW normal operating capacity. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

MONTHLY DISCHARGE, IN ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Volta No. 1	Volta No. 2	South	Inskip	Coleman
Oct.	2,520	3,140	7,890	8,470	9,550
Nov.	2,390	2,960	8,690	9,740	10,440
Dec.	3,190	3,560	8,250	11,180	13,710
Jan.	6,140	6,160	13,000	16,570	19,720
Feb.	5,380	5,620	11,830	12,490	17,700
Mar.	5,640	5,800	11,790	13,530	19,310
Apr.	6,850	6,120	12,820	16,160	18,830
May	6,390	5,680	13,090	16,900	19,360
June	5,720	5,620	12,560	16,380	18,940
July	4,200	4,800	12,490	16,070	16,770
Aug.	3,470	4,110	11,170	12,450	6,750
Sept.	3,220	3,820	9,890	10,650	10,780

Note.—Records were provided by Pacific Gas & Electric Co., in connection with Federal Energy Regulatory Commission project no. 1121. Unpublished records for water years 1979–86 available in files of U.S.Geological Survey. Fragmentary records prior to water year 1979 available in files of Pacific Gas & Electric Co.

11376050 NORTH FORK BATTLE CREEK BELOW DIVERSION TO KESWICK CANAL, NEAR MANTON, CA

LOCATION.—Lat 40°30'00", long 121°48'29", in NW 1/4 NE 1/4 sec.36, T.31 N., R.1 E., [Shasta County](#), Hydrologic Unit 18020118, on right bank, 4.2 mi east of Shingletown, and 5.5 mi northeast of Manton.

PERIOD OF RECORD.—October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1978–86 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 3,600 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. The minimum release requirement is 3.0 ft³/s at all times; flow is computed to 5.6 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1121.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.5	3.6	3.7	3.7	3.6	3.8	4.1	3.7	3.5	3.6	3.5
2	3.5	3.5	3.6	3.6	3.7	3.6	3.8	4.4	3.7	3.5	3.7	3.5
3	3.5	3.5	3.6	3.5	3.6	3.6	3.8	4.4	3.6	3.5	3.6	3.3
4	3.6	3.5	3.6	3.5	3.6	3.5	3.8	4.5	3.6	3.7	3.5	3.6
5	3.6	3.5	3.6	3.5	3.6	3.5	3.8	4.4	3.5	3.7	3.5	3.5
6	3.6	3.5	3.6	3.4	3.6	3.5	3.8	4.4	3.5	3.7	3.5	3.5
7	3.5	3.5	3.6	3.4	3.6	3.5	3.8	4.4	3.6	3.7	3.5	3.5
8	3.5	3.6	3.5	3.4	3.6	3.5	3.8	4.4	3.7	3.7	3.5	3.5
9	3.5	3.5	3.5	3.4	3.6	3.5	3.8	4.4	3.7	3.6	3.5	3.4
10	3.5	3.5	3.6	3.7	3.5	3.5	3.8	4.5	3.7	3.3	3.5	3.4
11	3.5	3.5	3.6	4.1	3.5	3.5	3.8	4.6	3.6	3.4	3.5	3.5
12	3.5	3.5	3.6	4.1	3.5	3.5	3.8	---	3.6	3.7	3.5	3.6
13	3.4	3.5	3.6	4.3	3.5	3.5	3.7	---	---	3.7	3.5	3.5
14	3.4	3.5	3.7	4.3	3.5	3.6	3.7	---	4.5	3.7	3.5	3.4
15	3.4	3.5	3.7	4.3	3.5	4.0	3.8	4.0	3.6	3.7	3.5	3.6
16	3.5	3.5	3.8	4.4	3.6	4.0	3.8	3.4	3.8	3.7	3.5	3.7
17	3.5	3.4	3.7	4.6	3.5	4.0	3.8	3.4	3.6	3.6	3.6	3.7
18	3.5	3.5	3.5	4.6	3.5	3.9	3.8	3.4	3.8	3.6	3.6	3.7
19	3.5	3.5	3.5	4.5	3.7	3.9	3.8	3.5	3.7	3.2	3.6	3.7
20	3.5	3.6	3.6	4.5	3.7	4.0	3.8	3.5	3.7	3.3	3.5	3.6
21	3.5	3.6	3.6	4.5	3.6	3.9	3.8	3.5	3.7	3.6	3.5	3.6
22	3.5	3.6	3.6	4.1	3.6	3.9	3.8	3.6	3.7	3.6	3.6	3.6
23	3.5	3.6	3.6	3.7	3.5	4.0	3.8	3.7	3.6	3.6	3.5	3.4
24	3.5	3.6	3.6	3.6	3.5	4.0	3.3	3.7	3.6	3.6	3.5	3.5
25	3.5	3.6	3.6	3.6	3.6	4.0	3.3	3.7	3.5	3.6	3.5	3.7
26	3.5	3.6	3.6	3.6	3.6	4.0	4.3	3.7	3.6	3.5	3.5	3.6
27	3.5	3.6	3.7	3.6	3.6	3.9	4.2	3.7	3.6	3.5	3.5	3.6
28	3.5	3.6	4.2	3.7	3.6	3.8	4.2	3.7	3.7	3.5	3.5	3.6
29	3.5	3.6	4.1	3.7	---	3.8	4.1	3.7	3.7	3.5	3.5	3.6
30	3.5	3.6	3.8	3.7	---	3.8	4.1	3.7	3.7	3.5	3.5	3.6
31	3.5	---	3.8	3.7	---	3.8	---	3.7	---	3.6	3.6	---
TOTAL	108.5	106.1	113.3	120.3	100.2	116.1	114.7	---	---	110.6	109.4	106.5
MEAN	3.50	3.54	3.65	3.88	3.58	3.75	3.82	---	---	3.57	3.53	3.55
MAX	3.6	3.6	4.2	4.6	3.7	4.0	4.3	---	---	3.7	3.7	3.7
MIN	3.4	3.4	3.5	3.4	3.5	3.5	3.3	---	---	3.2	3.5	3.3
AC-FT	215	210	225	239	199	230	228	---	---	219	217	211

11376120 BAILEY CREEK BELOW DIVERSION TO PONDEROSA—BAILEY CREEK POWERPLANT, NEAR MANTON, CA

LOCATION.—Lat 40°27'59", long 121°59'20", in NE 1/4 SE 1/4 sec.11, T.30 N., R.1 E., [Shasta County](#), Hydrologic Unit 18020118, on right bank, 250 ft downstream from Spring Creek, 0.4 mi upstream from Ponderosa Way, 3.3 mi northeast of Manton, and 3.9 mi southeast of Shingletown.

DRAINAGE AREA.—29.6 mi².

PERIOD OF RECORD.—January 1990 to current year (operated as a low-flow station only).

GAGE.—Water-stage recorder and V-notch weir. Elevation of gage is 2,650 ft above NGVD of 1929, from topographic map.

REMARKS.—During times of powerplant operation the minimum release requirement is 17 ft³/s; flow is computed to 109 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Snow Mountain Hydro, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 8357.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	16	18	18	20	20	20	19	69	18	18	18
2	15	16	18	18	20	20	20	18	62	18	18	18
3	15	16	18	18	20	20	20	19	68	18	18	18
4	15	16	18	18	20	21	20	34	74	18	18	18
5	15	16	18	18	20	20	20	18	77	18	18	18
6	15	16	18	18	20	20	20	18	79	18	18	18
7	15	18	18	18	20	20	20	18	83	18	19	18
8	15	18	18	18	20	20	20	18	88	18	23	18
9	15	18	18	18	20	20	20	18	84	27	24	18
10	15	18	19	18	20	20	20	18	78	18	23	11
11	15	20	18	21	20	20	20	18	68	18	23	e18
12	15	21	17	19	20	20	20	18	59	18	22	e18
13	15	22	19	36	20	20	20	18	46	18	22	e18
14	15	20	61	51	20	20	20	18	33	18	22	e18
15	15	19	28	21	20	21	20	18	25	18	21	e18
16	15	19	55	20	20	20	20	18	28	18	21	18
17	15	19	41	20	20	20	20	18	44	18	21	18
18	15	18	23	20	20	20	20	18	57	18	21	18
19	16	18	15	20	20	20	20	18	43	18	20	18
20	16	18	16	20	20	20	20	18	29	18	20	18
21	16	20	21	20	20	20	20	18	23	18	e18	18
22	16	20	18	20	20	20	20	23	19	18	e18	18
23	16	19	21	20	20	20	19	55	18	18	e18	18
24	16	19	24	20	20	20	21	73	18	18	e18	18
25	16	19	24	20	20	20	19	79	18	18	e18	17
26	16	18	25	20	20	52	20	65	18	18	21	17
27	16	18	21	20	20	22	20	54	18	18	21	17
28	16	18	35	20	20	20	20	80	18	18	21	17
29	16	18	18	20	---	20	20	107	24	18	20	17
30	16	18	18	20	---	20	20	103	18	18	18	e17
31	16	---	18	20	---	20	---	84	---	18	18	---
TOTAL	478	549	717	648	560	656	599	1119	1386	567	619	527
MEAN	15.4	18.3	23.1	20.9	20.0	21.2	20.0	36.1	46.2	18.3	20.0	17.6
MAX	16	22	61	51	20	52	21	107	88	27	24	18
MIN	15	16	15	18	20	20	19	18	18	18	18	11
AC-FT	948	1090	1420	1290	1110	1300	1190	2220	2750	1120	1230	1050
a	0	48	421	2010	1040	1480	2600	3610	3690	2180	180	0

e Estimated.

a Discharge, in acre-feet, for Ponderosa-Bailey Creek Powerplant (station 11376110), provided by Snow Mountain Hydro.

11376150 NORTH FORK BATTLE CREEK BELOW DIVERSION TO EAGLE CANYON CANAL, NEAR MANTON, CA

LOCATION.—Lat 40°25'26", long 121°55'09", in NW 1/4 SE 1/4 sec.25, T.30 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on left bank, at diversion dam to Eagle Canyon Canal, and 2.8 mi southwest of Manton.

DRAINAGE AREA.—186 mi².

PERIOD OF RECORD.—October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978–87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.—Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,400 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. Prior to water year 1996 flow computed to 7.2 ft³/s. The minimum release requirement is 3.0 ft³/s at all times; flow is computed to 50 ft³/s. See schematic diagram of Battle Creek and Cow Creek Basins.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1121.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e26	e27	e28	---	---	e41	---	---	---	---	e33	e30
2	e26	e27	e28	---	---	e37	---	---	---	---	e34	e30
3	e26	e27	e28	---	---	e37	---	---	---	---	e34	e30
4	e26	e27	e28	---	---	e36	---	---	---	e50	e33	e30
5	e26	e27	e28	---	---	e35	---	---	---	e48	e32	e30
6	e26	e27	e28	e43	---	e33	---	---	---	e48	e31	e29
7	e26	e29	e28	e36	---	e32	---	---	---	e50	e31	e30
8	e26	e32	e28	e31	---	e31	---	---	---	---	e32	e30
9	e26	e35	e28	e32	---	e31	---	---	---	e44	e31	e30
10	e26	e33	e28	---	---	e37	---	---	---	e40	e31	e30
11	e26	e29	e28	---	---	e44	---	---	---	e37	e31	e30
12	e26	e29	e28	---	---	e37	---	---	---	e35	e31	e30
13	e26	e29	e30	---	---	e31	---	---	---	e37	e30	e30
14	e26	e28	---	---	---	---	---	---	---	e36	e30	e30
15	e26	e28	---	---	---	---	---	---	---	e33	e30	e30
16	e26	e28	---	---	---	---	---	---	---	e32	e30	e29
17	e26	e28	---	---	---	---	---	---	---	e28	e30	e30
18	e26	e28	---	---	---	---	---	---	---	e28	e30	e30
19	e26	e28	---	---	---	---	---	---	---	e31	e30	e30
20	e27	e28	e34	---	---	---	---	---	---	e31	e29	e30
21	e27	e28	e40	---	---	---	---	---	---	e34	e29	e30
22	e27	e28	e30	---	---	---	---	---	---	e35	e30	e30
23	e27	e28	e28	---	---	---	---	---	---	e30	e30	e30
24	e27	e28	e28	---	---	---	---	---	---	e29	e30	e30
25	e27	e28	e28	---	---	---	---	---	---	e28	e30	e30
26	e27	e28	e35	---	---	---	---	---	---	e26	e30	e30
27	e26	e28	---	---	e48	---	---	---	---	e26	e30	e30
28	e27	e28	---	---	e42	---	---	---	---	e28	e30	e30
29	e27	e28	---	---	---	---	---	---	---	e29	e30	e30
30	e27	e28	---	---	---	---	---	---	---	e28	e30	e30
31	e27	---	---	---	---	---	---	---	---	e31	e30	---
TOTAL	817	854	---	---	---	---	---	---	---	---	952	898
MEAN	26.4	28.5	---	---	---	---	---	---	---	---	30.7	29.9
MAX	27	35	---	---	---	---	---	---	---	---	34	30
MIN	26	27	---	---	---	---	---	---	---	---	29	29
AC-FT	1620	1690	---	---	---	---	---	---	---	---	1890	1780

e Estimated.

11376160 NORTH FORK BATTLE CREEK BELOW DIVERSION TO WILDCAT CANAL, NEAR MANTON, CA

LOCATION.—Lat 40°25'14", long 121°57'36", in SE 1/4 SW 1/4 sec.27, T.30 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on left bank, at diversion dam to Wildcat Canal, and 4.9 mi west of Manton.

DRAINAGE AREA.—189 mi².

PERIOD OF RECORD.—October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978–87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.—Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,080 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. The minimum release requirement is 3.0 ft³/s at all times; flow is computed to 60 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1121.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	30	31	---	---	44	---	---	---	---	36	33
2	29	30	31	---	---	40	---	---	---	---	37	33
3	29	30	31	---	---	40	---	---	---	55	37	33
4	29	30	31	---	---	39	---	---	---	53	36	33
5	29	30	31	59	---	38	---	---	---	51	35	33
6	29	30	31	46	---	36	---	---	---	51	34	32
7	29	32	31	39	---	35	---	---	---	53	34	33
8	29	35	31	34	---	34	---	---	---	54	35	33
9	29	38	31	35	---	34	---	---	---	47	34	33
10	29	34	31	---	---	40	---	---	---	43	34	33
11	29	32	31	---	---	47	---	---	---	40	34	33
12	29	32	31	---	58	40	---	---	---	38	34	33
13	29	32	33	---	---	34	---	---	---	40	33	33
14	29	31	---	---	---	57	---	---	---	39	33	33
15	29	31	---	---	---	---	---	---	---	36	33	33
16	29	31	---	---	---	---	---	---	---	35	33	32
17	29	31	---	---	---	---	---	---	---	31	33	33
18	29	31	---	---	---	---	---	---	---	31	33	33
19	29	31	---	---	---	---	---	---	---	34	33	33
20	30	31	37	---	---	---	---	---	---	34	32	33
21	30	31	43	---	---	---	---	---	---	37	32	33
22	30	31	33	---	---	---	---	---	---	38	33	33
23	30	31	31	---	---	---	---	---	---	33	33	33
24	30	31	31	---	---	---	---	---	---	32	33	33
25	30	31	31	---	---	---	---	---	---	31	33	33
26	30	31	38	---	---	---	---	---	---	29	33	33
27	29	31	---	---	51	---	---	---	---	29	33	33
28	30	31	---	---	45	---	---	---	---	31	33	33
29	30	31	---	---	---	---	---	---	---	32	33	33
30	30	31	---	---	---	---	---	---	---	31	33	33
31	30	---	---	---	---	---	---	---	---	34	33	---
TOTAL	910	942	---	---	---	---	---	---	---	---	1045	988
MEAN	29.4	31.4	---	---	---	---	---	---	---	---	33.7	32.9
MAX	30	38	---	---	---	---	---	---	---	---	37	33
MIN	29	30	---	---	---	---	---	---	---	---	32	32
AC-FT	1800	1870	---	---	---	---	---	---	---	---	2070	1960

11376440 SOUTH FORK BATTLE CREEK BELOW DIVERSION TO INSKIP CANAL, NEAR MANTON, CA

LOCATION.—Lat 40°23'43", long 121°52'57", in NW 1/4 SE 1/4 sec.5, T.29 N., R.1 E., [Tehama County](#), Hydrologic Unit 18020118, on left bank, at diversion dam to Inskip Canal, and 2.8 mi south of Manton.

DRAINAGE AREA.—88.3 mi².

PERIOD OF RECORD.—October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978–87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.—Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,440 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. Prior to Feb. 6, 1998, flow computed to 12 ft³/s. The minimum release requirement is 5.0 ft³/s at all times; flow computed to 60 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1121.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	5.7	6.3	---	---	---	---	---	---	34	8.9	6.6
2	7.1	5.7	6.2	---	---	---	---	---	---	31	11	6.3
3	6.2	5.7	6.3	---	---	---	---	---	---	25	13	6.2
4	5.6	5.7	6.3	---	---	---	---	---	---	22	11	6.5
5	5.6	5.8	6.3	---	---	---	---	---	---	20	11	6.2
6	5.5	5.8	6.2	57	---	53	---	---	---	19	11	5.9
7	5.7	6.3	6.2	47	---	33	---	---	---	18	10	5.9
8	5.7	---	6.2	43	---	32	---	---	---	16	9.0	6.3
9	5.8	34	6.3	41	---	30	---	---	---	15	8.7	7.0
10	5.8	33	6.3	---	---	30	---	---	---	13	8.2	7.6
11	5.8	10	6.2	---	---	20	---	---	---	12	8.0	7.1
12	5.8	6.0	6.2	---	---	29	---	---	---	12	8.6	9.0
13	5.9	6.0	23	---	---	---	---	---	---	12	9.0	8.5
14	5.9	6.0	---	---	---	---	---	---	---	11	8.7	8.5
15	5.7	6.0	---	---	---	---	---	---	---	11	8.4	8.5
16	5.6	6.1	---	---	---	---	---	---	---	11	7.3	7.0
17	5.7	6.1	---	---	---	---	---	---	---	10	7.0	5.5
18	5.8	6.1	---	---	---	---	---	---	---	9.3	7.0	5.6
19	5.8	6.0	23	---	---	---	---	---	---	9.4	6.8	5.9
20	5.8	6.1	---	---	---	---	---	---	---	9.4	7.1	5.9
21	5.8	6.1	---	---	---	---	---	---	---	9.0	6.8	5.5
22	5.8	6.1	43	---	---	---	---	---	---	8.8	8.6	5.1
23	5.9	6.2	17	---	---	---	---	---	---	8.8	9.3	7.3
24	5.8	6.3	10	---	---	---	---	---	---	8.5	7.2	11
25	5.8	6.2	8.5	---	---	---	---	---	59	8.8	6.5	8.4
26	5.8	6.2	12	---	---	---	---	---	55	8.2	6.5	7.1
27	5.8	6.2	---	---	---	---	---	---	52	7.6	6.8	7.1
28	5.8	6.2	---	---	---	---	---	---	49	7.3	6.5	7.1
29	5.8	6.2	---	---	---	---	---	---	46	8.5	7.1	7.1
30	5.8	6.2	---	---	---	---	---	---	36	9.4	7.6	7.3
31	5.8	---	---	---	---	---	---	---	---	8.9	7.0	---
TOTAL	181.9	---	---	---	---	---	---	---	---	413.9	259.6	209.0
MEAN	5.87	---	---	---	---	---	---	---	---	13.4	8.37	6.97
MAX	7.2	---	---	---	---	---	---	---	---	34	13	11
MIN	5.5	---	---	---	---	---	---	---	---	7.3	6.5	5.1
AC-FT	361	---	---	---	---	---	---	---	---	821	515	415

11376460 SOUTH FORK BATTLE CREEK BELOW DIVERSION TO COLEMAN CANAL, NEAR MANTON, CA

LOCATION.—Lat 40°24'10", long 121°58'02", in NW 1/4 NW 1/4 sec.3, T.29 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on right bank, 7.5 mi southwest of Shingletown, and 5.7 mi southwest of Manton.

DRAINAGE AREA.—102 mi².

PERIOD OF RECORD.—October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978–86 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.—Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 980 ft above NGVD of 1929, from topographic map.

REMARKS.—This station records fishwater release only. Prior to water year 1996 flow computed to 10 ft³/s. The minimum release requirement is 5.0 ft³/s at all times; flow is computed to 45 ft³/s. See schematic diagram of [Battle Creek and Cow Creek Basins](#).

COOPERATION.—Records were collected by the Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1121.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	25	13	31	---	22	---	---	---	40	34	33
2	13	26	12	---	---	22	---	---	---	36	34	33
3	13	26	11	---	---	20	---	---	---	32	34	33
4	13	25	12	---	---	19	---	---	---	32	---	33
5	14	25	12	---	---	20	---	---	---	32	---	33
6	14	27	12	41	---	20	---	---	---	32	---	33
7	13	28	12	29	42	18	---	---	---	32	---	33
8	13	33	12	26	37	18	---	---	---	33	---	34
9	13	45	12	24	33	18	---	---	---	34	---	34
10	13	37	12	---	30	17	---	---	---	33	---	34
11	14	38	12	---	26	16	---	---	---	34	---	34
12	14	31	12	---	24	16	---	---	---	33	---	33
13	13	28	16	---	---	18	---	---	---	33	---	33
14	13	28	---	---	---	---	---	---	---	34	---	34
15	14	21	---	---	---	---	---	---	---	34	---	33
16	13	26	---	---	---	---	---	---	---	34	---	34
17	14	26	---	---	---	---	---	---	---	34	---	34
18	15	26	40	---	---	---	---	---	---	34	44	34
19	14	28	24	---	---	---	---	---	---	34	33	34
20	15	28	43	---	---	---	---	---	---	34	33	34
21	19	28	44	---	---	---	---	---	---	34	33	33
22	24	28	35	---	---	---	---	---	---	34	33	33
23	24	28	13	---	---	---	---	---	---	34	33	34
24	25	27	16	---	25	---	---	---	41	34	33	34
25	26	17	17	---	20	---	---	---	32	34	33	34
26	26	11	20	---	22	---	---	---	30	34	33	34
27	26	11	---	---	29	---	---	---	33	34	33	34
28	26	11	36	---	22	---	---	---	39	34	33	33
29	25	12	26	---	---	---	---	---	39	34	33	33
30	24	13	25	---	---	---	---	---	40	34	33	34
31	25	---	30	---	---	---	---	---	---	34	33	---
TOTAL	542	763	---	---	---	---	---	---	---	1048	---	1006
MEAN	17.5	25.4	---	---	---	---	---	---	---	33.8	---	33.5
MAX	26	45	---	---	---	---	---	---	---	40	---	34
MIN	13	11	---	---	---	---	---	---	---	32	---	33
AC-FT	1080	1510	---	---	---	---	---	---	---	2080	---	2000

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

LOCATION.—Lat 40°23'54", long 122°08'43", in SW 1/4 NE 1/4 sec.1, T.29 N., R.3 W., [Shasta County](#), Hydrologic Unit 18020101, U.S. Fish and Wildlife Service land, on right bank, 3.7 mi downstream from Spring Branch, 5.7 mi upstream from mouth, and 7.0 mi east of Cottonwood.

DRAINAGE AREA.—357 mi².

PERIOD OF RECORD.—October 1940 to September 1996, October 1996 to September 1997 (operated as a low-flow station only), October 1997 to current year.

CHEMICAL DATA: Water years 1962–66.

WATER TEMPERATURE: Water years 1966–79.

SEDIMENT DATA: Water years 1962–70.

GAGE.—Water-stage recorder. Elevation of gage is 415 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 1961, water-stage recorder at site 0.6 mi upstream at different datum published as station 11376500, "Battle Creek near Cottonwood"; low-flow records not equivalent owing to Coleman Fish Hatchery diversion, maximum flows considered equivalent.

REMARKS.—Records good. Some regulation at low flows by five small powerplants, several small reservoirs, and Coleman Fish Hatchery.

Coleman Fish Hatchery diverts from 50 to 90 ft³/s and pumps ground water for temperature control, which is returned above the station. At times, 10 ft³/s diverted upstream from station for irrigation. See schematic diagrams of [Battle Creek and Cow Creek Basins](#) and [upper Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 24,300 ft³/s, Jan. 24, 1970, gage height, 14.75 ft, from rating curve extended above 4,200 ft³/s, on basis of slope-area measurement of peak flow; minimum, 52 ft³/s, Aug. 8, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum stage known, 15.8 ft, Dec. 11, 1937, from floodmarks, site and datum then in use, discharge, 35,000 ft³/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0430	5,220	6.75	Feb. 16	0245	3,590	5.38
Dec. 28	1945	5,840	7.21	Mar. 15	0815	5,930	7.27
Jan. 13	2230	5,160	6.70	Mar. 26	0730	4,350	6.04
Jan. 22	2230	3,300	5.11				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	218	235	872	692	432	724	889	830	434	295	256
2	215	218	235	647	711	418	846	837	795	422	308	253
3	214	217	234	556	627	416	739	1210	783	411	330	251
4	218	217	235	502	585	415	760	1790	778	403	314	254
5	215	217	236	476	555	401	699	1130	765	400	288	253
6	214	216	233	454	542	390	644	974	751	398	283	253
7	212	240	233	437	514	382	614	914	742	400	281	252
8	211	371	230	420	502	381	638	985	741	398	283	255
9	210	441	231	405	492	376	666	939	732	393	281	256
10	212	411	244	1400	483	379	651	839	697	373	279	261
11	211	353	245	1810	475	398	630	794	664	363	278	256
12	210	282	240	1570	468	389	778	786	630	357	278	263
13	210	273	281	2760	583	393	1040	781	602	359	274	265
14	213	260	1840	3340	595	616	864	809	585	359	267	266
15	214	254	1030	1420	537	2740	743	837	560	353	238	266
16	214	250	2340	961	1740	1130	678	857	551	352	267	263
17	215	245	862	787	733	805	668	822	550	348	266	260
18	216	239	467	704	603	661	652	790	564	338	289	260
19	221	234	507	653	637	591	616	758	554	332	273	263
20	229	233	854	613	617	617	605	742	527	333	265	262
21	227	234	1030	613	552	560	610	750	511	338	265	263
22	224	233	544	1190	520	532	593	803	496	337	274	261
23	228	234	400	1750	502	647	575	873	484	331	280	254
24	226	235	351	1010	489	612	1360	927	474	330	272	256
25	226	238	335	1000	475	553	1330	941	458	329	266	255
26	223	234	659	854	457	2240	1040	881	446	322	262	256
27	221	229	1110	816	460	1170	861	841	447	315	266	254
28	220	231	3010	849	442	860	1150	884	449	307	264	255
29	218	231	1870	728	---	736	997	926	452	302	259	255
30	220	234	1000	664	---	680	1110	895	445	298	260	258
31	219	---	2250	638	---	670	---	864	---	295	258	---
TOTAL	6740	7722	23571	30899	16588	21590	23881	28068	18063	11030	8563	7735
MEAN	217	257	760	997	592	696	796	905	602	356	276	258
MAX	229	441	3010	3340	1740	2740	1360	1790	830	434	330	266
MIN	210	216	230	405	442	376	575	742	445	295	238	251
AC-FT	13370	15320	46750	61290	32900	42820	47370	55670	35830	21880	16980	15340

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

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	296	407	552	760	738	740	647	625	492	334	267	262
MAX	589	1058	1602	2434	1919	1802	1160	1578	1453	817	540	449
(WY)	1963	1982	1984	1970	1986	1983	1995	1998	1998	1998	1998	1998
MIN	139	205	224	234	260	266	231	266	207	168	160	154
(WY)	1993	1993	1992	1991	1977	1977	1977	1977	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1962 - 2003	
ANNUAL TOTAL	144379		204450			
ANNUAL MEAN	396		560		509	
HIGHEST ANNUAL MEAN					926	
LOWEST ANNUAL MEAN					238	
HIGHEST DAILY MEAN	3010		Dec 28		3340	
LOWEST DAILY MEAN	182		Aug 26		210	
ANNUAL SEVEN-DAY MINIMUM	199		Aug 25		211	
MAXIMUM PEAK FLOW					5930	
MAXIMUM PEAK STAGE					7.27	
ANNUAL RUNOFF (AC-FT)	286400		405500		369100	
10 PERCENT EXCEEDS	532		966		894	
50 PERCENT EXCEEDS	340		434		371	
90 PERCENT EXCEEDS	208		229		223	
					14.75	
					Jan 24 1970	
					10900	
					Jan 14	
					Oct 9	
					Oct 7	
					Oct 27 1992	
					Oct 22 1992	
					Mar 15	
					Mar 15	
					Jan 24 1970	
					Jan 24 1970	

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

LOCATION.—Lat 40°17'19", long 122°11'08", in NW 1/4 NE 1/4 sec.15, T.28 N., R.3 W., [Tehama County](#), Hydrologic Unit 18020103, on left bank, 2.7 mi upstream from Bend Bridge, and 8.1 mi northeast of Red Bluff.

DRAINAGE AREA.—8,900 mi², excluding Goose Lake Basin.

PERIOD OF RECORD.—1879–88 annual observed maximums only, published in WSP 1315-A. January 1892 to current year. Monthly discharges only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Published as "at Red Bluff" 1894–96, as "at Jellys Ferry" 1895–1902, and as "near Red Bluff" 1903–68 (station 11378000).

CHEMICAL DATA: Water years 1955–81, 1996–98.

SPECIFIC CONDUCTANCE: Water years 1955–63.

WATER TEMPERATURE: Water years 1955–80.

SEDIMENT DATA: Water years 1958–70, 1996–98.

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

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 285.77 ft above NGVD of 1929. See WSP 2131 for history of changes prior to September 1968.

REMARKS.—Records excellent. Flow completely regulated by Shasta Lake (station 11370000), 52 mi upstream, since Dec. 30, 1943. Diversions, in addition to those on tributaries, for irrigation of about 22,000 acres between stations at Keswick and above Bend Bridge. Transbasin diversion from Trinity River to Whiskeytown Lake (station 11371700) via Judge Francis Carr Powerplant (station 11525430) started in April 1963. See schematic diagrams of [upper Sacramento River](#) and [Battle Creek and Cow Creek Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 291,000 ft³/s, Feb. 28, 1940, gage height, 38.9 ft, site and datum then in use, from rating curve extended above 170,000 ft³/s, on basis of velocity-area studies; minimum (water years 1892–2000), 2,000 ft³/s, Mar. 29, 1944. Since regulation by Shasta Lake in 1943, maximum discharge, 170,000 ft³/s, Dec. 22, 1964, gage height, 28.15 ft, site and datum then in use; maximum gage height, 36.60 ft, Jan. 24, 1970.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7680	8350	6410	33800	17200	8770	7010	44500	14700	13000	15600	9280
2	7350	8350	6420	25000	15500	8500	7410	41700	15100	12700	15300	9280
3	6860	8340	6410	21500	13600	8220	7320	43500	15400	12500	15100	9060
4	6730	8350	6420	19100	12000	7990	7500	46800	15400	12900	15100	8610
5	6630	8060	6420	17500	10900	7690	7480	38600	15300	12900	14700	8100
6	6670	7480	6330	17200	10100	7430	6930	32500	15200	13000	14700	7660
7	6670	7230	6250	15800	9660	7200	6690	27300	15100	13200	14000	7500
8	6690	7570	6250	14100	9510	6810	6630	24300	15000	13300	13000	7510
9	6690	7650	6220	12300	9390	6560	6560	20900	15000	14200	11400	7500
10	6790	7660	6160	15100	9280	6480	6380	17900	14900	14700	10800	7590
11	6870	7760	6130	22900	12600	6400	6270	15800	15500	15300	10700	7780
12	7290	7550	6010	23100	14700	6360	6570	14000	15800	15100	10700	8400
13	7630	7320	6590	49800	15200	6360	8740	16900	15800	15200	10700	8860
14	7670	7060	26500	58400	15600	7640	9320	18000	15800	15100	10700	8900
15	7710	6870	23700	36800	15200	24500	8200	18500	15800	15200	10700	8830
16	7680	6650	41400	27800	23100	14800	8170	18500	15700	15100	10200	8370
17	7950	6520	21000	24300	17400	11000	8490	18400	15700	15200	9600	7980
18	8160	6520	10900	22600	14100	9270	8140	18000	15600	15000	9630	8000
19	8180	6490	10000	21700	17500	8520	8380	17700	15200	14900	9550	7980
20	8180	6410	21000	20900	16800	8850	8620	17500	14700	15000	9450	8010
21	8170	6160	33300	20400	16100	8290	8820	17500	14100	15000	8940	8060
22	8220	5950	12900	23600	15000	7980	10200	17500	13500	15000	8590	7900
23	8200	5870	9300	35500	14000	11400	11400	17600	13000	15100	8600	7940
24	8410	5890	8230	28300	13700	8910	21500	16600	12800	15200	8560	7930
25	8400	5920	7550	27900	12900	7920	24700	15800	12800	15000	8680	7940
26	8330	5940	10200	26400	11400	11500	22400	16600	12700	15500	9350	7810
27	8340	5840	29000	26000	10300	9380	19500	16700	12800	15700	9370	7880
28	8390	6070	39500	26700	9380	8240	19200	16500	13300	15800	9310	7920
29	8360	6410	33800	22900	---	7800	34600	16500	13800	15700	9350	7940
30	8340	6420	24300	19600	---	7390	52400	16200	13700	15600	9330	7680
31	8350	---	62300	18200	---	7090	---	15200	---	15600	9230	---
TOTAL	237590	208660	506900	775200	382120	275250	375530	694000	439200	452700	340940	244200
MEAN	7664	6955	16350	25010	13650	8879	12520	22390	14640	14600	11000	8140
MAX	8410	8350	62300	58400	23100	24500	52400	46800	15800	15800	15600	9280
MIN	6630	5840	6010	12300	9280	6360	6270	14000	12700	12500	8560	7500
AC-FT	471300	413900	1005000	1538000	757900	546000	744900	1377000	871200	897900	676300	484400

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1892 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4853	7538	11940	18960	24760	22210	18280	12310	7635	5127	4381	4404
MAX	10910	21420	42780	72340	69240	73280	38810	27910	17640	10170	9050	8481
(WY)	1905	1904	1893	1909	1902	1904	1904	1896	1906	1893	1893	1893
MIN	2847	3300	3618	4142	4778	4434	4014	3253	2969	2622	2505	2551
(WY)	1933	1937	1937	1937	1920	1924	1924	1924	1924	1931	1931	1934

SUMMARY STATISTICS

WATER YEARS 1892 - 1943

ANNUAL MEAN	11800
HIGHEST ANNUAL MEAN	22180 1904
LOWEST ANNUAL MEAN	4096 1924
HIGHEST DAILY MEAN	261000 Feb 28 1940
LOWEST DAILY MEAN	2400 Aug 13 1931
ANNUAL SEVEN-DAY MINIMUM	2470 Aug 7 1931
MAXIMUM PEAK FLOW	291000 Feb 28 1940
MAXIMUM PEAK STAGE	38.9 Feb 28 1940
ANNUAL RUNOFF (AC-FT)	8545000
10 PERCENT EXCEEDS	24000
50 PERCENT EXCEEDS	6500
90 PERCENT EXCEEDS	3520

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

MEAN	6501	6932	11440	16840	19340	11950	10210	10260	9469	10030	10030	7510
MAX	10490	11180	29530	52620	76870	24840	32420	17830	12930	11630	11800	10230
(WY)	1958	1958	1956	1956	1958	1958	1958	1948	1948	1951	1958	1958
MIN	5468	4681	4336	5104	4579	4727	5335	6788	7253	7476	7080	5289
(WY)	1960	1960	1960	1957	1948	1955	1950	1947	1947	1947	1947	1947

SUMMARY STATISTICS

WATER YEARS 1946 - 1962

ANNUAL MEAN	10840
HIGHEST ANNUAL MEAN	20330 1958
LOWEST ANNUAL MEAN	6690 1947
HIGHEST DAILY MEAN	125000 Feb 19 1958
LOWEST DAILY MEAN	3640 Jan 31 1949
ANNUAL SEVEN-DAY MINIMUM	3830 Feb 27 1948
MAXIMUM PEAK FLOW	139000 Feb 19 1958
MAXIMUM PEAK STAGE	24.98 Feb 19 1958
ANNUAL RUNOFF (AC-FT)	7852000
10 PERCENT EXCEEDS	16900
50 PERCENT EXCEEDS	8430
90 PERCENT EXCEEDS	5190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	6854	9056	13870	18730	20380	17740	12100	12530	12460	13110	11690	8517
MAX	10600	29690	43350	61060	68400	75830	35110	22920	21150	16760	15790	11900
(WY)	1984	1974	1984	1970	1998	1983	1974	1995	1998	1998	1998	1998
MIN	3935	4068	4296	4573	4700	5476	4804	7322	7431	7811	7998	5323
(WY)	1978	1993	1977	1992	1990	1994	1991	1992	1992	1992	1992	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	3955020	4932290	
ANNUAL MEAN	10840	13510	13060
HIGHEST ANNUAL MEAN			25450 1983
LOWEST ANNUAL MEAN			6494 1991
HIGHEST DAILY MEAN	62300 Dec 31	62300 Dec 31	127000 Jan 27 1970
LOWEST DAILY MEAN	5840 Nov 27	5840 Nov 27	3200 Oct 11 1977
ANNUAL SEVEN-DAY MINIMUM	5930 Nov 22	5930 Nov 22	3210 Oct 10 1977
MAXIMUM PEAK FLOW		86200 Dec 31	170000 Dec 22 1964
MAXIMUM PEAK STAGE		24.74 Dec 31	36.60 Jan 24 1970
ANNUAL RUNOFF (AC-FT)	7845000	9783000	9461000
10 PERCENT EXCEEDS	15300	23100	20400
50 PERCENT EXCEEDS	8700	10700	10000
90 PERCENT EXCEEDS	6510	6610	5680

11379500 ELDER CREEK NEAR PASKENTA, CA

LOCATION.—Lat 40°01'29", long 122°30'31", in SE 1/4 NW 1/4 sec.14, T.25 N., R.6 W., Tehama County, Hydrologic Unit 18020103, on left bank, 2.5 mi downstream from South Fork Elder Creek, 8.2 mi northwest of Flournoy, and 10 mi north of Paskenta.

DRAINAGE AREA.—92.4 mi².

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

CHEMICAL DATA: Water years 1959–66.

WATER TEMPERATURE: Water year 1963.

SEDIMENT DATA: Water years 1963–70.

REVISED RECORDS.—WSP 1515: 1956. WDR CA-70-2: 1967(P). WDR CA-75-4: 1966–67(P), 1969–71(P), 1973(P). WDR CA-78-4: Drainage area. WDR CA-94-4: 1993(P).

GAGE.—Water-stage recorder. Datum of gage is 718.1 ft above NGVD of 1929. Prior to Aug. 13, 1965, water-stage recorder at site 300 ft downstream at datum 5.13 ft lower.

REMARKS.—Records good. No regulation or large diversion upstream from station. See schematic diagram of upper Sacramento River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 17,700 ft³/s, Feb. 28, 1983, gage height, 12.10 ft, from rating curve extended above 5,200 ft³/s, on basis of slope-area measurements at gage height 11.34 ft and of peak flow; maximum gage height, 13.90 ft, Feb. 24, 1958, site and datum then in use; no flow at times some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0215	13,100	12.11	Jan. 12	1845	3,730	7.34
Dec. 31	0115	7,500	9.69	Mar. 15	0415	2,170	5.95

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.90	2.5	6.1	524	154	75	111	258	69	21	6.5	3.0
2	0.97	2.7	6.1	304	140	71	108	259	64	21	9.3	2.8
3	1.1	2.9	6.1	234	127	76	103	775	60	20	14	3.0
4	1.2	3.0	6.2	228	115	76	109	518	57	19	11	4.0
5	1.2	3.1	6.2	219	107	68	98	359	53	18	10	3.7
6	1.1	3.1	6.3	204	100	63	94	301	51	17	10	3.4
7	0.98	8.1	6.3	177	93	62	89	290	50	17	9.8	3.3
8	0.86	27	6.2	158	89	67	86	271	48	17	9.5	3.7
9	0.84	31	6.2	156	84	62	85	251	47	16	8.9	3.7
10	0.90	36	6.8	333	80	60	81	218	46	15	8.1	3.8
11	0.94	25	6.8	348	75	62	81	191	44	14	7.7	3.4
12	1.0	13	6.6	1260	74	61	182	181	44	14	7.5	3.0
13	1.1	13	249	1620	124	84	283	182	43	14	7.0	3.0
14	1.1	11	2600	1050	115	340	208	184	41	13	6.6	2.2
15	1.1	9.1	1480	665	119	1160	144	178	39	12	6.2	2.6
16	1.2	8.0	3620	465	232	435	135	168	37	12	5.8	2.8
17	1.3	7.4	433	360	162	302	138	155	35	12	5.4	2.8
18	1.6	7.0	193	316	141	218	129	144	34	11	5.1	2.5
19	1.8	6.8	253	284	132	181	122	134	35	11	4.6	2.5
20	1.9	6.6	735	264	125	161	119	128	35	10	4.4	2.6
21	1.8	6.6	449	246	111	145	157	124	32	9.9	4.6	2.3
22	1.7	6.6	200	259	103	141	175	121	32	9.5	4.8	2.4
23	1.8	6.6	135	314	100	142	147	121	31	9.2	6.6	2.3
24	2.2	6.6	106	256	94	134	212	119	29	9.3	6.4	2.3
25	2.4	6.3	88	245	91	126	233	113	28	10	4.8	2.3
26	2.5	6.1	113	236	86	134	209	107	26	9.9	4.4	2.6
27	2.5	6.1	1070	238	83	127	187	98	24	9.0	4.2	2.2
28	2.5	6.1	1400	210	79	120	449	94	23	8.1	4.4	2.0
29	2.5	6.1	594	184	---	113	437	88	22	7.3	3.8	2.3
30	2.4	6.3	1100	167	---	109	332	84	21	6.4	3.4	2.7
31	2.5	---	2450	158	---	110	---	78	---	6.3	2.9	---
TOTAL	47.89	289.7	17343.9	11682	3135	5085	5043	6292	1200	398.9	207.7	85.2
MEAN	1.54	9.66	559	377	112	164	168	203	40.0	12.9	6.70	2.84
MAX	2.5	36	3620	1620	232	1160	449	775	69	21	14	4.0
MIN	0.84	2.5	6.1	156	74	60	81	78	21	6.3	2.9	2.0
AC-FT	95	575	34400	23170	6220	10090	10000	12480	2380	791	412	169

11379500 ELDER CREEK NEAR PASKENTA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.89	46.4	140	254	290	238	151	84.5	31.4	8.94	3.47	3.08
MAX	102	310	649	1208	1636	1176	497	463	262	49.6	17.5	11.3
(WY)	1958	1974	1984	1995	1958	1983	1958	1998	1998	1998	1998	1978
MIN	0.66	2.89	4.06	5.38	7.00	22.6	13.8	13.4	2.52	0.32	0.002	0.15
(WY)	1992	1991	1991	1991	1977	1964	1977	1977	1977	1977	1994	1991

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1949 - 2003	
ANNUAL TOTAL	39990.59		50810.29			
ANNUAL MEAN	110		139		104	
HIGHEST ANNUAL MEAN					303	
LOWEST ANNUAL MEAN					6.69	
HIGHEST DAILY MEAN	3820	Jan 2	3620	Dec 16	7650	Dec 22 1964
LOWEST DAILY MEAN	0.32	Sep 6	0.84	Oct 9	0.00	Aug 6 1950
ANNUAL SEVEN-DAY MINIMUM	0.37	Sep 1	0.95	Oct 6	0.00	Aug 14 1950
MAXIMUM PEAK FLOW			13100	Dec 16	17700	Feb 28 1983
MAXIMUM PEAK STAGE			12.11	Dec 16	13.90	Feb 24 1958
ANNUAL RUNOFF (AC-FT)	79320		100800		75360	
10 PERCENT EXCEEDS	150		283		241	
50 PERCENT EXCEEDS	13		43		19	
90 PERCENT EXCEEDS	0.56		2.5		1.6	

11381500 MILL CREEK NEAR LOS MOLINOS, CA

LOCATION.—Lat 40°03'17", long 122°01'23", in NE 1/4 NW 1/4 sec.6, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on right bank, 4.5 mi northeast of Los Molinos, and 5.5 mi upstream from mouth.

DRAINAGE AREA.—131 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.—WSP 1315-A: 1929(M). WSP 1931: Drainage area. WSP 2131: 1938(M).

GAGE.—Water-stage recorder. Elevation of gage is 385 ft above NGVD of 1929, from topographic map. Prior to September 1913, nonrecording gage at site 0.3 mi downstream at different datum.

REMARKS.—Records good. No storage or large diversion upstream from station. See schematic diagram of [upper Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD (water years 1929–2003).—Maximum discharge, 36,400 ft³/s, Dec. 11, 1937, gage height, 23.4 ft, from floodmarks, from rating curve extended above 14,000 ft³/s, on basis of step-backwater computation and slope-area measurement of peak flow; minimum, 49 ft³/s, Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,400 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0430	4,610	8.56	Feb. 16	0400	2,500	6.41
Dec. 28	1900	6,350	9.88	Mar. 15	0800	4,490	8.43
Jan. 13	2000	2,630	6.57				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	90	100	741	453	262	584	723	620	305	158	126
2	87	90	100	522	452	251	763	661	600	291	169	126
3	89	90	100	425	398	247	539	849	614	282	177	124
4	90	90	100	377	362	244	548	1190	633	276	166	124
5	90	90	100	356	340	234	469	898	634	272	157	124
6	89	90	100	336	329	219	420	753	612	272	155	122
7	88	109	100	311	308	217	388	658	631	270	154	121
8	88	288	100	293	293	215	389	729	642	268	150	121
9	85	320	100	285	284	211	408	635	626	260	149	122
10	86	244	110	645	277	221	404	555	596	253	148	130
11	87	222	110	898	271	237	406	517	545	249	147	124
12	86	155	104	834	266	239	764	500	518	243	146	121
13	85	147	213	1890	314	254	1250	517	491	243	144	119
14	86	128	2350	1650	322	507	842	553	470	236	142	119
15	85	116	1280	1050	325	2270	616	594	437	229	142	119
16	85	114	2280	711	1150	1130	525	620	442	216	141	119
17	85	110	844	557	481	751	489	563	465	207	139	119
18	85	108	500	486	389	566	470	528	481	201	138	117
19	87	107	509	444	447	481	438	492	451	197	137	116
20	88	106	999	410	412	471	427	484	416	195	134	116
21	88	109	1130	400	355	422	428	519	394	194	133	115
22	88	107	487	571	329	395	413	600	378	191	140	114
23	88	107	317	1150	310	452	397	686	354	185	154	112
24	88	104	261	801	297	424	1210	735	335	184	139	112
25	89	103	223	717	287	386	1150	739	325	182	134	112
26	90	102	242	647	283	1170	914	656	321	174	132	112
27	90	100	1220	600	295	905	675	608	327	170	131	112
28	88	100	3680	573	271	651	1170	685	337	166	131	112
29	89	100	2040	500	---	534	1080	719	339	163	129	112
30	90	100	1080	445	---	486	884	661	322	160	129	112
31	90	---	1620	431	---	481	---	635	---	159	127	---
TOTAL	2717	3846	22499	20056	10300	15533	19460	20262	14356	6893	4472	3554
MEAN	87.6	128	726	647	368	501	649	654	479	222	144	118
MAX	90	320	3680	1890	1150	2270	1250	1190	642	305	177	130
MIN	85	90	100	285	266	211	388	484	321	159	127	112
AC-FT	5390	7630	44630	39780	20430	30810	38600	40190	28480	13670	8870	7050

11381500 MILL CREEK NEAR LOS MOLINOS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	124	198	352	452	480	452	433	443	331	180	118	107
MAX	684	1039	1365	1837	1744	1278	862	923	790	510	230	168
(WY)	1963	1974	1965	1970	1986	1983	1982	1938	1998	1998	1983	1983
MIN	76.0	75.1	87.4	96.8	98.6	107	112	122	94.9	67.8	61.4	65.4
(WY)	1930	1930	1977	1977	1977	1977	1977	1977	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1929 - 2003	
ANNUAL TOTAL	98434		143948			
ANNUAL MEAN	270		394		305	
HIGHEST ANNUAL MEAN					576	
LOWEST ANNUAL MEAN					93.6	
HIGHEST DAILY MEAN	3680	Dec 28	3680	Dec 28	14400	Jan 1 1997
LOWEST DAILY MEAN	85	Sep 25	85	Oct 9	52	Dec 12 1932
ANNUAL SEVEN-DAY MINIMUM	85	Oct 12	85	Oct 12	60	Jul 28 1931
MAXIMUM PEAK FLOW			6350		36400	
MAXIMUM PEAK STAGE			9.88		23.40	
ANNUAL RUNOFF (AC-FT)	195200		285500		220900	
10 PERCENT EXCEEDS	462		757		584	
50 PERCENT EXCEEDS	181		283		180	
90 PERCENT EXCEEDS	90		90		92	

11381500 MILL CREEK NEAR LOS MOLINOS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water year 1999 to current year.

WATER TEMPERATURE: Water year 1999 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: October 1998 to current year.

INSTRUMENTATION.—Temperature recorder since Oct. 5, 1998.

REMARKS.—Records rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 27.0°C, July 14, 2002; minimum recorded, 0.5°C, Dec. 23, 1998.

EXTREME FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 25.5°C, July 22, 23, 29, 30; minimum recorded, 4.0°C, Feb. 8.

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

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

11381500 MILL CREEK NEAR LOS MOLINOS, CA—Continued

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	10.5	12.5	9.5	16.0	14.5	19.0	16.0	24.0	22.5	22.5	19.5
2	11.0	8.0	12.5	10.5	16.5	15.0	19.0	16.0	22.5	21.0	23.0	20.0
3	8.5	6.5	11.0	10.0	16.5	15.5	19.0	16.0	23.5	20.5	22.0	20.5
4	9.5	7.5	11.5	10.0	17.0	15.5	20.0	17.0	23.5	21.5	22.0	19.5
5	9.0	7.0	12.5	10.0	17.0	15.5	20.5	18.0	23.0	21.0	23.0	20.5
6	9.5	8.0	12.0	10.5	17.5	16.0	21.0	18.5	22.5	20.0	22.0	19.5
7	11.5	8.5	12.5	10.0	17.5	16.0	21.0	18.5	21.5	19.5	20.0	18.0
8	13.0	10.0	11.5	9.5	18.0	16.5	20.5	18.0	21.5	19.0	18.5	16.5
9	13.0	10.5	11.5	8.0	17.5	16.5	20.5	18.0	22.0	19.0	18.0	16.5
10	12.5	10.5	13.0	9.5	17.0	16.0	21.0	19.0	22.0	19.0	18.0	15.5
11	12.0	10.0	12.5	11.0	17.0	15.5	21.5	19.5	22.0	19.5	19.5	16.0
12	12.0	10.0	14.0	11.0	17.0	16.0	22.0	20.0	21.5	19.0	20.5	18.0
13	10.0	8.0	15.0	12.5	17.5	16.0	21.5	20.0	21.5	18.5	20.0	17.5
14	10.5	7.5	15.0	13.0	17.5	15.5	21.5	19.5	21.5	18.5	19.5	17.0
15	10.0	8.0	14.5	13.5	18.5	15.5	22.0	20.0	22.0	18.5	19.5	17.0
16	10.0	8.5	13.5	13.0	19.0	16.0	22.0	20.5	21.5	18.5	19.0	17.0
17	11.5	9.0	13.0	11.5	20.0	17.5	22.0	20.5	22.0	18.5	18.0	16.0
18	11.5	9.0	13.0	11.5	19.0	18.0	22.5	20.5	22.5	19.5	17.5	15.0
19	12.0	9.5	14.0	11.5	19.0	16.5	23.0	21.5	23.0	20.0	18.0	15.0
20	12.0	10.0	15.5	12.5	19.0	16.5	23.5	22.0	23.0	20.0	19.0	15.5
21	12.0	10.5	16.0	13.5	18.5	16.0	24.5	22.5	22.0	20.5	19.5	16.5
22	11.5	9.5	16.5	15.0	18.0	16.0	25.5	23.5	20.5	19.5	19.5	17.0
23	11.5	9.5	16.0	14.5	17.5	14.5	25.5	24.0	21.5	18.5	19.5	17.0
24	11.0	9.5	16.0	14.0	17.5	14.5	24.5	23.5	22.5	19.5	20.0	17.0
25	9.5	8.0	15.5	13.5	19.0	15.5	24.5	22.5	22.5	19.5	20.0	17.5
26	11.0	8.0	14.5	13.5	20.0	16.5	24.0	22.0	22.5	20.0	19.5	17.0
27	11.5	9.0	16.5	14.0	21.0	17.5	24.5	22.0	22.5	20.0	19.5	17.0
28	11.5	10.0	16.0	15.0	21.5	18.0	25.0	22.5	22.0	19.5	19.0	16.5
29	10.0	9.0	16.0	13.5	21.0	18.0	25.5	23.0	21.5	18.5	18.5	16.5
30	12.0	9.5	15.0	13.0	19.5	17.0	25.5	23.5	22.0	18.5	18.0	16.0
31	---	---	16.0	14.5	---	---	25.0	23.0	22.0	19.0	---	---
MONTH	13.0	6.5	16.5	8.0	21.5	14.5	25.5	16.0	24.0	18.5	23.0	15.0

CROSS SECTION ANALYSES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Depth at sample location, feet (81903)	Temperature, water, deg C (00010)	Locatn in X-sect. looking downstrm ft from l bank (00009)
MAR				
18...*	0950	4.40	7.5	11.0
18...*	0955	4.10	7.5	20.0
18...*	1000	4.00	7.5	32.0
18...*	1005	3.90	7.5	43.0
18...*	1010	3.50	7.5	56.0
SEP				
04...*	1345	1.20	21.2	11.0
04...*	1350	1.62	21.2	19.0
04...*	1355	1.50	21.2	26.0
04...*	1400	1.70	21.2	33.0
04...*	1405	1.24	21.2	43.0

* Instantaneous discharge at the time of the cross-sectional measurements: Mar. 18, 574 ft³/s; Sept. 4, 124 ft³/s.

11383500 DEER CREEK NEAR VINA, CA

LOCATION.—Lat 40°00'51", long 121°56'50", in NW 1/4 NE 1/4 sec.23, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on left bank, 0.5 mi upstream from irrigation diversion dam, and 7.9 mi northeast of Vina.

DRAINAGE AREA.—208 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1911 to September 1915, March 1920 to current year. December 1937 to January 1939 first published in WDR CA-94-4. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.—WSP 1315-A: 1940–42(M). WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 479.2 ft above NGVD of 1929, from river-profile survey. Prior to Oct. 9, 1928, nonrecording gage at site 0.8 mi downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, water-stage recorder at present site at datum 2.64 ft higher.

REMARKS.—Records good. No storage or large diversions upstream from station. See schematic diagram of upper Sacramento River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 24,000 ft³/s, Jan. 1, 1997, gage height, 15.56 ft, from rating curve extended above 9,200 ft³/s; maximum gage height, 19.20 ft, Dec. 10, 1937; minimum, 43 ft³/s, Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0400	7,870	9.97	Mar. 15	0700	8,190	10.13
Dec. 28	1845	7,410	9.93				

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	82	91	1070	482	262	608	1090	353	158	122	101
2	79	83	91	723	487	249	561	968	335	158	127	101
3	79	84	91	560	432	244	503	1140	318	158	137	100
4	79	84	91	477	396	243	509	1760	303	157	128	101
5	79	84	91	434	364	234	468	1420	290	156	122	101
6	79	84	91	406	342	224	446	1180	281	155	121	99
7	78	109	91	376	314	221	417	1030	270	155	119	99
8	77	234	91	351	297	218	418	1040	260	154	117	101
9	78	334	91	332	284	215	421	914	251	153	116	102
10	79	228	94	644	273	221	405	788	240	153	115	108
11	78	258	104	1030	263	242	397	719	232	152	114	104
12	78	152	97	898	254	239	737	670	226	152	113	100
13	77	130	224	1870	294	245	1370	641	221	152	113	97
14	78	118	2940	1680	328	562	1060	636	216	151	113	96
15	79	109	1630	1340	307	3750	816	631	210	151	112	98
16	79	103	3710	869	1190	1730	674	616	203	151	110	98
17	79	101	1000	713	559	1140	617	576	197	149	110	98
18	80	99	541	590	449	836	605	541	192	147	109	97
19	81	97	530	526	470	691	556	505	190	145	108	98
20	82	96	1090	472	434	644	532	479	188	143	107	98
21	82	94	1430	448	389	563	529	469	183	142	107	97
22	82	94	629	552	366	516	520	470	181	139	118	96
23	82	94	419	1080	343	573	487	474	178	135	125	96
24	82	94	332	862	327	534	1420	476	179	134	114	96
25	84	92	282	798	311	477	1460	470	172	135	110	96
26	84	91	283	730	293	1150	1240	450	167	130	108	94
27	83	91	1420	677	290	1080	993	423	164	127	108	94
28	82	91	4630	665	277	808	1520	414	161	125	106	95
29	82	91	2810	578	---	676	1620	402	160	123	104	96
30	82	91	1420	514	---	597	1310	389	159	121	103	96
31	83	---	2160	482	---	556	---	373	---	121	102	---
TOTAL	2486	3592	28594	22747	10815	19940	23219	22154	6680	4482	3538	2953
MEAN	80.2	120	922	734	386	643	774	715	223	145	114	98.4
MAX	84	334	4630	1870	1190	3750	1620	1760	353	158	137	108
MIN	77	82	91	332	254	215	397	373	159	121	102	94
AC-FT	4930	7120	56720	45120	21450	39550	46050	43940	13250	8890	7020	5860

SACRAMENTO RIVER BASIN

11383500 DEER CREEK NEAR VINA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	113	194	382	547	637	585	531	392	202	119	98.4	95.3
MAX	775	984	1825	2458	2600	2105	1494	1193	674	267	194	174
(WY)	1963	1974	1956	1970	1986	1983	1982	1995	1998	1983	1983	1983
MIN	63.4	65.2	82.5	87.4	95.3	109	99.5	77.2	66.1	55.8	53.3	55.2
(WY)	1935	1930	1931	1991	1977	1977	1977	1924	1924	1931	1931	1931

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1912 - 2003	
ANNUAL TOTAL	96481		151200			
ANNUAL MEAN	264		414		323	
HIGHEST ANNUAL MEAN					700 1983	
LOWEST ANNUAL MEAN					86.2 1977	
HIGHEST DAILY MEAN	4630	Dec 28	4630	Dec 28	20100	Jan 1 1997
LOWEST DAILY MEAN	75	Aug 9	77	Oct 8	52	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	75	Sep 20	78	Oct 7	53	Aug 21 1931
MAXIMUM PEAK FLOW			8190 Mar 15		24000 Jan 1 1997	
MAXIMUM PEAK STAGE			10.13 Mar 15		19.20 Dec 10 1937	
ANNUAL RUNOFF (AC-FT)	191400		299900		234300	
10 PERCENT EXCEEDS	480		1030		690	
50 PERCENT EXCEEDS	121		221		146	
90 PERCENT EXCEEDS	78		84		80	

11383500 DEER CREEK NEAR VINA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1999 to current year.

WATER TEMPERATURE: Water years 1999 to current year.

TURBIDITY: Water years 2001 to current year.

SEDIMENT DATA: Water years 2001–02 .

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: October 1998 to current year.

TURBIDITY: January 2001 to current year.

INSTRUMENTATION.—Temperature recorder since Oct. 5, 1998, and Turbidity recorder since October 2000.

REMARKS.—Temperature record rated good. Turbidity record rated fair. Interruption in record due to malfunction of the recording equipment.

Unpublished sediment data available in files of the U.S. Geological Survey for December 2000 to October 2002.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 28.0°C, July 14, 2002; minimum recorded, 0.5°C, Dec. 23, 24, 1998.

TURBIDITY: Maximum recorded, 290 NTU, Dec. 16, 2002; minimum recorded, 0.0 NTU, many days during most years.

EXTREME FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 27.5°C, July 22, 23; minimum recorded, 4.0°C, Feb. 8, 9.

TURBIDITY: Maximum recorded, 290 NTU, Dec. 16; minimum recorded, 0.0 NTU, many days during the year.

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

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

11383500 DEER CREEK NEAR VINA, CA—Continued

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	9.0	11.5	9.5	19.5	17.0	22.5	20.0	25.5	24.0	23.0	20.5
2	11.0	8.5	11.5	10.5	20.0	17.0	22.0	19.5	24.5	23.0	23.5	21.0
3	8.5	7.0	11.0	10.0	21.0	18.0	22.0	19.0	25.0	22.5	22.5	21.0
4	9.0	7.0	11.0	9.5	21.5	18.5	22.5	19.5	25.0	22.5	23.0	20.5
5	8.5	6.5	11.5	9.5	21.5	19.0	23.5	20.5	24.0	21.5	23.5	21.0
6	9.0	7.5	11.0	10.0	22.0	19.5	23.5	21.0	23.5	21.0	22.5	20.5
7	11.0	7.5	11.5	10.0	22.5	19.5	23.5	21.0	23.0	20.5	21.0	19.0
8	12.5	9.5	10.5	9.5	23.0	20.0	23.5	20.5	22.5	20.0	19.5	18.0
9	12.5	10.5	11.0	8.0	23.0	21.0	23.5	20.5	23.0	20.0	18.5	17.5
10	12.0	10.5	12.5	9.0	22.0	20.0	24.0	21.0	23.0	20.0	19.0	16.5
11	12.5	10.0	12.5	10.0	21.5	19.0	24.5	21.5	23.0	20.0	20.0	17.0
12	12.0	9.5	13.5	11.0	21.0	19.0	24.5	22.0	22.5	20.0	20.5	18.5
13	9.5	8.5	15.0	12.0	21.0	19.0	24.5	22.0	22.0	19.5	20.5	18.5
14	10.0	7.5	15.5	12.5	21.5	18.5	24.5	21.5	22.0	19.5	20.5	18.0
15	9.5	7.5	15.5	13.0	22.0	18.5	25.0	22.0	22.5	19.5	20.5	18.5
16	10.0	8.5	15.0	12.5	22.5	19.5	25.0	22.0	22.0	19.5	19.5	18.0
17	11.0	9.0	14.5	11.5	24.0	20.5	25.0	22.0	22.5	20.0	18.5	16.5
18	11.0	8.5	14.0	11.0	23.5	21.5	25.0	22.0	23.5	20.5	18.5	16.0
19	11.5	9.0	15.0	11.5	23.0	20.5	25.5	23.0	23.5	21.0	18.5	16.0
20	12.0	10.0	16.0	12.5	23.0	20.5	26.0	23.5	23.5	21.0	19.0	16.5
21	12.0	10.5	17.5	13.5	22.0	19.5	27.0	24.5	22.5	21.5	19.5	17.0
22	11.0	9.0	18.5	15.0	21.5	19.0	27.5	25.0	21.5	20.5	19.5	17.0
23	11.5	9.5	19.0	15.5	20.5	18.5	27.5	25.5	22.5	19.5	20.0	17.5
24	10.5	9.0	19.0	16.0	20.5	18.0	27.0	25.5	23.0	20.0	20.0	17.5
25	9.0	8.0	18.0	15.5	21.5	18.0	26.5	25.0	23.0	20.5	20.0	18.0
26	10.0	7.5	17.5	15.0	22.5	19.5	26.5	24.0	23.0	21.0	20.0	17.5
27	11.0	8.5	18.5	14.5	23.5	20.5	26.0	23.5	23.0	21.0	19.5	17.5
28	10.5	9.0	20.0	16.5	24.0	21.5	26.5	24.0	22.5	20.5	19.5	17.5
29	9.5	8.5	19.0	17.0	24.0	21.5	27.0	24.5	22.0	19.5	19.0	17.0
30	11.5	9.0	18.0	15.5	23.0	20.5	27.0	25.0	22.0	19.5	18.0	16.0
31	---	---	19.5	16.0	---	---	26.5	24.0	22.5	20.0	---	---
MONTH	12.5	6.5	20.0	8.0	24.0	17.0	27.5	19.0	25.5	19.5	23.5	16.0

11383500 DEER CREEK NEAR VINA, CA—Continued

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

Date	Time	Depth at sample loca- tion, feet (81903)	Tur- bidity, water, unfltrd field, NTU (61028)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
MAR					
10...*	1145	2.50	.0	9.5	73.0
10...*	1150	2.76	.0	9.5	64.0
10...*	1155	3.04	.0	9.5	56.0
10...*	1200	2.78	.0	9.5	44.0
10...*	1205	2.40	.0	9.5	24.0
17...*	1355	3.20	7.4	8.5	71.0
17...*	1358	3.40	7.2	8.5	56.0
17...*	1400	3.20	7.2	8.5	54.0
17...*	1403	3.50	7.6	8.5	33.0
17...*	1405	3.20	7.1	8.5	21.0
SEP					
04...*	1105	1.80	.9	21.1	13.0
04...*	1110	2.20	.9	21.1	21.0
04...*	1115	2.50	.4	21.1	27.0
04...*	1120	2.50	.4	21.1	34.0
04...*	1125	2.00	.3	21.1	45.0

* Instantaneous discharge at the time of the cross-sectional measurements: Mar. 10, 217 ft³/s; Mar. 17, 1090 ft³/s; Sept. 4, 109 ft³/s.

SACRAMENTO RIVER BASIN

11383730 SACRAMENTO RIVER AT VINA BRIDGE, NEAR VINA, CA

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)
JAN					
19...SS	1110	e12800	37	e1280	74
19...SS	1630	e17000	67	e3080	78
20...SS	1025	e14600	326	e12900	67
FEB					
20...SS	1430	e47500	55	e7050	70
21...SS	0830	e48900	111	e14700	66
21...SS	1540	e53500	190	e27400	51

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

e Estimated.

RESERVOIRS IN STONY CREEK BASIN, CA

11385100 EAST PARK RESERVOIR NEAR STONYFORD

LOCATION.—Lat 39°21'24", long 122°30'53", in SW 1/4 NE 1/4 sec.3, T.17 N., R.6 W., [Colusa County](#), Hydrologic Unit 18020115, near south side of spillway section on East Park Dam on Little Stony Creek, 1.9 mi southeast of Stonyford.

DRAINAGE AREA.—98.2 mi².

PERIOD OF RECORD.—October 1969 to current year.

GAGE.—Nonrecording gage read once daily. Datum of gage is NGVD of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.—Reservoir is formed by a concrete arch-type dam. Storage began in 1910. Capacity, 48,210 acre-ft, between elevations 1,131.68 ft, invert of sluice pipe, and 1,198.18 ft, crest of spillway. Capacity increased to 50,889 acre-ft with the addition of flashboards to an elevation of 1,199.68 ft. Dead storage, 279 acre-ft. Records of contents provided by U.S. Bureau of Reclamation. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 53,500 acre-ft, Mar. 30, 1974, elevation, 1,201.10 ft; minimum, 280 acre-ft, Aug. 8 to Oct. 31, 1972, Apr. 30 to Nov. 1, 1977, elevation, 1,131.68 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 49,081 acre-ft, Jan. 22, elevation, 1,198.67 ft; minimum, 7,130 acre-ft, Nov. 6, elevation, 1,160.47 ft.

11386100 STONY GORGE RESERVOIR NEAR ELK CREEK

LOCATION.—Lat 39°35'09", long 122°31'54", in NE 1/4 SE 1/4 sec.16, T.20 N., R.6 W., [Glenn County](#), Hydrologic Unit 18020115, on south end of Stony Gorge Dam on Stony Creek, 1.3 mi southeast of Elk Creek.

DRAINAGE AREA.—301 mi².

PERIOD OF RECORD.—October 1969 to current year.

GAGE.—Nonrecording gage read once daily. Datum of gage is NGVD of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.—Reservoir is formed by slab and buttress-type dam. Storage began in 1928. Capacity, 50,380 acre-ft, between elevations 728.0 ft, top of low intake, and 841.0 ft, crest of spillway. No dead storage. Records of contents provided by U.S. Bureau of Reclamation. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 54,630 acre-ft, Mar. 26, 1971, elevation, 844.20 ft; minimum, 3,810 acre-ft, Nov. 6, 1971, elevation, 779.20 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 50,592 acre-ft, May 7, elevation, 841.16 ft; minimum, 18,223 acre-ft, Nov. 1, elevation, 809.09 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800 HOURS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Elevation (ft)	Contents (acre-ft)	Change in contents (acre-ft)	Elevation (ft)	Contents (acre-ft)	Change in contents (acre-ft)
11385100 EAST PARK RESERVOIR				11386100 STONY GORGE RESERVOIR		
Sept. 30	1,161.13	7,472	-738	821.32	28,361	-622
Oct. 31	1,160.55	7,171	-301	809.10	18,231	-10,130
Nov. 30	1,160.76	7,279	108	814.05	22,007	3,776
Dec. 31	1,190.23	35,413	28,134	833.64	41,324	19,317
CAL YR 2002	—	—	-14,378	—	—	1,430
Jan. 31	1,198.43	48,656	13,243	832.66	40,191	-1,133
Feb. 28	1,198.35	48,515	-141	832.82	40,374	183
Mar. 31	1,198.32	48,461	-54	839.22	48,103	7,729
Apr. 30	1,198.55	48,869	408	839.87	48,929	826
May 31	1,198.29	48,408	-461	839.67	48,675	-254
June 30	1,198.00	47,895	-513	840.08	49,197	522
July 31	1,197.18	46,475	-1,420	840.55	49,803	606
Aug. 31	1,196.26	44,909	-1,566	827.99	35,033	-14,770
Sept. 30	1,195.43	43,523	-1,386	826.09	33,051	-1,982
WTR YR 2003	—	—	36,051	—	—	4,690

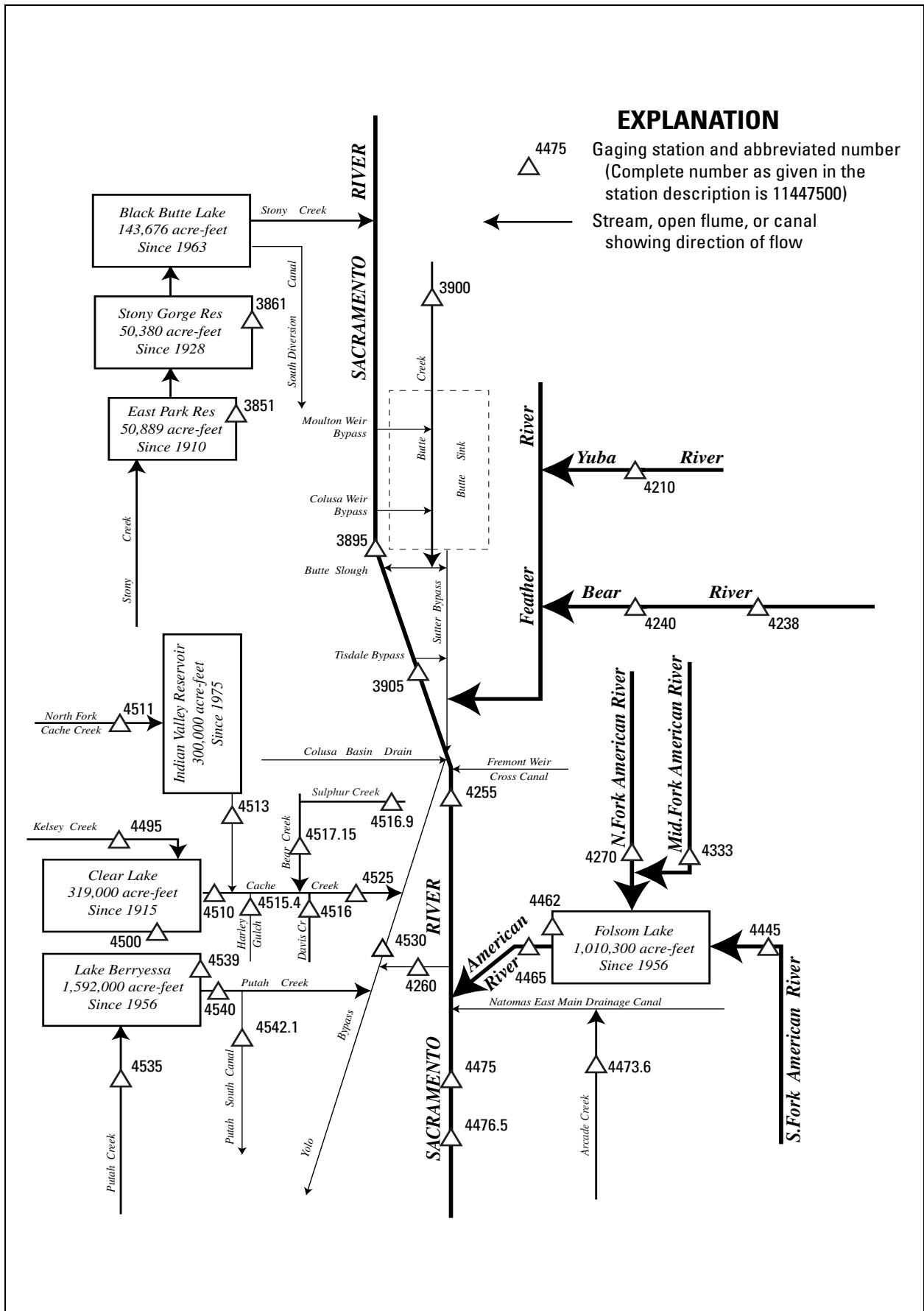


Figure 27. Diversions and storage in lower Sacramento River Basin.

11389500 SACRAMENTO RIVER AT COLUSA, CA

LOCATION.—Lat 39°12'51", long 121°59'57", at north end of Jimeno Grant, Colusa County, Hydrologic Unit 18020104, on right bank, 60 ft downstream from highway bridge at Colusa, and at mile 89.4 upstream from Sacramento.

DRAINAGE AREA.—12,090 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—April 1921 to current year (prior to October 1940, low-water periods only).

REVISED RECORDS.—WSP 1345: 1952. WDR CA-77-4: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 2.95 ft below NGVD of 1929. Prior to December 1930, water-stage recorder in center fender pier 50 ft upstream from bridge at same datum.

REMARKS.—Records good. Natural flow of stream affected by storage reservoirs, including Shasta Lake (station 11370000) since 1943, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas. When discharge exceeds about 30,000 ft³/s, flow begins over Colusa Weir, 2.5 mi upstream on left bank, into Butte Sink and Sutter Bypass. See schematic diagram of lower Sacramento River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge (since water year 1941), 51,800 ft³/s, Mar. 4, 1983, gage height, 68.50 ft, maximum gage height, 69.20 ft, Feb. 18, 1942; minimum recorded, 820 ft³/s, July 25, 26, 1931, gage height, 34.79 ft.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6230	5500	4670	44400	24700	12500	10700	39800	13700	9350	11200	7080
2	6080	5530	4690	43700	23400	11600	10900	39300	12900	9020	11400	7280
3	6070	5550	4780	37500	21600	11200	11500	38000	12800	8630	11300	7290
4	5560	5610	4890	34000	19200	10800	10800	39100	12900	8290	11200	7200
5	5260	5780	4960	30100	17100	10500	10600	41300	12800	8400	11300	6910
6	4960	5880	4980	26000	15500	10200	10700	39200	12800	8630	11100	6610
7	4830	5840	5000	23600	14300	e9910	9890	36400	12700	8640	11000	6160
8	4810	5810	4960	21900	13400	e9600	9380	33700	12600	8900	10800	6070
9	4760	6250	5010	19500	12900	9280	9020	31200	12700	8910	10100	6160
10	4660	6620	5020	17700	12600	e8850	8860	27800	12600	9290	8890	6230
11	4590	6640	5040	24000	12300	e8620	8550	24000	12400	9730	7770	6250
12	4620	6760	5090	34500	13300	e8550	8230	20400	12500	10300	7600	6390
13	4690	6480	5180	33900	15900	e8550	9180	17600	12800	10500	7310	6820
14	5190	6170	e16000	42700	17100	8860	13800	17200	12800	10600	7150	7310
15	5250	5920	e38000	45000	18100	11800	14500	17900	12900	10600	7180	7540
16	5180	5660	e40000	43400	20200	33000	12900	17900	12800	10500	7190	8240
17	5120	5430	e41500	37800	31800	30400	11900	18500	12600	10400	7070	8050
18	5070	5230	e35000	35000	26600	21300	11900	18200	12400	10400	6440	7290
19	5260	5160	26500	33300	20700	16200	11500	17600	12300	10500	6540	6970
20	5340	5090	22600	31400	20700	14000	11200	16800	12100	10400	6470	6950
21	5350	4960	e29900	29300	21200	13200	11200	16000	11600	10400	6420	7010
22	5290	4770	e38700	28200	19800	12700	11000	15600	11000	10600	6350	7010
23	5240	4500	29600	32100	18700	12000	11400	15500	10600	10500	6010	6950
24	5220	4360	19800	37300	17200	13500	12000	15600	10100	10600	6140	6910
25	5260	4300	15100	35500	16500	13100	19400	15300	9590	10500	6250	6900
26	5360	4210	12900	34600	15900	11800	27100	14500	9320	10600	6390	6910
27	5320	4230	15600	33800	14700	14800	27500	14700	9120	10700	6890	6910
28	5280	4240	32700	33200	13600	15300	24700	14900	8890	11200	7110	6840
29	5340	4200	41400	32900	---	12900	26300	14700	8890	11300	7010	6920
30	5300	4560	42700	30500	---	11800	32900	14500	9340	11300	7030	6860
31	5410	---	38300	27000	---	11200	---	14300	---	11100	7160	---
TOTAL	161900	161240	600570	1013800	509000	408020	419510	717500	352550	310790	251770	208020
MEAN	5223	5375	19370	32700	18180	13160	13980	23150	11750	10030	8122	6934
MAX	6230	6760	42700	45000	31800	33000	32900	41300	13700	11300	11400	8240
MIN	4590	4200	4670	17700	12300	8550	8230	14300	8890	8290	6010	6070
AC-FT	321100	319800	1191000	2011000	1010000	809300	832100	1423000	699300	616500	499400	412600

e Estimated.

SACRAMENTO RIVER BASIN

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6450	8629	13730	17920	19810	17290	12520	10780	9111	8777	8289	7220
MAX	12040	27000	38000	39720	45500	44450	31490	26680	24590	13890	12320	10850
(WY)	1958	1974	1984	1997	1998	1983	1982	1983	1998	1998	1998	1998
MIN	3219	3860	4141	5193	5147	5852	4966	5015	4852	5073	5081	4322
(WY)	1978	1993	1977	1991	1991	1977	1994	1947	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1946 - 2003	
ANNUAL TOTAL	3649230		5114670			
ANNUAL MEAN	9998		14010		11670	
HIGHEST ANNUAL MEAN					21790	
LOWEST ANNUAL MEAN					5671	
HIGHEST DAILY MEAN	42700	Dec 30	45000	Jan 15	51300	Mar 4 1983
LOWEST DAILY MEAN	4200	Nov 29	4200	Nov 29	2620	Oct 16 1977
ANNUAL SEVEN-DAY MINIMUM	4290	Nov 23	4290	Nov 23	2690	Oct 12 1977
MAXIMUM PEAK FLOW			46500	Jan 1	51800	Mar 4 1983
MAXIMUM PEAK STAGE			65.77	Jan 1	68.83	Jan 3 1997
ANNUAL RUNOFF (AC-FT)	7238000		10140000		8458000	
10 PERCENT EXCEEDS	15000		32800		24600	
50 PERCENT EXCEEDS	8310		10800		8380	
90 PERCENT EXCEEDS	5120		5190		5340	

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1959–66, 1973–80, 1996 to 2001.

CHEMICAL DATA: Water years 1959–66, 1996 to 2001.

SPECIFIC CONDUCTANCE: Water years 1995–98.

WATER TEMPERATURE: Water years 1975, 1977–80, 1995–98.

SEDIMENT: Water years 1973–80, 1996 to 2000.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Water years 1995–98.

WATER TEMPERATURE: Water years 1995–98.

INSTRUMENTATION.—Water-quality monitor October 1995 to February 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt Gran, field, mg/L as CaCO ₃ (29802)
OCT									
21...	1030	4710	764	10.5	102	7.7	148	14.0	61.0
NOV									
04...	1130	5340	759	10.2	99	7.9	143	14.0	53.0
DEC									
10...	1100	9470	765	11.2	96	7.7	142	9.0	60.0
JAN									
13...	1300	8140	765	10.9	96	7.9	152	10.0	63.0
FEB									
23...	1500	38200	758	--	--	--	133	10.0	--
MAR									
10...	1030	40200	767	11.2	97	7.8	116	9.5	46.0
APR									
12...	1130	11400	--	--	--	7.9	141	17.5	49.0
MAY									
19...	1140	9290	764	9.3	97	8.1	153	17.5	--
JUN									
15...	1200	10700	758	9.4	103	8.0	125	19.5	50.0
JUL									
19...	1130	10900	761	9.7	103	7.6	113	18.0	58.0
AUG									
18...	1100	7890	--	--	--	7.9	130	24.0	48.0
SEP									
14...	1200	6130	759	9.5	102	7.6	139	18.5	64.0

SACRAMENTO RIVER BASIN

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)
OCT						
21...SS	1030	4710	14.0	30	382	70
NOV						
04...SS	1130	5340	14.0	29	418	70
DEC						
10...SS	1100	9470	9.0	37	946	54
JAN						
13...SS	1300	8140	10.0	27	593	78
FEB						
23...SS	1500	38200	10.0	92	9490	96
MAR						
10...SS	1030	40200	9.5	96	10400	83
APR						
12...SS	1130	11400	17.5	38	1170	64
MAY						
19...SS	1140	9290	17.5	44	1100	61
JUN						
15...SS	1200	10700	19.5	34	982	67
JUL						
19...SS	1130	10900	18.0	20	589	60
AUG						
18...SS	1100	7890	24.0	20	426	82
SEP						
14...SS	1200	6130	18.5	19	314	79

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11389720 BUTTE CREEK BELOW DIVERSION DAM, NEAR STIRLING CITY, CA

LOCATION.—Lat 39°58'53", long 121°35'15", unsurveyed, T.25 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank, 400 ft downstream from diversion dam, 0.1 mi upstream from Haw Creek, and 6.2 mi northwest of Stirling City.

DRAINAGE AREA.—61.3 mi².

PERIOD OF RECORD.—January to February 1986, June 1986 to current year (low-flow records only).

GAGE.—Water-stage recorder. Elevation of gage is 2,840 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by diversion dam 400 ft upstream. Flows computed to 100 ft³/s. Most of the water is diverted at diversion dam to Butte Creek Canal and then to De Sabla Powerplant (station 11389750).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 803.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	22	22	---	---	---	---	---	---	---	21	20
2	22	22	22	---	---	---	---	---	---	---	21	20
3	22	22	22	---	---	---	---	---	---	---	21	20
4	22	22	22	---	---	---	---	---	---	---	21	20
5	22	22	22	---	---	---	---	---	---	---	21	20
6	22	22	22	---	---	---	---	---	---	---	20	20
7	22	46	22	---	---	---	---	---	---	---	20	20
8	22	---	22	---	---	---	---	---	---	---	21	20
9	22	---	22	---	---	---	---	---	---	---	22	20
10	22	---	22	---	---	---	---	---	---	---	22	20
11	22	59	22	---	---	---	---	---	---	---	22	20
12	22	31	22	---	---	---	---	---	---	---	22	20
13	22	24	---	---	---	---	---	---	---	---	22	20
14	22	23	---	---	---	---	---	---	---	---	21	20
15	22	23	---	---	---	---	---	---	---	---	21	20
16	22	23	---	---	---	---	---	---	---	---	21	20
17	22	23	---	---	---	---	---	---	---	---	21	20
18	22	23	---	---	---	---	---	---	---	57	21	20
19	22	23	---	---	---	---	---	---	---	30	21	20
20	22	23	---	---	---	---	---	---	---	22	21	20
21	22	22	---	---	---	---	---	---	---	21	21	20
22	22	22	---	---	---	---	---	---	---	21	22	20
23	22	23	---	---	---	---	---	---	---	21	21	20
24	22	22	---	---	---	---	---	---	---	21	21	20
25	22	23	---	---	---	---	---	---	---	21	21	20
26	22	22	---	---	---	---	---	---	---	21	20	20
27	22	22	---	---	---	---	---	---	---	21	20	20
28	22	22	---	---	---	---	---	---	---	21	20	20
29	22	22	---	---	---	---	---	---	---	21	20	20
30	22	22	---	---	---	---	---	---	---	21	20	20
31	22	---	---	---	---	---	---	---	---	21	20	---
TOTAL	682	---	---	---	---	---	---	---	---	---	649	600
MEAN	22.0	---	---	---	---	---	---	---	---	---	20.9	20.0
MAX	22	---	---	---	---	---	---	---	---	---	22	20
MIN	22	---	---	---	---	---	---	---	---	---	20	20
AC-FT	1350	---	---	---	---	---	---	---	---	---	1290	1190

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

LOCATION.—Lat 39°54'05", long 121°37'24", in NW 1/4 NE 1/4 sec.34, T.24 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank, 30 ft downstream from diversion dam, 0.2 mi upstream from American Ravine, and 2.0 mi north of De Sabla.

DRAINAGE AREA.—96.4 mi².

PERIOD OF RECORD.—April 1992 to current year (low-flow records only).

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 1,900 ft above NGVD of 1929, from topographic map.

REMARKS.—No records computed above 60 ft³/s. Flow regulated by Forks of Butte Diversion Dam 30 ft upstream. Water is diverted out of creek to Butte Canal 7.4 mi upstream by Pacific Gas and Electric Co. Water is diverted 30 ft upstream to Forks of Butte Powerplant (station 11389747).

COOPERATION.—Records were collected by Energy Growth Partnership I, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 6896.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	35	35	---	---	48	---	---	---	48	43	39
2	34	35	35	---	---	48	---	---	---	48	46	39
3	34	35	35	---	---	48	---	---	---	48	47	39
4	34	35	35	---	---	48	---	---	---	48	45	39
5	34	35	35	---	48	48	---	---	---	48	44	40
6	34	35	35	---	48	48	---	---	---	47	44	40
7	33	48	35	---	48	48	58	---	---	48	44	40
8	33	58	35	---	48	48	---	---	---	48	43	41
9	33	49	35	58	48	48	56	---	57	48	44	41
10	33	49	42	---	48	48	48	---	50	48	43	42
11	33	48	37	22	48	48	48	---	50	48	42	40
12	33	55	36	---	48	48	---	---	49	48	42	39
13	33	42	---	---	---	49	---	---	48	48	42	38
14	33	38	---	---	54	---	---	---	48	48	42	37
15	33	37	---	---	50	---	---	---	48	48	41	38
16	33	36	---	---	---	---	---	---	48	47	41	38
17	33	36	---	---	---	---	---	---	48	48	41	38
18	34	36	---	---	---	---	---	---	48	48	41	37
19	34	35	48	---	---	---	---	---	48	47	41	37
20	34	35	---	---	48	---	---	---	48	45	40	37
21	34	35	---	---	48	---	---	---	48	45	41	37
22	34	35	---	---	48	---	---	---	48	45	44	37
23	34	35	48	---	48	---	---	---	48	45	44	37
24	34	35	48	---	48	---	---	---	48	45	42	37
25	35	35	48	---	48	---	---	---	48	45	41	37
26	35	35	49	---	48	---	---	---	48	44	40	37
27	35	35	---	---	48	---	---	---	48	44	40	37
28	35	35	---	---	48	---	---	---	48	44	40	37
29	34	35	---	---	---	---	---	---	48	44	39	37
30	34	35	---	---	---	---	---	---	48	43	39	37
31	35	---	---	---	---	---	---	---	---	43	39	---
TOTAL	1048	1162	---	---	---	---	---	---	---	1441	1305	1149
MEAN	33.8	38.7	---	---	---	---	---	---	---	46.5	42.1	38.3
MAX	35	58	---	---	---	---	---	---	---	48	47	42
MIN	33	35	---	---	---	---	---	---	---	43	39	37
AC-FT	2080	2300	---	---	---	---	---	---	---	2860	2590	2280
a	0	831	8350	15420	11660	11740	14720	15430	10360	2540	0	0

CAL YR 2002 a 55120

WTR YR 2003 a 91070

a Diversion, in acre-feet, to Forks of Butte Powerplant (station 11389747), provided by Energy Growth Partnership I.

11389780 BUTTE CREEK BELOW CENTERVILLE DIVERSION DAM, NEAR PARADISE, CA

LOCATION.—Lat 39°52'01", long 121°37'58", in SW 1/4 NW 1/4 sec.10, T.23 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank, 400 ft downstream from Centerville Diversion Dam, 0.2 mi downstream from De Sabla Powerplant, and 6.8 mi north of Paradise.

DRAINAGE AREA.—101 mi².

PERIOD OF RECORD.—November 1985 to February 1986, June 1986 to current year (low-flow records only).

GAGE.—Water-stage recorder. Elevation of gage is 1,130 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by several reservoirs and diversions upstream. Flows computed to 60 ft³/s. Most of the water is diverted at Centerville Diversion Dam to the Centerville Powerplant (station 11389775).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 803.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	---	---	---	---	---	---	---	---	---	49	43
2	46	---	---	---	---	---	---	---	---	---	44	44
3	46	---	---	---	---	---	---	---	---	---	45	44
4	46	---	---	---	---	---	---	---	---	---	44	44
5	46	---	---	---	---	---	---	---	---	---	44	44
6	46	---	---	---	---	---	---	---	---	---	44	44
7	46	---	---	---	---	---	---	---	---	---	44	44
8	46	---	58	---	---	---	---	---	---	---	44	46
9	46	---	55	---	---	---	---	---	---	---	45	44
10	46	---	---	---	---	---	---	---	---	---	45	44
11	46	---	---	---	---	---	---	---	---	---	45	44
12	46	---	59	---	---	---	---	---	---	---	45	44
13	46	---	---	---	---	---	---	---	---	---	45	45
14	46	---	---	---	---	---	---	---	---	---	45	45
15	46	48	---	---	---	---	---	---	---	---	45	45
16	46	48	---	---	---	---	---	---	---	54	45	45
17	46	49	---	---	---	---	---	---	---	52	45	44
18	46	---	---	---	---	---	---	---	---	51	45	44
19	46	---	---	---	---	---	---	---	---	51	45	44
20	46	---	---	---	---	---	---	---	---	52	45	43
21	46	---	---	---	---	---	---	---	---	52	46	43
22	46	---	---	---	---	---	---	---	---	52	50	44
23	49	---	---	---	---	---	---	---	---	51	43	44
24	54	---	---	---	---	---	---	---	---	51	43	44
25	60	---	---	---	---	---	---	---	---	51	42	43
26	---	---	---	---	---	---	---	---	---	51	43	43
27	---	---	---	---	---	---	---	---	---	50	43	43
28	---	---	---	---	---	---	---	---	---	51	43	43
29	---	---	---	---	---	---	---	---	---	51	44	43
30	---	---	---	---	---	---	---	---	---	52	43	43
31	---	---	---	---	---	---	---	---	---	52	43	---
TOTAL	---	---	---	---	---	---	---	---	---	---	1381	1317
MEAN	---	---	---	---	---	---	---	---	---	---	44.5	43.9
MAX	---	---	---	---	---	---	---	---	---	---	50	46
MIN	---	---	---	---	---	---	---	---	---	---	42	43
AC-FT	---	---	---	---	---	---	---	---	---	---	2740	2610
a	2230	420	225	5480	7360	7970	7470	6060	6000	7570	7180	5610

a Discharge, in acre-feet, from Centerville Powerplant (station 11389775), provided by Pacific Gas & Electric Co.

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

LOCATION.—Lat 39°53'09", long 121°36'35", in NE 1/4 NW 1/4 sec.2, T.23 N., R.3 E., Butte County, Hydrologic Unit 18020120, on right bank, 600 ft upstream from Butte Canal, and 4.6 mi west of Stirling City.

PERIOD OF RECORD.—October 1986 to current year. Monthly discharges for water years 1931–86 are published as a line item to Butte Creek near Chico (station 11390000).

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 2,790 ft above NGVD of 1929, from topographic map.

REMARKS.—Canal diverts from right bank of West Branch Feather River, in sec.16, T.24 N., R.4 E. at Hendricks Diversion Dam to Hendricks Canal, flows through tunnel down Long Ravine to Toadtown Canal, and discharges into Butte Canal. Butte Canal flows to De Sabla Powerplant (station 11389750) on Butte Creek.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 803.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 127 ft³/s, Feb. 12, May 20, 1995, no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	22	82	92	113	107	4.0	113	99	58	65
2	18	18	23	86	91	112	93	7.2	113	94	61	65
3	18	18	22	92	98	113	93	4.4	113	91	61	65
4	18	18	20	92	108	113	87	2.2	113	87	58	66
5	18	18	16	93	107	113	79	2.3	115	84	55	65
6	18	18	13	88	106	113	78	5.5	116	82	61	64
7	18	40	12	92	96	113	88	3.7	115	79	59	64
8	18	69	12	91	83	112	114	2.0	115	76	59	65
9	18	50	12	91	83	110	115	1.7	115	72	58	66
10	18	48	25	99	89	111	114	5.0	115	74	61	66
11	17	46	20	78	94	110	106	4.6	115	88	61	64
12	17	35	81	77	76	110	94	2.9	115	87	60	64
13	17	33	113	84	78	91	95	2.6	114	85	60	63
14	17	30	79	86	76	67	34	2.2	115	84	60	62
15	17	45	55	92	76	76	3.3	2.2	115	82	62	62
16	17	44	56	94	85	65	2.1	2.6	114	81	61	60
17	17	43	53	99	83	84	2.1	4.3	113	79	61	51
18	17	42	79	105	81	112	2.0	3.8	112	76	60	43
19	17	28	79	104	81	101	1.7	3.6	113	59	60	32
20	18	27	50	104	94	102	1.6	7.7	114	58	61	32
21	18	27	56	96	105	111	1.8	12	114	57	69	31
22	18	26	55	91	105	104	1.8	55	112	56	74	31
23	18	26	65	90	104	95	1.5	113	109	54	73	31
24	18	25	65	84	104	98	41	112	110	54	70	31
25	18	25	65	84	103	98	85	111	100	53	69	30
26	18	24	67	84	103	99	92	111	106	51	68	26
27	18	23	61	94	107	113	89	110	102	50	67	26
28	17	23	56	106	112	112	36	113	99	49	66	26
29	17	23	42	104	---	113	5.5	114	100	48	66	26
30	18	23	47	106	---	113	1.7	113	104	58	66	26
31	18	---	64	103	---	113	---	113	---	58	65	---
TOTAL	548	932	1485	2871	2620	3210	1665.1	1151.5	3339	2205	1950	1468
MEAN	17.7	31.1	47.9	92.6	93.6	104	55.5	37.1	111	71.1	62.9	48.9
MAX	19	69	113	106	112	113	115	114	116	99	74	66
MIN	17	17	12	77	76	65	1.5	1.7	99	48	55	26
AC-FT	1090	1850	2950	5690	5200	6370	3300	2280	6620	4370	3870	2910
a	2520	3890	4610	9010	8220	9260	6200	2040	6770	5630	6250	4830

a Discharge, in acre-feet, from De Sabla Powerplant (station 11389750), provided by Pacific Gas & Electric Co.

11390000 BUTTE CREEK NEAR CHICO, CA

LOCATION.—Lat 39°43'34", long 121°42'28", in NW 1/4 NW 1/4 sec.36, T.22 N., R.2 E., Butte County, Hydrologic Unit 18020105, on right bank, 0.7 mi downstream from Little Butte Creek, and 7.5 mi east of Chico.

DRAINAGE AREA.—147 mi².

WATER-DISCHARGE RECORDS

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 and crest-stage gage. Elevation of gage is 320 ft above NGVD of 1929, from topographic map. Prior to Aug. 13, 1944, water-stage recorder at site 0.4 mi upstream at different datum. Aug. 13, 1944, to June 5, 1986, at datum 3.00 ft higher.

REMARKS.—Records good. Flow slightly regulated by storage in Magalia Reservoir, usable capacity, 2,640 acre-ft, and since 1957 by Paradise Reservoir, usable capacity, 11,500 acre-ft. Diversions upstream from station for irrigation and domestic use of about 7,000 acre-ft annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal (station 11389800).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 35,600 ft³/s, Jan. 1, 1997, gage height, 15.06 ft, in gage well, 15.7 ft from floodmarks, on basis of slope-area measurement of peak flow; maximum gage height, 17.52 ft, Feb. 17, 1986, present datum; minimum discharge, 10 ft³/s, Nov. 29, 1952.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,700 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0530	5,950	5.85	Mar. 15	0915	4,440	5.03
Dec. 28	1845	7,330	6.53	Apr. 24	1115	3,590	4.51
Jan. 10	2400	3,040	4.14				

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	91	102	1400	709	440	614	1530	598	217	158	146
2	79	90	103	1010	695	429	602	1360	579	222	165	145
3	83	89	102	806	635	419	570	1810	570	216	173	144
4	81	88	101	662	613	418	610	2220	559	214	162	145
5	80	90	97	619	532	411	566	1700	550	210	151	144
6	79	92	93	576	503	406	570	1420	527	206	158	142
7	77	158	92	561	471	402	612	1160	504	203	157	144
8	77	382	90	541	443	392	934	1180	493	197	155	149
9	79	318	91	523	431	380	918	1060	475	188	153	148
10	79	265	123	1400	423	390	864	936	457	184	155	152
11	77	239	117	2050	427	401	847	888	444	198	156	151
12	80	159	105	1470	395	403	1100	810	432	197	154	142
13	80	140	461	2450	549	457	1800	757	422	195	151	140
14	78	126	2530	2030	533	774	1500	758	411	194	150	145
15	81	135	1440	1600	498	2900	1140	745	403	191	152	144
16	82	136	3250	1250	1190	1680	964	744	391	187	149	142
17	82	128	1100	1040	835	1170	903	703	383	182	149	132
18	81	124	651	950	661	941	873	654	364	180	148	122
19	83	115	529	846	613	805	810	594	352	165	147	113
20	84	109	758	754	571	765	781	568	332	159	145	111
21	85	108	1490	755	550	695	830	567	326	158	153	110
22	85	107	746	939	538	653	819	689	294	154	174	109
23	86	107	495	1810	517	667	786	896	262	152	174	108
24	87	106	407	1420	492	628	2370	906	258	153	161	108
25	88	105	358	1140	477	589	2150	883	240	152	156	106
26	88	103	368	1030	459	911	1890	845	238	148	152	104
27	88	102	2210	949	453	900	1570	753	241	146	152	103
28	92	102	5380	929	446	754	1820	686	238	145	148	102
29	89	102	3370	829	---	669	2060	672	224	145	146	102
30	88	102	1770	755	---	627	1850	662	238	151	147	103
31	88	---	1870	718	---	602	---	631	---	156	146	---
TOTAL	2569	4118	30399	33812	15659	22078	33723	29787	11805	5565	4797	3856
MEAN	82.9	137	981	1091	559	712	1124	961	394	180	155	129
MAX	92	382	5380	2450	1190	2900	2370	2220	598	222	174	152
MIN	77	88	90	523	395	380	566	567	224	145	145	102
AC-FT	5100	8170	60300	67070	31060	43790	66890	59080	23420	11040	9510	7650

SACRAMENTO RIVER BASIN

11390000 BUTTE CREEK NEAR CHICO, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	137	224	462	693	812	764	679	504	286	166	133	119
MAX	775	1269	2061	2847	2925	2601	1848	1314	773	356	223	183
(WY)	1963	1974	1956	1997	1986	1995	1982	1995	1998	1998	1975	1998
MIN	65.8	77.8	89.5	91.0	114	123	114	134	79.4	54.4	46.1	51.9
(WY)	1992	1992	1991	1991	1977	1977	1977	1977	1977	1977	1931	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	124129		198168			
ANNUAL MEAN	340		543		413	
HIGHEST ANNUAL MEAN					834	
LOWEST ANNUAL MEAN					94.0	
HIGHEST DAILY MEAN	5380	Dec 28	5380	Dec 28	26600	Jan 1 1997
LOWEST DAILY MEAN	74	Sep 24	77	Oct 7	44	Aug 23 1931
ANNUAL SEVEN-DAY MINIMUM	77	Sep 21	78	Oct 5	44	Aug 23 1931
MAXIMUM PEAK FLOW			7330		35600	
MAXIMUM PEAK STAGE			6.53		17.52	
ANNUAL RUNOFF (AC-FT)	246200		393100		299100	
10 PERCENT EXCEEDS	581		1210		858	
50 PERCENT EXCEEDS	204		390		209	
90 PERCENT EXCEEDS	87		91		102	

11390000 BUTTE CREEK NEAR CHICO, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1953–79, 1999 to current year.

CHEMICAL DATA: Water years 1953–79.

WATER TEMPERATURE: Water years 1962–79, 1999 to current year.

TURBIDITY: Water years 2001 to current year.

SEDIMENT DATA: Water years 2001–02.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: November 1961 to January 1979, October 1998 to current year.

TURBIDITY: January 2001 to current year.

INSTRUMENTATION.—Temperature recorder since October 1998 and Turbidity recorder since October 2000.

REMARKS.—Temperature record rated excellent. Turbidity record rated fair except for Aug. 21 to Sept. 8, which is rated poor. Interruption in record due to malfunction of the recording equipment. Unpublished sediment data available in the files of the U.S. Geological Survey for December 2000 to October 2002.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 27.5°C, July 13, 14, 2002; minimum recorded, 0.5°C, Dec. 8, 31, 1978, Jan. 1, 1979.

TURBIDITY: Maximum recorded, 280 NTU, Dec. 16, 2002; minimum recorded, 0.0 NTU, many days during most years.

EXTREME FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 26.5°C, July 22, 23, 29; minimum recorded, 4.0°C, Feb. 8, 9.

TURBIDITY: Maximum record, 280 NTU, Dec. 16; minimum recorded, 0.0 NTU, many days during the year.

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

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

SACRAMENTO RIVER BASIN

11390000 BUTTE CREEK NEAR CHICO, CA—Continued

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	9.5	11.5	9.0	17.5	14.0	21.5	16.0	23.5	21.5	22.5	17.5
2	9.5	7.0	11.0	10.0	18.0	14.0	21.0	16.0	22.5	21.0	23.0	18.0
3	9.0	6.5	11.0	10.0	18.5	14.5	21.0	15.5	24.0	19.5	21.0	18.5
4	9.0	6.0	11.0	9.5	19.0	15.0	22.0	16.0	24.0	19.0	22.5	18.5
5	9.0	5.5	12.0	9.5	19.5	15.5	22.5	16.5	23.5	19.0	23.0	18.5
6	9.0	7.0	10.5	9.5	19.5	15.5	22.5	17.0	23.0	18.5	22.0	18.0
7	11.0	7.0	11.5	9.5	20.0	16.0	22.5	17.5	22.5	17.5	19.0	17.0
8	12.0	8.0	10.5	8.5	20.5	16.0	22.5	17.0	22.5	17.5	19.5	16.5
9	12.0	9.0	11.0	8.0	20.5	16.5	22.5	17.0	22.5	17.0	19.0	16.5
10	11.5	9.0	12.5	9.0	19.5	16.0	23.0	17.5	22.5	17.0	19.5	15.5
11	12.5	9.0	12.0	9.5	19.5	15.0	23.5	18.0	22.5	17.0	20.0	15.0
12	10.0	8.5	13.5	10.5	19.0	15.0	23.5	18.5	22.0	16.5	20.5	16.0
13	9.0	7.5	14.5	11.0	19.5	15.5	23.5	18.5	22.0	16.5	20.5	16.0
14	10.5	7.5	15.0	12.0	19.5	15.0	23.5	18.5	21.5	16.5	20.0	16.0
15	9.5	8.0	14.5	12.0	20.0	15.0	23.5	18.5	22.0	16.5	20.0	16.0
16	10.0	8.5	14.5	11.5	21.0	16.0	23.5	18.5	21.5	16.0	19.0	16.0
17	11.5	9.0	14.0	11.0	22.0	17.0	23.5	18.5	22.0	16.5	19.0	15.0
18	12.0	8.5	13.5	10.5	21.0	17.5	24.0	18.5	22.5	17.0	18.5	14.5
19	12.0	8.5	14.5	10.5	21.0	17.0	24.0	19.0	22.5	17.5	19.0	14.5
20	12.0	9.0	15.5	11.5	21.0	17.0	24.5	20.0	22.5	17.5	19.5	15.0
21	11.5	9.0	16.0	12.5	20.5	16.0	26.0	20.5	21.0	18.5	19.5	15.0
22	10.0	8.0	17.5	13.5	20.0	16.0	26.5	21.5	20.0	18.5	20.0	15.5
23	11.0	9.0	17.0	14.5	19.5	15.0	26.5	22.0	21.5	17.0	20.0	16.0
24	10.0	9.0	16.5	14.0	19.5	14.5	26.0	22.5	22.0	17.0	20.0	16.0
25	9.0	8.5	16.0	13.5	20.0	14.5	25.5	21.5	22.5	17.0	20.0	16.5
26	10.5	8.0	15.5	13.0	21.0	15.5	26.0	21.0	22.0	18.0	20.0	16.0
27	11.5	8.5	16.5	12.5	22.0	16.5	26.0	20.5	22.5	18.0	20.0	16.5
28	10.0	9.0	17.5	14.0	23.0	17.5	26.0	20.5	22.0	17.5	19.5	16.0
29	10.0	9.0	16.0	14.0	22.5	17.5	26.5	21.0	21.5	16.5	19.5	16.0
30	12.0	9.0	16.5	13.0	22.0	17.0	26.0	22.0	21.5	16.5	18.5	15.0
31	---	---	17.0	13.5	---	---	25.5	21.5	21.5	17.5	---	---
MONTH	12.5	5.5	17.5	8.0	23.0	14.0	26.5	15.5	24.0	16.0	23.0	14.5

SACRAMENTO RIVER BASIN

11390000 BUTTE CREEK NEAR CHICO, CA—Continued

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

Date	Time	Depth at sample location, feet (81903)	Tur- bidity, water, unfltrd field, NTU (61028)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
MAR					
07...*	1230	.84	.8	8.5	39.0
07...*	1235	1.22	.4	8.5	63.0
07...*	1240	1.44	.5	8.5	87.0
07...*	1245	1.50	.5	8.5	101
07...*	1250	1.22	.6	8.5	123
17...*	1025	1.20	9.7	8.0	19.0
17...*	1030	2.10	9.0	8.0	55.0
17...*	1035	2.30	9.4	8.0	81.0
17...*	1040	2.40	9.4	8.0	104
17...*	1045	2.00	8.8	8.0	123
SEP					
05...*	1345	.60	1.4	21.4	39.0
05...*	1350	1.10	1.3	21.4	61.0
05...*	1355	1.26	1.6	21.4	76.0
05...*	1400	1.30	1.7	21.4	90.0
05...*	1405	1.00	1.5	21.4	104

* Instantaneous discharge at the time of the cross-sectional measurements: Mar. 7, 409 ft³/s; Mar. 17, 1,150 ft³/s; Sept. 5, 145 ft³/s.

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA

LOCATION.—Lat 39°00'36", long 121°49'25", in NW 1/4 NE 1/4 sec.2, T.13 N., R.1 E., Colusa County, Hydrologic Unit 18020104, on right bank, 1,200 ft downstream from Wilkins Slough, 5.8 mi southeast of Grimes, and at mile 62.9 upstream from Sacramento.

DRAINAGE AREA.—12,926 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—August 1931 to current year (prior to October 1938, low-water periods only). Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough".

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 3.00 ft below NGVD of 1929.

REMARKS.—Records good. Natural flow of stream affected by storage reservoirs, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas. When discharge exceeds about 23,000 ft³/s, flow begins over Tisdale Weir, 1.0 mi upstream on left bank, into Sutter Bypass. Records tabulated below do not include flow over Tisdale Weir. See schematic diagram of lower Sacramento River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge (water years 1939–2003), 32,700 ft³/s, Feb. 20, 1986, gage height, 52.50 ft, maximum gage height, 52.75 ft, Mar. 1, 1940; minimum daily, 645 ft³/s, Aug. 9, 1939.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6510	5350	4630	29800	24000	13200	10900	28000	12300	7670	9660	6480
2	6390	5330	4660	30500	23300	12200	10600	28300	11500	7290	9770	6600
3	6360	5380	4720	29100	22000	11500	11400	28000	11100	6950	9880	6730
4	6070	5450	4870	27900	20000	11100	11000	28200	11200	6410	9870	6770
5	5660	5650	5000	26500	18000	10700	10500	28900	11200	6440	9980	6630
6	5380	6090	5060	24800	16300	10400	10700	28700	11200	6690	9970	6440
7	5150	6140	5120	23700	15100	10100	10000	27900	11200	6810	9780	6160
8	5040	6380	5130	22300	14100	9790	9410	26900	11200	7030	9670	5930
9	4970	6710	5270	20300	13400	9430	8910	26100	11200	7130	9110	6050
10	4810	7160	5320	18500	12900	9040	8680	25000	11300	7340	8190	6230
11	4710	7300	5420	19800	12500	8840	8450	23500	11100	8010	6910	6300
12	4670	7360	5560	26500	12700	8770	8150	20800	10900	8550	6390	6410
13	4690	7220	5770	26200	e15200	8730	8400	17600	11200	8890	6130	6670
14	5000	6870	6710	28600	16600	8750	12000	15900	11300	9010	5910	7110
15	5200	6580	19200	29500	17800	9890	14600	16100	11400	9140	5920	7520
16	5180	6250	27100	29700	18500	22600	13600	16400	11300	8990	5920	7950
17	5130	5970	28700	28600	25000	25900	12300	16700	11200	8960	5950	8300
18	5050	5740	28500	27600	24900	22700	12000	16600	11000	8870	5500	7730
19	5200	5500	25600	27000	21900	18100	11800	16100	10700	8930	5310	7280
20	5340	5350	22600	26400	20300	15300	11300	15100	10600	9010	5410	7110
21	5380	5180	26200	25600	21300	14000	11200	14300	10200	8820	5410	7150
22	5280	4990	28000	25100	20300	13400	11000	13800	9620	9120	5450	7140
23	5100	4710	26300	25700	19300	12600	11100	13600	9120	9070	5240	7110
24	5130	4540	22200	27300	18000	13100	11700	13600	8750	9040	5320	7010
25	5170	4430	17600	27200	17100	13800	15300	13600	8200	9010	5540	6970
26	5250	4330	14500	26800	16500	12500	23500	12900	7740	9050	5710	6960
27	5260	4300	14200	26600	15500	13300	24700	12500	7440	9070	5970	6980
28	5220	4280	24000	26400	14400	15800	23800	12800	7200	9540	6400	6920
29	5180	4240	28300	26300	---	13800	23900	12800	7000	9740	6350	6940
30	5230	4410	29400	25800	---	12400	25600	12700	7250	9800	6310	6970
31	5270	---	28600	24900	---	11500	---	12600	---	9650	6430	---
TOTAL	163980	169190	484240	811000	506900	403240	396500	596000	306620	260030	219360	206550
MEAN	5290	5640	15620	26160	18100	13010	13220	19230	10220	8388	7076	6885
MAX	6510	7360	29400	30500	25000	25900	25600	28900	12300	9800	9980	8300
MIN	4670	4240	4630	18500	12500	8730	8150	12500	7000	6410	5240	5930
AC-FT	325300	335600	960500	1609000	1005000	799800	786500	1182000	608200	515800	435100	409700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2003, BY WATER YEAR (WY)

MEAN	6474	8391	12420	15200	16860	15440	11420	9511	7929	7515	7309	7227
MAX (WY)	11800	20510	27430	27310	29090	29490	24920	23110	20670	12500	10940	10620
MIN (WY)	1958	1974	1984	1997	1998	1983	1982	1983	1998	1998	1998	1967
MIN (WY)	3330	3839	4103	5281	5012	5152	4201	3397	3451	3784	4086	4065
(WY)	1978	1993	1977	1991	1991	1977	1994	1992	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1946 - 2003
ANNUAL TOTAL	3340130	4523610	
ANNUAL MEAN	9151	12390	10440
HIGHEST ANNUAL MEAN			17980
LOWEST ANNUAL MEAN			5109
HIGHEST DAILY MEAN	29400	Dec 30	30500
LOWEST DAILY MEAN	4010	Apr 24	4240
ANNUAL SEVEN-DAY MINIMUM	4240	Apr 22	4360
MAXIMUM PEAK FLOW			30800
MAXIMUM PEAK STAGE		49.91	Jan 2
ANNUAL RUNOFF (AC-FT)	6625000		7567000
10 PERCENT EXCEEDS	15100		22200
50 PERCENT EXCEEDS	7680		8020
90 PERCENT EXCEEDS	5050		5050

e Estimated.

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 1966 to current year.

WATER TEMPERATURE: October 1966 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: October 1966 to current year.

INSTRUMENTATION.—Water-temperature recorder since October 1966.

REMARKS.—Water-temperature records rated excellent except for Nov. 14–26, Mar. 2–28, which are good; Oct. 1–5, which are fair; and Oct. 6 to Nov. 13, which are poor. Temperature recorder located at gaging station on right bank. Water temperature is affected by regulation from dams upstream. Interruption in record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 25.5°C, Sept. 6–8, 1977, June 3–5, 1992; minimum recorded, 3.5°C, Dec. 23–25, 1990.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 22.5°C, Aug. 26; minimum recorded, 7.5°C, Dec. 22, 24, 25.

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

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

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

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

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

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

DATE	TIME	Depth at sample location, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
APR				
30...*	1040	13.0	12.0	14.0
30...*	1043	20.0	12.0	43.0
30...*	1048	27.0	12.0	72.0
30...*	1053	28.3	12.0	101
30...*	1055	31.1	12.0	130
30...*	1058	30.9	12.0	159
30...*	1100	31.1	12.0	188
30...*	1102	31.6	12.0	217
30...*	1104	33.3	12.0	246
30...*	1106	19.5	12.0	275
AUG				
26...*	1212	4.10	21.6	11.0
26...*	1215	10.8	21.5	34.0
26...*	1218	10.8	21.5	57.0
26...*	1221	12.6	21.5	80.0
26...*	1224	12.2	21.5	103
26...*	1227	12.8	21.5	126
26...*	1230	13.6	21.5	149
26...*	1233	14.2	21.5	172
26...*	1236	15.4	21.5	195
26...*	1239	9.70	21.6	218

* Instantaneous discharge at time of cross-sectional measurement: Apr. 30, 25,400 ft³/s; Aug. 26, 5,720 ft³/s.

11391100 SACRAMENTO SLOUGH NEAR KNIGHTS LANDING, CA

LOCATION.—Lat 38°46'45", long 121°38'15", in SE 1/4 NE 1/4, sec.20, T.11 S, R.3 E, [Sutter County](#), Hydrologic Unit 18020104, on right bank, 1 mi east of Karnak Pumping Plant, and 4.5 mi east of Knights Landing.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—Water years 1996 to 1998, January 2001 to current year.

CHEMICAL DATA: February 1996 to September 1998, January 2001 to current year.

SPECIFIC CONDUCTANCE: October 1995 to September 1996.

WATER TEMPERATURE: October 1995 to September 1996.

SEDIMENT DATA: February 1996 to September 1998, January 2001 to current year.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 1995 to September 1996.

WATER TEMPERATURE: October 1995 to September 1996.

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

Date	Time	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unfl- trd uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Chlor- ide, water, fltrd, mg/L (00940)
NOV									
13...	1000	770	8.9	86	7.4	513	14.0	156	55.2
JAN									
21...	1040	766	9.5	84	7.4	183	10.0	67.0	9.13
FEB									
12...	0930	756	9.7	86	7.5	325	9.5	139	11.1
MAR									
19...	1030	767	9.0	85	7.2	154	13.0	63.0	4.45
APR									
14...	0950	761	8.3	83	8.1	682	15.0	186	86.3
MAY									
20...	1010	767	7.4	81	7.3	203	20.0	160	4.80
JUN									
17...	1020	760	6.7	81	7.8	242	25.0	91.0	7.88
JUL									
22...	1000	765	8.5	110	7.7	341	29.0	145	17.1
SEP									
23...	1020	759	7.7	89	7.7	285	22.0	132	8.78

Date	Sulfate water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	2,6-Di- ethyl- aniline water, fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)
NOV									
13...	18.7	.83	.08	.18	.011	.14	.26	<.006	<.006
JAN									
21...	7.0	.19	<.04	.24	<.008	.03	.081	<.006	<.006
FEB									
12...	7.7	.49	<.04	.16	<.008	.05	.144	<.006	<.006
MAR									
19...	5.9	.51	<.04	.10	<.008	.04	.137	<.006	<.006
APR									
14...	18.5	.47	<.04	.09	e.005	.09	.175	<.006	<.006
MAY									
20...	4.8	.54	<.04	<.06	.009	.05	.174	<.006	<.006
JUN									
17...	7.7	.43	<.04	.12	<.008	.07	.143	<.006	<.006
JUL									
22...	10.6	.61	<.04	<.06	<.008	.07	.185	<.006	<.006
SEP									
23...	5.8	.38	<.04	<.06	<.008	.06	.122	<.006	<.006

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

e Estimated.

11391100 SACRAMENTO SLOUGH NEAR KNIGHTS LANDING, CA—Continued

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

Date	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- HCH, water, fltrd, ug/L (34253)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd, 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd, ug/L (82673)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd, 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd, 0.7u GF ug/L (82674)
NOV									
13...	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.013	e.007
JAN									
21...	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	<.020
FEB									
12...	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	<.020
MAR									
19...	<.006	<.004	<.005	e.002	<.050	<.010	<.002	<.041	e.007
APR									
14...	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	<.020
MAY									
20...	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	<.020
JUN									
17...	<.006	<.004	<.005	.013	<.050	<.010	<.002	<.041	<.020
JUL									
22...	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.657	<.020
SEP									
23...	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	<.040
Date	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water, fltrd, 0.7u GF ug/L (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water, fltrd, 0.7u GF ug/L (82682)	Desulf- inyl fipro- nil, water, fltrd, ug/L (62170)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd, 0.7u GF ug/L (82677)	EPTC, water, fltrd, 0.7u GF ug/L (82668)
NOV									
13...	<.005	<.006	<.018	.004	<.004	.007	<.005	<.02	.003
JAN									
21...	<.005	<.006	<.018	<.003	<.004	.009	<.005	<.02	<.002
FEB									
12...	<.005	<.006	<.018	<.003	<.004	.050	<.005	<.02	<.002
MAR									
19...	<.005	<.006	<.018	e.001	<.004	.018	<.005	<.02	.002
APR									
14...	<.005	<.006	<.018	<.003	<.004	.013	<.005	<.02	.004
MAY									
20...	<.005	<.006	<.018	<.003	<.004	.005	<.005	<.02	<.002
JUN									
17...	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002
JUL									
22...	.010	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002
SEP									
23...	<.010	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002
Date	Ethal- flur- alin, water, fltrd, 0.7u GF ug/L (82663)	Etho- prop, water, fltrd, 0.7u GF ug/L (82672)	Desulf- inyl- fipro- nil amide, wat flt ug/L (62169)	Fipro- nil sulfide water, fltrd, ug/L (62167)	Fipro- nil sulfone water, fltrd, ug/L (62168)	Fipro- nil, water, fltrd, ug/L (62166)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (82666)
NOV									
13...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035
JAN									
21...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035
FEB									
12...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035
MAR									
19...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035
APR									
14...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035
MAY									
20...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035
JUN									
17...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035
JUL									
22...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035
SEP									
23...	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035

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

11391100 SACRAMENTO SLOUGH NEAR KNIGHTS LANDING, CA—Continued

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

Date	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd, 0.7u GF (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd, 0.7u GF (82671)	Naprop- amide, water, fltrd, ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd, 0.7u GF (82669)
NOV									
13...	e.013	<.006	.017	.043	.205	<.007	<.003	<.010	<.004
JAN									
21...	<.027	<.006	e.005	<.006	.011	<.007	<.003	<.010	<.004
FEB									
12...	<.027	<.006	<.013	<.006	.057	<.007	<.003	<.010	<.004
MAR									
19...	<.027	<.006	e.004	<.006	.009	<.007	<.003	<.010	<.004
APR									
14...	<.027	<.006	.014	<.006	.025	<.007	<.003	<.010	<.004
MAY									
20...	<.027	<.040	e.008	<.006	.025	<.007	<.003	<.010	<.004
JUN									
17...	<.027	<.006	e.012	<.006	4.84	<.007	<.003	<.010	<.004
JUL									
22...	<.027	<.006	.017	<.006	.330	<.007	<.003	<.010	<.004
SEP									
23...	<.027	<.020	<.013	<.006	.068	<.007	<.003	<.010	<.004
Date	Pendi- meth- alin, water, fltrd, 0.7u GF (82683)	Phorate water, fltrd, 0.7u GF (82664)	Prome- ton, water, fltrd, ug/L (04037)	Pron- amide, water, fltrd, 0.7u GF (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd, ug/L (82679)	Propar- gite, water, fltrd, ug/L (82685)	Sima- zine, water, fltrd, ug/L (04035)	Tebu- thiuron water, fltrd, 0.7u GF (82670)
NOV									
13...	<.022	<.011	<.01	<.004	<.010	.034	<.02	.009	.06
JAN									
21...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.007	<.02
FEB									
12...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.013	<.02
MAR									
19...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.068	<.02
APR									
14...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.025	<.02
MAY									
20...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.008	<.02
JUN									
17...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02
JUL									
22...	<.022	<.011	<.01	<.004	<.010	.034	<.02	<.005	<.02
SEP									
23...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02
Date	Terba- cil, water, fltrd, 0.7u GF (82665)	Terbu- fos, water, fltrd, 0.7u GF (82675)	Thio- bencarb water, fltrd, 0.7u GF (82681)	Tri- allate, water, fltrd, 0.7u GF (82678)	Tri- flur- alin, water, fltrd, 0.7u GF (82661)				
NOV									
13...	<.034	<.02	.040	<.002	e.004				
JAN									
21...	<.034	<.02	e.004	<.002	<.009				
FEB									
12...	<.034	<.02	.019	<.002	<.009				
MAR									
19...	<.034	<.02	.005	<.002	e.003				
APR									
14...	<.034	<.02	.005	<.002	<.009				
MAY									
20...	<.034	<.02	.027	<.002	<.009				
JUN									
17...	<.034	<.02	.485	<.002	e.001				
JUL									
22...	<.034	<.02	.114	<.002	e.004				
SEP									
23...	<.034	<.02	.018	<.002	<.009				

e Estimated.

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

11391100 SACRAMENTO SLOUGH NEAR KNIGHTS LANDING, CA—Continued

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

Date	Time	Temperature, water, deg C (00010)	Sus- pended sedi- ment concentration mg/L (80154)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
NOV				
13...SS	1000	14.0	123	96
JAN				
21...SS	1040	10.0	28	99
FEB				
12...SS	0930	9.5	41	97
APR				
14...SS	0950	15.0	56	94
MAY				
20...SS	1010	20.0	88	98
JUN				
17...SS	1020	25.0	55	96
JUL				
22...SS	1000	29.0	60	98
SEP				
23...SS	1020	22.0	34	96

SS Suspended sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

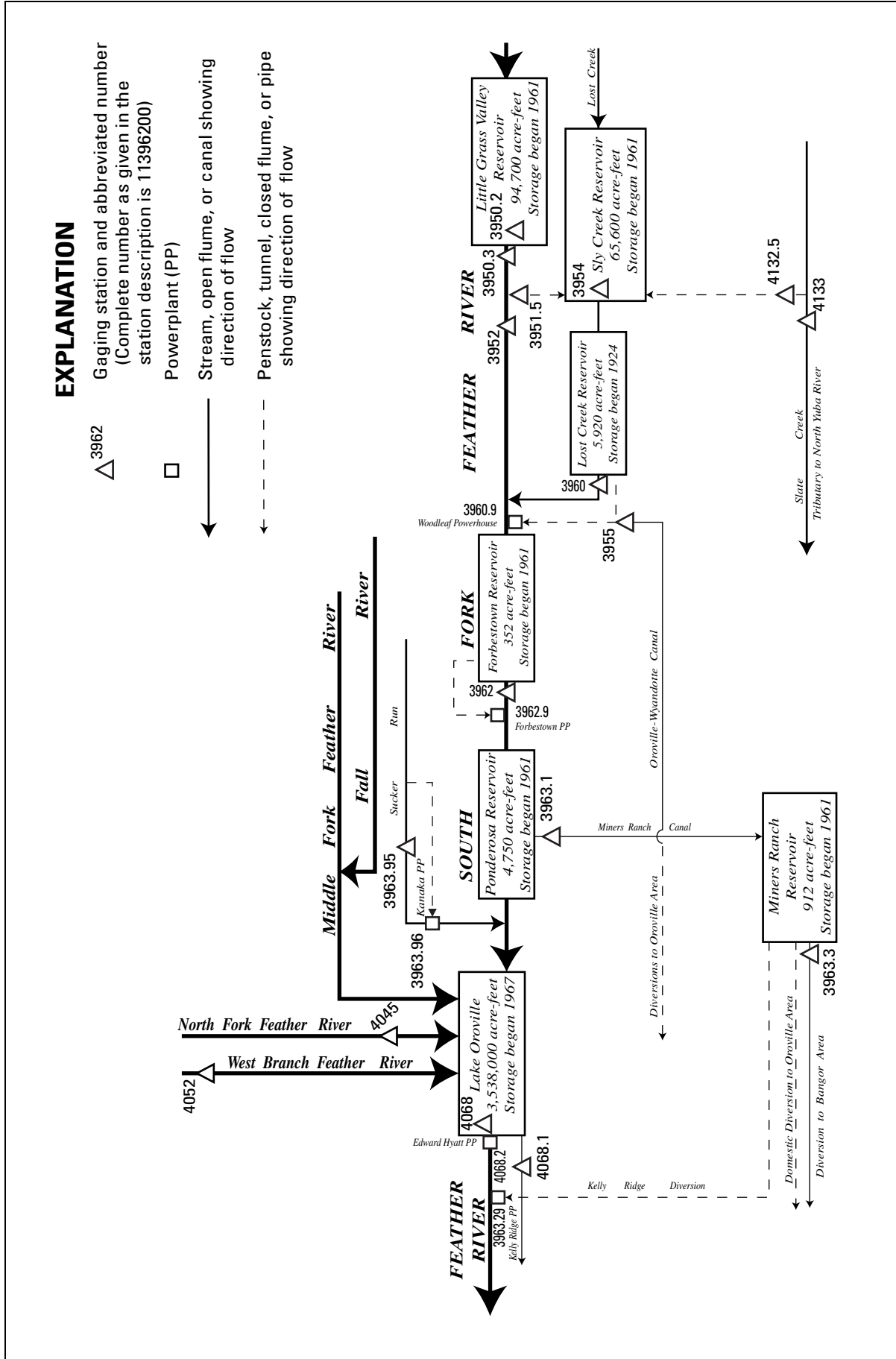


Figure 28. Diversions and storage in South Fork Feather River Basin.

11395020 LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE, CA

LOCATION.—Lat 39°43'25", long 121°01'10", in SE 1/4 NW 1/4 sec.31, T.22 N., R.9 E., [Plumas County](#), Hydrologic Unit 18020123, Plumas National Forest, on right bank, 300 ft upstream from dam on South Fork Feather River, and 3.3 mi northwest of La Porte.

DRAINAGE AREA.—25.8 mi².

PERIOD OF RECORD.—October 1961 to current year. Monthend elevation and contents only, October 1961 to October 1962.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Oroville–Wyandotte Irrigation District). Prior to Nov. 1, 1962, in valve chamber in dam at same datum.

REMARKS.—Reservoir is formed by rockfill dam. Storage began in October 1961. Total capacity, 94,700 acre-ft, between elevations 4,876 ft, invert of release valve, and 5,047 ft, top of spillway gates, all of which is available for release. Water is released down South Fork Feather River for power development and irrigation. Records represent total contents at 2400 hours. See schematic diagram of [South Fork Feather River Basin](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 98,000 acre-ft, May 1, 1995, May 17, 1996, elevation, 5,049.0 ft; minimum since reservoir first filled, 30,300 acre-ft, many days during 1977, elevation, 4,994.8 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 93,700 acre-ft, May 24, elevation, 5,046.4 ft; minimum, 37,200 acre-ft, Dec. 5, elevation, 5,002.7 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1963)

4,990	26,300	5,010	44,400	5,030	68,900	5,048	96,300
5,000	34,600	5,020	55,900	5,040	83,500	5,049	98,000

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58200	48200	37300	49000	63400	69900	85100	91100	93300	90400	82300	70300
2	58200	47500	37300	49200	63900	70100	85500	91200	93200	90400	82000	69900
3	58200	47000	37300	49600	64300	70200	86000	91500	93200	90400	81700	69600
4	58100	46300	37300	49800	64700	70200	86500	91900	93300	90400	81300	69200
5	58100	45700	37200	50000	65000	70500	86800	92200	93300	90300	80900	68800
6	58100	45100	37200	50300	65200	70500	87100	92400	93300	90300	80600	68400
7	58000	e44400	37200	50400	65400	70600	87400	92500	93300	90300	80100	68000
8	58000	e44100	37200	50500	65600	70800	87600	92700	93300	90300	79700	67500
9	58000	e43700	37300	50800	65800	70900	e87600	92700	93200	90300	79400	67100
10	58000	e43400	37400	51500	66000	71100	87700	92700	93000	90100	79000	66700
11	57800	e43000	37400	52000	66200	71200	87700	92500	92800	89800	78500	66300
12	57800	e42700	37400	52400	66300	71400	88200	92500	92700	89500	78200	65900
13	57800	e42400	38200	53000	66700	71500	88500	92500	92500	89000	77800	65400
14	57700	e42000	39700	53200	66900	73100	88700	92500	92200	88700	77400	65000
15	57600	e41700	40500	53700	67200	75200	88700	92700	92000	88400	77100	64600
16	57200	e41400	41400	54000	67600	76300	88900	93000	91900	88100	76600	64100
17	56500	e41100	41700	54300	67800	77100	88900	93200	91700	87700	76200	63800
18	56000	40800	41900	54500	68100	77600	88900	93300	91500	87300	75700	63400
19	55400	40300	42200	54700	68200	78200	88900	93500	91400	87000	75500	63200
20	54800	39700	42600	55000	68500	78500	e89000	93500	91400	86600	75000	62900
21	54300	39200	42800	55300	68600	79000	e89300	93500	91200	86300	74600	62600
22	53800	38600	42900	56000	68900	79400	e89500	93500	91200	86000	74300	62300
23	53200	38100	43000	57400	69000	79800	89600	93500	91100	85500	74000	62000
24	52700	37500	43100	58500	69200	80400	90100	93700	91100	85200	73600	61700
25	52100	37300	43100	59400	69300	80900	90300	93700	91100	84900	73100	61500
26	51600	37300	43300	60000	69500	81700	90600	93700	90900	84400	72800	61100
27	51100	37300	44200	60800	69600	82500	90700	93700	90900	84100	72400	60800
28	50500	37300	46400	61500	69800	82900	90700	93700	90700	83800	72000	60600
29	49900	37300	47300	62100	---	83500	90900	93700	90700	83500	71500	60200
30	49400	37300	48000	62600	---	84100	91100	93700	90600	83000	71200	59900
31	48800	---	48600	63000	---	84600	---	93500	---	82600	70800	---
MAX	58200	48200	48600	63000	69800	84600	91100	93700	93300	90400	82300	70300
MIN	48800	37300	37200	49000	63400	69900	85100	91100	90600	82600	70800	59900
a	5013.8	5002.8	5013.6	5025.5	5030.6	5040.7	5044.8	5046.3	5045.5	5039.4	5031.3	5023.1
b	-9600	-11500	+11300	+14400	+6800	+14800	+6500	+2400	-2900	-8000	-11800	-10900

CAL YR 2002 b -5000

WTR YR 2003 b +1500

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11395030 SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CA

LOCATION.—Lat 39°43'26", long 121°01'16", in SW 1/4 NW 1/4 sec.31, T.22 N., R.9 E., [Plumas County](#), Hydrologic Unit 18020123, Plumas National Forest, on left bank, 0.1 mi downstream from Little Grass Valley Dam, and 3.5 mi northwest of La Porte.

DRAINAGE AREA.—25.9 mi².

PERIOD OF RECORD.—October 1927 to September 1933 (published as "near La Porte"), October 1960 to current year.

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 4,809.0 ft above NGVD of 1929. Prior to Oct. 1, 1960, at site 0.4 mi upstream at different datum. Oct. 1, 1960, to Oct. 30, 1962, at present site and datum. Nov. 1, 1962, to May 31, 1966, at site on outlet works at base of Little Grass Valley Dam 0.1 mi upstream at datum 4,850.00 ft above NGVD of 1929.

REMARKS.—Flow regulated by Little Grass Valley Reservoir (station 11395020) beginning in October 1961. No diversion upstream from station. See schematic diagram of [South Fork Feather River Basin](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,370 ft³/s, Jan. 1, 1997, gage height, 14.80 ft; minimum daily, 0.2 ft³/s, Oct. 28–31, Nov. 2, 1961, during initial operation of Little Grass Valley Reservoir; since operation stabilized in 1964, 1.4 ft³/s, Jan. 27, 1964.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	290	6.3	8.0	8.2	7.9	9.7	114	339	29	187	195
2	12	288	6.3	7.7	7.8	7.9	9.1	141	261	14	186	195
3	12	287	6.3	7.7	7.7	7.9	8.5	172	149	14	187	195
4	12	289	6.3	7.5	7.7	7.9	8.2	172	147	14	187	195
5	12	290	6.3	7.5	7.7	7.9	8.0	191	147	14	187	211
6	12	290	6.3	7.3	7.7	7.9	7.9	203	147	14	192	221
7	12	291	6.3	7.3	7.7	7.9	7.8	236	147	14	199	221
8	12	294	6.3	7.2	7.7	7.9	7.9	270	147	14	199	220
9	12	291	6.3	7.1	7.7	7.9	7.2	268	146	14	199	220
10	12	294	6.8	8.8	7.7	7.9	112	268	146	86	199	219
11	12	291	6.7	10	7.7	7.9	113	268	146	171	198	220
12	12	289	6.6	8.5	7.7	7.9	113	269	146	176	198	219
13	12	289	11	9.6	7.9	8.2	113	271	146	176	198	219
14	12	288	23	8.7	7.9	8.5	112	273	146	176	198	219
15	82	288	11	8.2	7.9	11	112	274	146	176	198	219
16	205	289	11	7.9	8.0	8.7	112	273	146	176	198	219
17	284	288	8.8	7.7	7.9	8.4	112	273	146	176	197	192
18	299	288	8.1	7.7	7.9	8.3	112	273	97	175	197	153
19	298	288	7.7	7.7	7.9	8.2	112	331	50	176	197	153
20	298	290	7.5	7.7	7.9	8.0	112	391	50	175	197	153
21	297	291	7.4	7.8	7.9	8.0	69	393	50	175	197	153
22	297	291	7.2	8.7	7.9	8.4	7.9	395	50	175	197	153
23	297	290	7.1	11	7.9	10	7.9	394	50	175	197	153
24	297	289	7.1	9.9	7.9	9.3	69	394	50	175	197	153
25	297	115	7.1	9.0	7.9	8.9	114	393	50	175	197	153
26	296	6.3	7.1	8.5	7.9	14	113	393	50	175	196	153
27	295	6.3	14	8.4	7.9	10	113	393	50	175	196	153
28	294	6.3	18	8.4	7.9	9.3	113	363	50	183	196	153
29	292	6.3	11	8.4	---	9.0	113	339	50	187	195	153
30	291	6.3	8.9	8.2	---	9.4	113	339	51	187	196	153
31	290	---	8.4	8.2	---	9.9	---	339	---	187	195	---
TOTAL	4877	7099.5	268.2	256.3	219.5	270.3	2206.9	9066	3496	3949	6057	5588
MEAN	157	237	8.65	8.27	7.84	8.72	73.6	292	117	127	195	186
MAX	299	294	23	11	8.2	14	114	395	339	187	199	221
MIN	12	6.3	6.3	7.1	7.7	7.9	7.8	114	50	14	186	153
AC-FT	9670	14080	532	508	435	536	4380	17980	6930	7830	12010	11080

11395030 SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1933, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.56	19.5	47.6	26.3	45.2	134	181	201	78.8	7.70	1.74	1.35
MAX	6.62	94.5	206	51.3	94.7	386	301	384	169	13.7	2.54	1.72
(WY)	1932	1928	1930	1928	1930	1928	1930	1932	1933	1932	1932	1930
MIN	1.43	1.67	2.65	3.60	3.55	14.5	106	48.9	13.8	2.38	1.06	1.04
(WY)	1929	1930	1933	1933	1933	1933	1933	1931	1931	1931	1931	1931

SUMMARY STATISTICS

WATER YEARS 1928 - 1933

ANNUAL MEAN	62.3
HIGHEST ANNUAL MEAN	85.6 1932
LOWEST ANNUAL MEAN	28.0 1931
HIGHEST DAILY MEAN	1800 Mar 25 1928
LOWEST DAILY MEAN	.90 Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	.90 Sep 1 1931
MAXIMUM PEAK FLOW	2600 Mar 26 1928
MAXIMUM PEAK STAGE	7.00 Mar 26 1928
ANNUAL RUNOFF (AC-FT)	45140
10 PERCENT EXCEEDS	202
50 PERCENT EXCEEDS	10
90 PERCENT EXCEEDS	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
MEAN	108	78.2	66.8	95.3	92.6	102	81.5	136	104	116	144	159
MAX	305	404	420	725	694	586	317	489	403	350	344	389
(WY)	1970	1982	1982	1997	1986	1995	1989	1995	1998	1983	1968	1984
MIN	13.0	2.94	4.01	2.36	2.25	3.70	4.31	4.38	3.99	3.71	5.42	10.0
(WY)	1986	1976	1979	1964	1976	1964	1964	1977	1977	1977	2001	1981

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	34487.8	43353.7	
ANNUAL MEAN	94.5	119	107
HIGHEST ANNUAL MEAN			250 1982
LOWEST ANNUAL MEAN			29.5 1981
HIGHEST DAILY MEAN	299 Oct 18	395 May 22	5420 Jan 1 1997
LOWEST DAILY MEAN	6.3 Nov 26	6.3 Nov 26	1.4 Jan 27 1964
ANNUAL SEVEN-DAY MINIMUM	6.3 Nov 26	6.3 Nov 26	1.4 Jan 27 1964
MAXIMUM PEAK FLOW		409 May 22	7370 Jan 1 1997
MAXIMUM PEAK STAGE		9.45 May 22	14.80 Jan 1 1997
ANNUAL RUNOFF (AC-FT)	68410	85990	77540
10 PERCENT EXCEEDS	288	290	248
50 PERCENT EXCEEDS	38	112	49
90 PERCENT EXCEEDS	7.9	7.7	5.5

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

LOCATION.—Lat 39°38'51", long 121°07'04", in NE 1/4 SE 1/4 sec.30, T.21 N., R.8 E., [Plumas County](#), Hydrologic Unit 18020123, Plumas National Forest, on left bank, 0.1 mi downstream from diversion dam, 3.1 mi upstream from Rock Creek, and 5.8 mi north of Strawberry Valley.

DRAINAGE AREA.—37.7 mi².

PERIOD OF RECORD.—October 1960 to current year.

REVISED RECORDS.—WDR CA-80-4: 1976(M).

GAGE.—Water-stage recorder and since May 8, 1987, sharp-crested rectangular weir. Datum of gage is 3,535.02 ft above NGVD of 1929 (levels by Oroville–Wyandotte Irrigation District).

REMARKS.—Flow regulated by Little Grass Valley Reservoir (station 11395020) since October 1961. South Fork Diversion Tunnel, maximum capacity, about 600 ft³/s, 500 ft upstream, diverts to Sly Creek Reservoir (station 11395400); diversion began in November 1961. See schematic diagram of [South Fork Feather River Basin](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,300 ft³/s, Jan. 1, 1997, gage height unknown, from computation of peak flow over diversion dam; minimum daily, 0.30 ft³/s, Dec. 25, 1962, to Jan. 2, 1963, Mar. 1–3, 1963, during initial operation of Little Grass Valley Reservoir; since operation stabilized in 1964, 0.70 ft³/s, Jan. 18, 1968.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.5	6.0	6.9	6.9	6.7	6.5	11	11	10	11	11
2	11	5.6	6.0	6.9	6.9	6.7	6.4	11	11	10	11	11
3	11	5.6	6.0	6.9	6.9	6.5	6.4	11	10	11	11	11
4	12	5.6	6.0	6.9	6.9	6.4	6.4	11	10	11	11	11
5	11	5.6	6.0	6.9	6.9	6.4	6.4	11	10	11	11	11
6	11	5.6	6.0	6.9	6.9	6.4	6.4	11	10	11	11	11
7	11	6.3	6.0	6.9	6.8	6.4	6.4	11	10	11	11	11
8	11	16	6.0	6.9	6.7	6.4	6.4	11	10	11	11	11
9	11	12	6.1	6.9	6.7	6.4	6.5	11	10	11	11	11
10	11	7.1	6.4	7.1	6.7	6.5	6.7	11	10	11	11	11
11	11	6.9	6.2	7.3	6.7	6.4	6.8	11	10	11	11	18
12	11	6.9	6.2	7.1	6.7	6.4	7.0	11	10	11	11	11
13	11	6.9	6.8	7.1	6.9	6.6	6.9	11	10	11	11	11
14	11	6.9	7.4	7.1	6.9	7.1	6.9	11	10	11	11	11
15	11	6.9	7.2	7.0	6.9	10	6.9	11	10	11	11	11
16	12	6.9	7.5	6.9	6.9	7.2	6.9	11	10	11	11	11
17	11	7.1	6.9	6.9	6.9	6.9	6.9	11	10	11	11	11
18	11	7.3	6.9	6.9	6.9	19	6.9	11	10	11	11	11
19	11	7.3	6.7	6.9	6.9	6.5	6.9	28	10	11	11	11
20	11	23	6.7	6.9	6.9	6.4	6.9	11	10	11	11	11
21	11	5.8	6.7	6.9	6.9	6.4	6.9	11	10	11	11	11
22	11	5.8	6.4	7.1	6.8	6.4	6.9	11	10	11	11	11
23	11	5.8	6.4	7.3	6.7	6.5	6.9	11	10	11	11	11
24	11	5.9	6.4	7.3	6.7	6.4	7.1	11	10	11	11	11
25	11	5.9	6.4	7.3	6.7	6.5	7.2	11	10	11	11	11
26	11	5.8	6.5	7.2	6.7	6.7	7.1	11	10	11	11	11
27	11	6.0	7.1	7.1	6.7	6.6	7.1	11	10	11	11	11
28	11	6.0	7.6	7.1	6.7	6.4	7.2	11	10	11	11	11
29	11	6.0	7.2	7.0	---	6.4	7.2	11	10	11	11	11
30	11	6.0	6.9	6.9	---	6.4	9.6	11	10	11	11	11
31	11	---	7.1	6.9	---	6.4	---	11	---	11	11	---
TOTAL	343	222.0	203.7	217.4	190.8	218.4	206.7	358	302	339	341	337
MEAN	11.1	7.40	6.57	7.01	6.81	7.05	6.89	11.5	10.1	10.9	11.0	11.2
MAX	12	23	7.6	7.3	6.9	19	9.6	28	11	11	11	18
MIN	11	5.6	6.0	6.9	6.7	6.4	6.4	11	10	10	11	11
AC-FT	680	440	404	431	378	433	410	710	599	672	676	668

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.5	12.7	39.7	76.5	51.1	45.5	23.4	42.5	20.5	9.62	10.2	10.4
MAX	21.8	226	808	885	1113	741	317	417	230	13.3	18.5	18.8
(WY)	2001	1982	1965	1970	1986	1995	1982	1995	1998	1968	1973	1973
MIN	2.92	2.62	2.41	3.94	2.73	3.79	3.68	3.61	2.20	2.57	3.32	3.45
(WY)	1978	1978	1980	1976	1978	1980	1970	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1964 - 2003	
ANNUAL TOTAL	3207.8		3279.0			
ANNUAL MEAN	8.79		8.98		29.4	
HIGHEST ANNUAL MEAN					120	
LOWEST ANNUAL MEAN					3.72	
HIGHEST DAILY MEAN	23	Nov 20	28	May 19	9020	Jan 1 1997
LOWEST DAILY MEAN	5.3	Apr 20	5.6	Nov 2	0.70	Jan 18 1968
ANNUAL SEVEN-DAY MINIMUM	5.3	Apr 19	5.9	Nov 21	1.1	Jan 18 1968
MAXIMUM PEAK FLOW			795	Nov 20	11300	Jan 1 1997
MAXIMUM PEAK STAGE			8.34	Nov 20	unknown	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	6360		6500		21270	
10 PERCENT EXCEEDS	11		11		12	
50 PERCENT EXCEEDS	11		10		7.8	
90 PERCENT EXCEEDS	5.6		6.4		4.6	

11395400 SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY, CA

LOCATION.—Lat 39°35'01", long 121°06'59", in NE 1/4 NE 1/4 sec.19, T.20 N., R.8 E., [Butte County](#), Hydrologic Unit 18020123, Plumas National Forest, on right bank, 100 ft upstream from dam on Lost Creek, and 1.4 mi northwest of Strawberry Valley.

DRAINAGE AREA.—24.0 mi².

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

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Oroville–Wyandotte Irrigation District). Prior to Sept. 30, 1966, water-stage recorder in valve chamber inside dam at same datum. Oct. 1, 1966, to December 1974, nonrecording gage read once daily.

REMARKS.—Reservoir is formed by earthfill dam. Storage began in November 1961. Total capacity, 65,600 acre-ft, between elevations 3,285 ft, invert of outlet, and 3,531 ft, top of spillway gate, all of which is available for release. Water is diverted into reservoir from South Fork Feather River through South Fork Diversion Tunnel and from North Yuba River Basin through Slate Creek Tunnel (station 11413250). Records represent total contents at 2400 hours. See schematic diagram of [South Fork Feather River Basin](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 65,600 acre-ft, June 22, 1978, elevation, 3,530.9 ft; minimum observed under normal operating conditions since reservoir first filled, 860 acre-ft, Feb. 11, 1976, elevation, 3,320.0 ft. Reservoir completely drained for powerplant construction, Sept. 12 to Oct. 17, 1981.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 64,900 acre-ft, June 2, elevation, 3,529.7 ft; minimum, 13,500 acre-ft, Dec. 13, elevation, 3,408.2 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1946)

3,310	450	3,340	2,150	3,400	11,500	3,480	38,500
3,315	655	3,360	4,300	3,420	16,600	3,510	53,400
3,320	860	3,380	7,360	3,450	26,300	3,531	65,600

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35100	27200	21400	29900	50900	43800	50200	54100	64800	53500	38900	32300
2	35100	27100	20500	30500	51100	43200	50900	54500	64800	52800	38900	31900
3	35100	27000	19800	30800	51100	42800	51100	55900	64600	52100	38600	31500
4	35100	26600	19100	31000	51100	42000	51400	57300	64300	51600	38700	31200
5	35100	26200	18400	31100	51100	41400	51700	58400	63600	50900	38300	30800
6	35100	26800	17600	31100	50700	40700	52000	59500	63100	50600	38100	30800
7	35000	27400	17100	31100	50500	40400	51800	60400	62900	49900	37800	30900
8	34600	28900	16400	30900	50000	39200	51900	61400	62500	49200	37500	30600
9	33900	29900	15800	30500	49600	38500	52100	62100	62200	48700	37500	30400
10	33100	30900	15200	31300	49100	37800	52400	62600	62000	47900	37300	30200
11	32200	31000	14500	33400	48600	37200	52800	63100	61900	47300	36900	29800
12	31500	30900	13800	35000	48000	36600	53800	63400	61700	46900	36600	29500
13	30900	30700	13900	36300	48000	36100	54800	63500	61500	46600	36300	29600
14	30000	30400	16000	37200	47900	37300	55400	63500	61900	46100	36100	29500
15	30100	30200	17300	37700	47800	38900	55900	63400	61900	45500	35900	29500
16	29400	30000	e19000	38000	48000	39800	55900	63000	61600	45000	35700	29400
17	29000	29800	19900	38200	48000	40700	55900	62800	61800	44500	35600	28900
18	28800	29500	20300	38300	48000	41200	56000	62800	60600	44000	35200	28300
19	28700	29100	20400	38500	47800	41400	56000	62700	59800	43700	35100	27800
20	28500	28700	e20600	38600	47500	41700	56100	62700	59200	43500	e34800	27500
21	29000	28300	e20300	38800	47200	41700	56200	62800	59000	43000	34900	27100
22	29600	27600	e20000	39600	47000	41800	56200	62800	58700	42600	34700	26600
23	30200	27200	e19400	41700	46600	42200	55700	62800	58000	42100	34600	26100
24	30700	27000	e18900	43400	46200	42800	56100	62700	57400	41600	34400	25700
25	30200	26400	e18500	44700	45700	44000	55900	62700	56800	41000	34100	25300
26	29700	25300	e18500	45900	45200	45900	55700	62600	56300	40700	33700	24800
27	29000	24400	e20900	47200	44600	47500	55400	63000	55700	40300	33500	24600
28	28700	23600	e26100	48300	44100	47500	55000	63600	55200	39900	33200	24400
29	28300	22900	e27500	49300	---	48300	54600	64100	54800	39600	32800	24100
30	28000	22200	28300	50000	---	48900	54100	64500	54200	39400	32800	23900
31	27600	---	29100	50600	---	49500	---	64500	---	39200	32500	---
MAX	35100	31000	29100	50600	51100	49500	56200	64500	64800	53500	38900	32300
MIN	27600	22200	13800	29900	44100	36100	50200	54100	54200	39200	32500	23900
a	3453.4	3438.1	3457.5	3504.6	3491.8	3502.6	3511.2	3529.0	3511.3	3481.5	3466.1	3443.3
b	-7400	-5400	+6900	+21500	-6500	+5400	+4600	+10400	-10300	-15000	-6700	-8600

CAL YR 2002 b +13900

WTR YR 2003 b -11200

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11396000 LOST CREEK NEAR CLIPPER MILLS, CA

LOCATION.—Lat 39°34'25", long 121°08'26", in SE 1/4 SW 1/4 sec.24, T.20 N., R.7 E., [Butte County](#), Hydrologic Unit 18020123, Plumas National Forest, on left bank, 0.3 mi downstream from Lost Creek Reservoir, and 2.8 mi north of Clipper Mills.

DRAINAGE AREA.—30.0 mi².

PERIOD OF RECORD.—October 1927 to September 1941, October 1948 to current year. Records for Woodleaf Powerplant from February 1963 to September 1966 in files of the U.S. Geological Survey.

REVISED RECORDS.—WSP 1395: 1954. WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Sharp-crested weir for low-water control since June 20, 1987. Elevation of gage is 3,170 ft above NGVD of 1929, from topographic map. Prior to June 20, 1987, at site 100 ft downstream at same datum.

REMARKS.—Flow regulated by Sly Creek Reservoir (station 11395400) 1.5 mi upstream and Lost Creek Reservoir 0.3 mi upstream, usable capacity, 5,920 acre-ft with flashboards. Water is diverted into Sly Creek Reservoir through South Fork Diversion Tunnel from South Fork Feather River and through Slate Creek Tunnel (station 11413250) from North Yuba River Basin. Woodleaf Tunnel diverts from Lost Creek Reservoir to Woodleaf Powerhouse. Oroville–Wyandotte Canal (station 11395500) diverts from Woodleaf Penstock for irrigation and domestic use. Records represent seepage, release, and spill from Lost Creek Reservoir to Lost Creek. See schematic diagram of [South Fork Feather River Basin](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,760 ft³/s, Jan. 1, 1997, gage height, 13.50 ft; no flow at times in some years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	6.8	5.9	7.4	6.3	6.2	8.2	122	9.1	8.6	9.2	8.8
2	9.4	5.9	5.9	7.1	6.3	6.1	8.2	142	9.1	8.6	9.4	8.8
3	9.2	5.9	5.9	6.8	6.3	5.9	8.4	222	47	8.6	9.3	9.1
4	9.1	5.9	5.9	6.6	6.3	5.9	8.6	303	8.6	8.6	8.8	9.1
5	9.0	5.9	5.9	6.5	6.3	5.9	8.6	282	29	8.6	8.6	9.2
6	8.7	5.9	5.9	6.3	6.3	5.9	8.6	276	37	8.6	8.6	9.7
7	9.0	6.3	5.9	6.3	6.3	5.9	8.6	275	38	8.6	8.6	9.5
8	9.2	6.1	5.9	6.3	6.3	5.9	8.6	341	34	8.7	8.7	9.4
9	9.3	6.0	5.9	6.5	6.3	5.9	8.6	382	19	8.8	8.6	9.3
10	9.3	6.2	5.9	8.6	6.3	5.9	8.6	373	9.1	9.0	8.6	9.3
11	9.3	5.9	5.9	8.8	6.3	5.9	8.6	368	9.1	9.1	8.6	9.1
12	9.4	5.9	5.9	7.9	6.3	5.9	9.2	443	9.1	9.1	8.6	9.3
13	9.5	5.9	7.5	7.6	6.6	5.9	9.5	570	9.1	9.1	8.5	9.8
14	9.9	5.9	8.6	7.2	6.3	6.7	9.3	620	8.8	9.1	8.4	9.5
15	11	5.9	8.0	7.0	6.3	8.1	9.1	652	8.5	9.4	8.6	9.2
16	11	5.9	9.4	6.7	6.9	6.8	9.1	560	9.6	10	8.6	9.0
17	13	5.9	7.1	6.7	6.7	6.5	9.1	224	10	11	8.5	8.8
18	15	5.9	6.5	6.6	6.5	6.3	9.1	8.9	8.8	10	8.4	8.6
19	12	5.9	6.3	6.3	6.5	6.3	9.1	8.8	8.8	10	8.6	8.6
20	11	5.9	6.3	6.3	6.3	6.3	9.0	8.8	9.0	9.7	8.6	8.8
21	10	5.9	6.7	6.3	6.3	6.2	9.0	8.8	9.1	9.2	8.7	8.8
22	8.8	5.9	6.4	6.6	6.3	6.2	9.3	8.8	9.1	8.7	9.3	8.8
23	8.4	5.9	6.3	7.2	6.3	6.3	149	8.7	9.1	8.6	9.1	8.8
24	8.4	5.9	6.2	7.0	6.3	6.3	321	8.7	9.0	8.4	9.0	9.0
25	8.2	5.9	6.1	6.8	6.3	6.3	304	9.0	9.1	8.4	9.1	9.1
26	8.3	5.9	6.1	6.7	6.3	6.4	173	9.0	9.1	8.6	9.1	9.1
27	8.4	5.9	8.8	6.7	6.3	6.3	74	9.0	8.8	8.8	8.9	8.9
28	8.4	5.9	10	6.7	6.3	6.3	167	8.8	8.6	8.8	8.7	8.8
29	8.4	5.9	8.2	6.4	---	6.3	151	8.8	8.7	10	8.6	8.8
30	8.4	5.9	7.6	6.3	---	6.3	114	8.8	8.8	9.4	8.6	8.8
31	8.4	---	8.2	6.3	---	7.1	---	8.9	---	9.4	8.6	---
TOTAL	297.0	178.9	211.1	212.5	178.1	194.2	1647.4	6278.8	420.1	281.5	271.5	271.8
MEAN	9.58	5.96	6.81	6.85	6.36	6.26	54.9	203	14.0	9.08	8.76	9.06
MAX	15	6.8	10	8.8	6.9	8.1	321	652	47	11	9.4	9.8
MIN	8.2	5.9	5.9	6.3	6.3	5.9	8.2	8.7	8.5	8.4	8.4	8.6
AC-FT	589	355	419	421	353	385	3270	12450	833	558	539	539
a	15680	23570	18720	28680	31500	28820	24950	31250	27100	23920	17500	18510

a Diversion, in acre-feet, through Woodleaf Powerhouse (station 11396090), provided by Oroville–Wyandotte Irrigation District.

SACRAMENTO RIVER BASIN

11396000 LOST CREEK NEAR CLIPPER MILLS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1961, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.78	8.61	66.0	93.4	170	175	191	129	29.9	6.42	4.23	5.13
MAX	13.4	121	544	485	562	467	423	441	153	34.7	10.2	15.3
(WY)	1928	1951	1956	1956	1958	1938	1938	1952	1952	1952	1961	1960
MIN	.20	.000	.000	.15	.50	25.7	4.68	1.21	1.33	.20	.10	.10
(WY)	1935	1960	1960	1960	1937	1933	1931	1931	1934	1939	1934	1934

SUMMARY STATISTICS

WATER YEARS 1928 - 1961

ANNUAL MEAN	73.0
HIGHEST ANNUAL MEAN	167 1938
LOWEST ANNUAL MEAN	6.78 1931
HIGHEST DAILY MEAN	3840 Dec 22 1955
LOWEST DAILY MEAN	.00 Jul 30 1940
ANNUAL SEVEN-DAY MINIMUM	.00 Nov 1 1959
MAXIMUM PEAK FLOW	5000 Dec 22 1955
MAXIMUM PEAK STAGE	a6.90 Dec 22 1955
ANNUAL RUNOFF (AC-FT)	52890
10 PERCENT EXCEEDS	212
50 PERCENT EXCEEDS	8.4
90 PERCENT EXCEEDS	.30

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

	1962	1963	1963	1963	1963	1963	1963	1963	1963	1963	1963	1963
MEAN	12.7	6.79	40.3	52.4	72.5	78.7	53.2	49.0	38.5	4.47	4.01	4.31
MAX	392	179	417	674	512	573	410	454	750	16.0	22.2	34.4
(WY)	1963	1963	1998	1997	1986	1983	1993	1995	1995	1962	1966	1997
MIN	0.006	0.029	0.094	0.10	0.35	0.33	0.22	0.13	0.097	0.10	0.000	0.000
(WY)	1965	1975	1975	1962	1964	1964	1968	1968	1966	1963	1964	1963

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1962 - 2003

ANNUAL TOTAL	3085.0	10442.9	
ANNUAL MEAN	8.45	28.6	34.5
HIGHEST ANNUAL MEAN			200 1995
LOWEST ANNUAL MEAN			0.49 1964
HIGHEST DAILY MEAN	15 Apr 3	652 May 15	4490 Jan 1 1997
LOWEST DAILY MEAN	5.3 Mar 21	5.9 Nov 2	0.00 Oct 21 1961
ANNUAL SEVEN-DAY MINIMUM	5.5 Mar 15	5.9 Nov 11	0.00 Oct 21 1961
MAXIMUM PEAK FLOW		685 May 14	5760 Jan 1 1997
MAXIMUM PEAK STAGE		7.86 May 14	13.50 Jan 1 1997
ANNUAL RUNOFF (AC-FT)	6120	20710	25030
TOTAL DIVERSION (AC-FT) b	216800	290200	
10 PERCENT EXCEEDS	11	11	13
50 PERCENT EXCEEDS	9.0	8.6	2.2
90 PERCENT EXCEEDS	5.9	5.9	0.19

a Site then in use.

b Diversion, in acre-feet, through Woodleaf Powerhouse (station 11396090), provided by Oroville-Wyandotte Irrigation District.

11396200 SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CA

LOCATION.—Lat 39°33'05", long 121°12'30", in SE 1/4 NE 1/4 sec.32, T.20 N., R.7 E., [Butte County](#), Hydrologic Unit 18020123, Plumas National Forest, on right bank, 500 ft downstream from Forbestown Dam, 0.4 mi upstream from Oroleve Creek, and 4.0 mi northeast of Forbestown.

DRAINAGE AREA.—87.5 mi².

PERIOD OF RECORD.—July 1962 to current year. Records for Forbestown Powerplant from February 1963 to September 1966 in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Elevation of gage is 1,690 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by Little Grass Valley Reservoir (station 11395020), Sly Creek Reservoir (station 11395400), and smaller reservoirs. Water from North Yuba River Basin is imported through Slate Creek Tunnel (station 11413250) to Sly Creek Reservoir. Oroville–Wyandotte Canal (station 11395500) diverts upstream from station. Tunnel 600 ft upstream from station diverts most flow through Forbestown Powerplant (station 11396290) except fishwater releases and uncontrolled spill over Forbestown Dam. See schematic diagram of [South Fork Feather River Basin](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 21,800 ft³/s, Jan. 1, 1997, gage height, 17.64 ft, from rating curve extended above 5,400 ft³/s, on basis of flow-over-dam measurement of peak flow; minimum daily, 0.60 ft³/s, Apr. 4, 1963, during initial operation of Little Grass Valley Reservoir; since operation stabilized in 1964, 1.3 ft³/s, Mar. 15, 1980.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.5	6.1	6.4	6.3	6.3	6.3	194	11	11	11	10
2	11	5.9	6.1	6.3	6.3	6.3	6.3	195	11	11	11	10
3	11	5.9	6.1	6.3	6.3	6.3	6.3	247	11	11	11	10
4	11	5.9	6.1	6.3	6.2	6.3	6.3	264	10	11	11	10
5	11	5.9	6.1	6.3	6.2	6.3	6.3	220	11	11	10	10
6	11	5.9	6.1	6.2	6.2	6.3	6.3	188	11	11	10	10
7	11	6.2	6.1	6.3	6.2	6.3	6.3	173	11	11	11	10
8	11	31	6.1	6.3	6.2	6.3	6.2	230	10	11	10	10
9	11	6.1	6.1	6.3	6.3	6.3	6.3	264	10	11	10	10
10	11	6.2	6.1	6.5	6.2	6.3	6.3	247	11	11	10	10
11	11	6.1	6.1	6.4	6.3	6.3	6.2	233	11	11	10	10
12	11	6.1	6.1	6.4	6.3	6.3	6.3	283	11	11	10	10
13	11	6.1	6.4	6.4	6.3	6.2	6.3	411	10	11	10	10
14	11	6.0	6.6	6.3	6.3	6.4	6.3	463	10	11	10	10
15	11	6.1	6.5	6.3	6.2	167	6.3	513	10	11	10	10
16	11	6.1	59	6.3	6.3	38	6.2	412	11	11	10	10
17	11	6.1	6.2	6.3	6.3	9.4	6.3	187	11	11	10	10
18	11	6.1	6.1	6.4	6.2	6.3	6.2	36	11	11	10	10
19	11	6.0	6.3	6.3	6.3	6.3	6.1	42	11	11	10	10
20	11	6.1	6.4	6.3	6.3	6.3	6.1	14	11	11	10	10
21	11	6.1	6.6	6.3	6.3	6.3	6.3	11	11	11	10	10
22	11	6.1	6.3	6.3	6.3	6.3	6.3	11	11	11	10	10
23	11	6.1	6.2	6.5	6.3	6.3	115	11	11	11	10	10
24	11	6.1	6.3	6.4	6.3	6.3	374	11	11	11	10	10
25	11	6.1	6.2	6.3	6.3	6.3	392	11	11	11	10	10
26	11	6.1	6.2	6.3	6.3	6.4	182	11	11	10	10	10
27	11	6.0	6.4	6.3	6.3	6.3	80	11	11	10	10	10
28	11	6.1	6.6	6.4	6.3	6.3	255	11	11	10	10	10
29	11	6.1	6.6	6.3	---	6.3	292	10	11	10	10	10
30	11	6.1	6.5	6.3	---	6.3	236	11	11	11	10	10
31	11	---	6.5	6.3	---	6.3	---	11	---	11	10	---
TOTAL	341	208.2	247.1	196.3	175.6	390.9	2063.8	4936	324	337	315	300
MEAN	11.0	6.94	7.97	6.33	6.27	12.6	68.8	159	10.8	10.9	10.2	10.0
MAX	11	31	59	6.5	6.3	167	392	513	11	11	11	10
MIN	11	5.9	6.1	6.2	6.2	6.2	6.1	10	10	10	10	10
AC-FT	676	413	490	389	348	775	4090	9790	643	668	625	595
a	15170	23560	24030	35240	34730	32660	29370	39860	28840	24050	16890	17720

a Diversion, in acre-feet, to Forbestown Powerplant (station 11396290), provided by Oroville–Wyandotte Irrigation District.

SACRAMENTO RIVER BASIN

11396200 SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.8	17.5	86.6	161	165	160	87.9	97.2	42.7	11.7	10.8	13.9
MAX	76.1	240	1262	2059	2000	1472	718	990	617	30.6	27.3	120
(WY)	1966	1982	1997	1997	1986	1995	1982	1996	1998	1986	1986	1996
MIN	4.21	3.68	3.37	4.06	4.46	4.47	4.06	4.02	2.90	4.04	3.37	3.84
(WY)	1978	1976	1976	1976	1972	1972	1964	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1964 - 2003	
ANNUAL TOTAL	4404.3		9834.9			
ANNUAL MEAN	12.1		26.9		72.1	
HIGHEST ANNUAL MEAN					325 1997	
LOWEST ANNUAL MEAN					4.36 1977	
HIGHEST DAILY MEAN	135	Jan 8	513	May 15	17300	Jan 1 1997
LOWEST DAILY MEAN	5.7	Apr 10	5.9	Nov 2	1.3	Mar 15 1980
ANNUAL SEVEN-DAY MINIMUM	5.7	Apr 16	6.1	Nov 13	1.7	Mar 25 1980
MAXIMUM PEAK FLOW			957	Apr 24	21800	Jan 1 1997
MAXIMUM PEAK STAGE			8.22	Apr 24	17.64	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	8740		19510		52220	
TOTAL DIVERSION (AC-FT) a	231800		322100			
10 PERCENT EXCEEDS	27		11		109	
50 PERCENT EXCEEDS	10		10		10	
90 PERCENT EXCEEDS	5.9		6.1		5.1	

a Diversion, in acre-feet, to Forbestown Powerplant (station 11396290), provided 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 downstream from Ponderosa Dam, and 3 mi northwest of Forbestown.

PERIOD OF RECORD.—October 1962 to current year.

REVISED RECORDS.—WDR CA-88-4: diversion only.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 975 ft above NGVD of 1929, from topographic map.

REMARKS.—Canal diverts from South Fork Feather River at Ponderosa Dam. Water is used for power development and irrigation. See schematic diagram of [South Fork Feather River Basin](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 314 ft³/s, May 13, 1984; no flow at times in most years.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	276	270	266	267	270	276	266	280	284	283	283
2	0.00	274	270	266	266	270	275	266	280	281	283	283
3	0.00	275	269	266	264	269	275	266	280	281	284	284
4	0.00	277	269	267	265	270	275	266	280	281	283	283
5	0.00	278	267	267	265	270	275	266	282	282	283	284
6	143	177	265	266	266	269	275	265	283	283	284	283
7	72	265	264	267	264	269	275	267	283	284	283	279
8	19	119	265	190	262	269	275	267	283	284	283	278
9	16	112	264	271	263	270	275	267	283	283	283	283
10	0.00	182	265	271	263	270	275	268	283	284	282	284
11	34	271	265	270	262	270	275	270	280	284	283	284
12	285	269	265	267	262	270	275	270	283	284	284	284
13	286	269	264	263	262	270	273	271	251	284	283	283
14	287	268	260	258	262	270	270	272	283	284	283	283
15	280	265	256	257	262	269	269	272	284	284	283	283
16	268	263	238	262	262	269	268	272	283	284	281	283
17	287	264	257	264	263	270	267	271	229	284	281	284
18	281	264	261	264	265	270	267	271	284	284	284	284
19	275	264	262	264	266	269	267	272	284	283	283	271
20	274	264	263	264	265	270	269	272	284	283	283	270
21	274	264	264	264	266	272	270	275	283	282	271	258
22	272	264	262	264	265	275	270	276	284	284	271	267
23	271	264	257	264	266	275	271	279	280	284	283	285
24	270	264	261	260	265	275	272	283	244	284	284	285
25	271	263	262	257	265	270	272	283	286	284	284	195
26	271	265	261	260	266	245	270	283	286	284	284	285
27	271	228	266	263	269	250	268	282	285	284	284	285
28	273	269	266	264	270	259	268	281	285	284	284	285
29	278	270	266	266	---	274	267	281	286	284	284	80
30	280	271	267	267	---	275	266	280	286	284	283	35
31	278	---	267	267	---	236	---	280	---	283	280	---
TOTAL	5816.00	7518	8158	8126	7408	8299	8145	8460	8367	8786	8751	7893
MEAN	188	251	263	262	265	268	272	273	279	283	282	263
MAX	287	278	270	271	270	275	276	283	286	284	284	285
MIN	0.00	112	238	190	262	236	266	265	229	281	271	35
AC-FT	11540	14910	16180	16120	14690	16460	16160	16780	16600	17430	17360	15660
a	9610	14220	15740	15710	14360	15750	15090	15730	14860	15450	15440	14190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

MEAN	170	184	194	198	215	219	213	221	238	249	247	185
MAX	263	269	264	264	267	269	276	280	285	284	289	270
(WY)	1980	1992	1999	1999	2002	1998	1987	1999	2000	2001	1986	1980
MIN	26.6	20.9	18.1	16.6	10.5	16.8	14.5	22.2	51.9	49.3	43.0	25.0
(WY)	1987	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1963 - 2003	
ANNUAL TOTAL	86885.00		95727.00			
ANNUAL MEAN	238		262		212	
HIGHEST ANNUAL MEAN					262	
LOWEST ANNUAL MEAN					52.2	
HIGHEST DAILY MEAN	287	Oct 14	287	Oct 14	314	May 13 1984
LOWEST DAILY MEAN	0.00	Oct 1	0.00	Oct 1	0.00	Nov 21 1962
ANNUAL SEVEN-DAY MINIMUM	29	Sep 30	31	Oct 1	0.00	Dec 6 1976
ANNUAL RUNOFF (AC-FT)	172300		189900		153400	
TOTAL DIVERSION (AC-FT) a	157600		176100			
10 PERCENT EXCEEDS	284		284		280	
50 PERCENT EXCEEDS	270		270		248	
90 PERCENT EXCEEDS	36		260		46	

a Discharge, in acre-feet, through Kelly Ridge Powerplant (station 11396329), provided by Oroville–Wyandotte Irrigation District.

11396395 SUCKER RUN AT KANAKA DIVERSION, NEAR FEATHER FALLS, CA

LOCATION.—Lat 39°33'44", long 121°16'46", in SE 1/4 NE 1/4 sec.27, T.20 N., R.6 E., [Butte County](#), Hydrologic Unit 18020123, on left bank, at Kanaka Diversion Measuring Weir, 2.5 mi upstream from confluence with South Fork Feather River, and 2.5 mi southwest of Feather Falls.

DRAINAGE AREA.—15.5 mi².

PERIOD OF RECORD.—March 1989 to September 1998, October 1999 to current year.

GAGE.—Water-stage recorder and 120° V-notch weir. Elevation of gage is 1,660 ft above NGVD of 1929, from topographic map.

REMARKS.—Water from creek is diverted upstream from gage to Kanaka Powerplant (station 11396396). See schematic diagram of [South Fork Feather River Basin](#).

COOPERATION.—Records provided by STS Hydro Power Ltd., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project nos. 7120 and 7242.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,500 ft³/s, Jan. 1, 1997, gage height, 4.40 ft; minimum daily, 1.2 ft³/s, Aug. 21, 22, 27, 1992, Aug. 13, 1994.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.7	3.9	9.4	14	14	13	10	8.2	8.2	5.1	4.4
2	2.3	2.6	4.0	5.2	13	14	13	8.2	8.2	8.1	5.7	4.1
3	2.3	2.7	4.0	5.2	13	14	13	27	8.2	7.9	5.9	4.1
4	2.4	2.7	4.0	5.2	15	14	13	21	8.2	7.8	5.4	4.3
5	2.3	2.7	4.0	5.2	15	13	13	11	8.2	7.6	5.2	4.0
6	2.3	2.6	4.0	5.2	15	13	13	8.2	8.2	7.5	5.2	3.9
7	2.3	6.4	4.0	5.1	14	13	13	8.2	9.1	7.3	5.2	3.9
8	2.3	14	4.0	5.1	14	12	13	10	8.3	7.2	5.0	4.2
9	2.3	7.1	4.2	5.2	14	12	14	8.9	8.2	7.0	4.8	4.2
10	2.2	7.5	6.7	12	14	12	16	8.2	8.2	6.9	4.8	4.3
11	2.2	6.4	5.2	19	13	12	15	8.2	8.2	6.7	4.7	3.9
12	2.2	5.4	4.5	5.5	13	12	18	8.3	8.2	6.6	4.6	3.8
13	2.2	4.7	13	7.8	14	12	23	8.2	8.2	6.5	4.5	3.6
14	2.2	4.5	79	5.3	14	17	14	8.2	8.2	6.5	4.5	3.5
15	2.2	4.3	16	5.2	15	83	14	8.2	9.6	6.4	4.5	3.6
16	2.2	4.1	77	5.1	15	15	13	8.1	11	6.3	4.3	3.6
17	2.3	4.1	7.8	5.1	13	14	13	8.2	11	6.1	4.3	3.6
18	2.4	4.0	5.3	5.1	13	13	13	8.3	11	6.0	4.2	3.5
19	2.4	4.0	5.3	5.1	13	13	13	8.4	11	5.8	4.1	3.5
20	2.5	4.0	5.5	5.1	13	13	13	8.2	11	5.8	4.1	3.5
21	2.6	4.0	29	5.2	13	13	13	8.2	10	5.7	4.2	3.4
22	2.5	4.0	5.4	5.9	13	13	13	8.2	10	5.6	7.6	3.4
23	2.5	4.0	5.2	19	14	13	13	8.2	10	5.5	6.2	3.4
24	2.6	4.0	5.3	5.8	16	13	24	8.2	9.8	5.4	5.2	3.4
25	2.7	4.0	5.2	5.2	16	17	18	8.2	9.5	5.3	4.9	3.4
26	2.7	3.9	5.3	5.2	15	28	18	8.2	9.1	5.2	4.8	3.3
27	2.7	3.8	22	5.3	15	24	13	8.2	9.0	5.1	4.6	3.3
28	2.6	3.8	97	5.2	15	18	19	8.0	8.8	4.9	4.4	3.3
29	2.6	3.8	64	5.2	---	13	33	8.0	8.4	4.9	4.3	3.4
30	2.7	3.9	18	5.2	---	13	20	8.1	8.2	4.8	4.3	3.4
31	2.7	---	40	5.3	---	13	---	8.2	---	4.7	4.3	---
TOTAL	74.9	135.7	557.8	203.6	394	513	467	292.7	273.2	195.3	150.9	111.2
MEAN	2.42	4.52	18.0	6.57	14.1	16.5	15.6	9.44	9.11	6.30	4.87	3.71
MAX	2.7	14	97	19	16	83	33	27	11	8.2	7.6	4.4
MIN	2.2	2.6	3.9	5.1	13	12	13	8.0	8.2	4.7	4.1	3.3
AC-FT	149	269	1110	404	781	1020	926	581	542	387	299	221

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

MEAN	4.24	5.42	11.5	28.3	27.2	24.2	16.3	12.5	7.69	6.21	4.29	3.84
MAX	7.19	7.32	51.7	128	91.7	92.0	37.5	45.5	10.4	13.7	8.09	7.58
(WY)	1990	1990	1997	1997	1998	1995	1995	1995	1998	1995	1995	1998
MIN	2.35	3.44	4.34	4.44	5.11	12.1	9.83	6.40	4.24	2.85	1.55	1.33
(WY)	2002	1993	1991	1991	1991	1994	1994	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1989 - 2003		
ANNUAL TOTAL	2952.1		3369.3				
ANNUAL MEAN	8.09		9.23		12.6		
HIGHEST ANNUAL MEAN					28.2		
LOWEST ANNUAL MEAN					6.29		
HIGHEST DAILY MEAN	97	Dec 28	97	Dec 28	1100	Jan 1	1997
LOWEST DAILY MEAN	2.0	Sep 9	2.2	Oct 10	1.2	Aug 21	1992
ANNUAL SEVEN-DAY MINIMUM	2.0	Sep 9	2.2	Oct 10	1.3	Aug 21	1992
MAXIMUM PEAK FLOW			277		1500	Jan 1	1997
MAXIMUM PEAK STAGE			3.04		4.40	Jan 1	1997
ANNUAL RUNOFF (AC-FT)	5860		6680		9140		
10 PERCENT EXCEEDS	14		15		17		
50 PERCENT EXCEEDS	5.3		6.6		6.8		
90 PERCENT EXCEEDS	2.2		2.7		2.6		

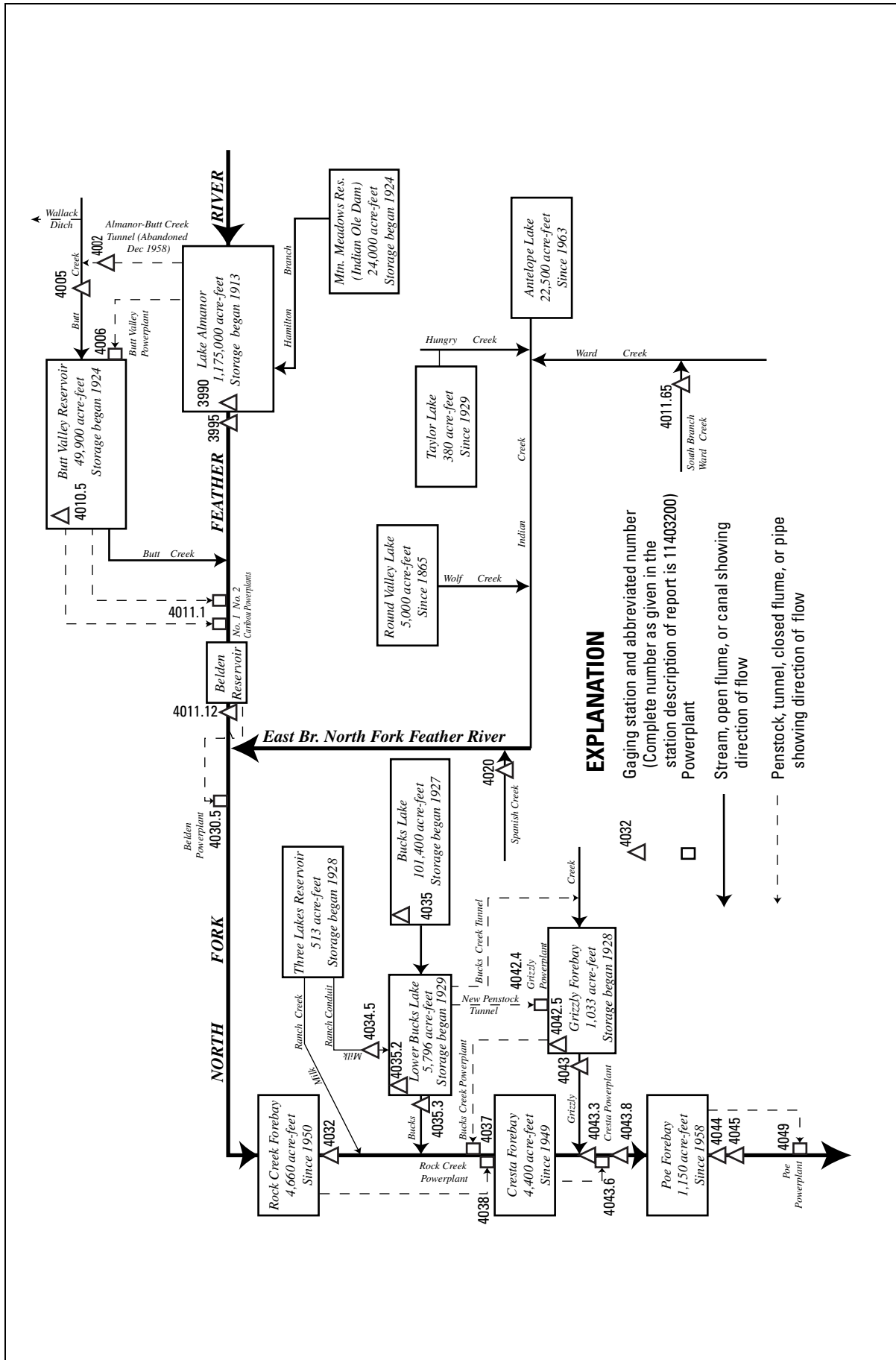


Figure 29. Diversions and storage in North Fork Feather River Basin.

11399000 LAKE ALMANOR AT PRATTVILLE, CA

LOCATION.—Lat 40°12'46", long 121°09'43", in SW 1/4 NE 1/4 sec.11, T.27 N., R.7 E., [Plumas County](#), Hydrologic Unit 18020121, Lassen National Forest, at intake tower to Butt Valley Tunnel at Prattville, 4.7 mi northwest of Lake Almanor Dam, and 5.6 mi northwest of Canyon Dam.

DRAINAGE AREA.—491 mi².

PERIOD OF RECORD.—July 1913 to current year. Monthly contents only for some periods, published in WSP 1315-A. Published as "near Prattville" 1937–60. Prior to October 1964, records published as usable contents.

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Nonrecording gage read once daily. Datum of gage is 10.23 ft below NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to June 1, 1965, nonrecording gage at site 4.7 mi southeast at same datum.

REMARKS.—Lake is formed by earthfill dam; storage began in July 1913; dam raised to gage height 4,455 ft in 1917 and 4,515 ft in 1927. Usable capacity, 1,175,000 acre-ft, between gage heights 4,422 ft, invert of outlet, and 4,495.5 ft, maximum storage limit. Dead storage, 8,948 acre-ft. Water is diverted by tunnel and penstock to Butt Valley Powerplant (station 11400600) and then is used for power development in the North Fork Feather River. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2105. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 1,142,960 acre-ft, June 8, 1982, gage height, 4,494.00 ft; minimum, 5,230 acre-ft, Feb. 5, 1918, gage height, 4,416.1 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,037,316 acre-ft, June 10, gage height, 4,490.04 ft; minimum, 705,821 acre-ft, Dec. 12, gage height, 4,476.48 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on surveys by Pacific Gas & Electric Co. in 1924 and 1926)

4,422	8,948	4,432	34,173	4,445	156,414	4,470	565,519
4,424	10,067	4,434	49,510	4,450	220,848	4,480	787,304
4,426	11,260	4,437	74,189	4,455	294,531	4,490	1,036,269
4,428	13,480	4,440	101,869	4,460	376,686	4,495.5	1,183,835
4,430	21,200						

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	765885	716036	713986	761911	804759	784668	844167	918433	1022110	1022894	974013	920187
2	762378	714897	712622	763312	806427	784903	846592	921438	1025509	1019761	973502	917682
3	760045	713076	711258	763780	808336	786077	849021	925435	1028652	1017675	971457	914932
4	757949	711486	710351	765183	809769	787017	851929	928690	1030487	1016373	969414	913184
5	757018	710124	709217	766119	808813	787957	853381	931450	1032062	1015592	967119	911687
6	755856	710351	708084	766354	808097	789134	854835	934465	1033113	1014812	965082	912435
7	752839	716036	707404	767056	807381	790311	857262	939504	1033639	1013252	963047	913184
8	750986	718775	707404	767525	805474	791254	859206	943039	1034690	1011693	961523	913933
9	748905	721520	706726	768463	803569	792197	860665	946076	1036269	1010135	959492	912685
10	746596	723812	706726	769872	801430	793614	862614	949119	1037316	1009357	957464	910441
11	744522	725190	706273	770811	798820	795032	864321	951647	1036792	1008061	955944	907703
12	743141	725649	705821	772458	796451	795978	870433	954173	1036269	1006766	953921	905714
13	742221	726339	710351	775049	796451	797398	873867	956704	1036269	1005212	952404	902736
14	740383	726799	719461	776464	796924	802856	876078	958731	1035216	1003144	950385	900259
15	739007	726799	724960	777409	797872	807620	878047	960761	1035216	1001077	949119	898274
16	738090	724960	731638	778815	799768	809769	880016	964319	1034690	999268	947343	895299
17	736030	724271	734180	779750	799057	811203	881734	967119	1034427	997711	946330	892824
18	734875	723353	735801	780218	798820	812400	883700	969925	1034164	996156	944810	890353
19	733718	722666	737861	779750	798583	813597	885422	972990	1034164	994861	943292	887885
20	732562	722207	740613	779282	797161	815276	887639	976573	1034164	993567	941776	885422
21	731638	721749	741761	780218	796214	817196	890106	979907	1033639	992532	940765	882962
22	730253	721291	742911	782558	795741	818879	892082	983505	1033639	991240	940765	880016
23	729331	720604	743831	784903	794795	820805	894061	987884	1032588	990465	939251	877800
24	728179	719918	743371	787957	794322	822733	899019	991756	1031537	989432	936983	878539
25	726799	719004	742911	790076	792669	825147	902488	995120	1030487	987368	935220	877800
26	725879	717633	741991	792669	790782	828743	904969	999008	1029438	985307	933962	875341
27	724271	715808	744522	794322	788663	831863	907454	1002885	1027865	983762	932454	873376
28	722666	716720	750292	796688	786312	834027	911438	1006766	1027080	981705	929944	871413
29	720833	715353	753071	798820	---	835712	914432	1011174	1025770	979651	927187	870188
30	719232	714669	756553	800480	---	838605	916431	1014812	1024201	978111	925185	869943
31	718090	---	760511	802618	---	841747	---	1018457	---	976061	922686	---
MAX	765885	726799	760511	802618	809769	841747	916431	1018457	1037316	1022894	974013	920187
MIN	718090	710124	705821	761911	786312	784668	844167	918433	1022110	976061	922686	869943
a	4477.02	4476.87	4478.86	4480.65	4479.96	4482.28	4485.32	4489.32	4489.54	4487.68	4485.57	4483.42
b	-49904	-3421	+45842	+42107	-16306	+55435	+74684	+102026	+5744	-48140	-53375	-52743

CAL YR 2002 MAX 909943 MIN 647693 b +114779

WTR YR 2003 MAX 1037316 MIN 705821 b +101949

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

b Change in contents, in acre-feet.

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA

LOCATION.—Lat 40°10'06", long 121°05'31", in NE 1/4 SW 1/4 sec.28, T.27 N., R.8 E., [Plumas County](#), Hydrologic Unit 18020121, Plumas National Forest, on left bank, 0.4 mi downstream from Almanor Dam, 4.5 mi southeast of Prattville, and 9 mi upstream from Butt Creek.

DRAINAGE AREA.—493 mi².

PERIOD OF RECORD.—June 1905 to current year. Published as "below Prattville" prior to 1911. No record for January, February, or March 1911. Estimated mean discharge for water year 1911 published in WSP 1315-A.

REVISED RECORDS.—WSP 1245: 1951 (yearly summaries). WSP 1285: 1952 (yearly summaries). WDR CA-88-4: 1987 (monthly and yearly totals for Butt Valley Powerplant).

GAGE.—Water-stage recorder and broad-crested weir. Datum of gage is 4,390.09 ft above NGVD of 1929. Prior to Oct. 1, 1936, nonrecording gages or water-stage recorders at several sites within 0.5 mi of present site at various datums.

REMARKS.—Flow regulated since 1913 by Lake Almanor (station 11399000) 0.5 mi upstream and since 1924 by Mountain Meadows Reservoir, capacity, 24,000 acre-ft, 12 mi upstream on Hamilton Branch. Water diverted from Lake Almanor to Butt Valley Reservoir (station 11401050) through old Almanor–Butt Creek Tunnel from May 1921 to December 1958, for use at Caribou Powerplant. Old tunnel closed Dec. 30, 1958, and diversion began Dec. 31, 1958, to Butt Valley Powerplant (station 11400600) at upstream end of Butt Valley Reservoir. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2105.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,000 ft³/s, Mar. 19, 1907, before construction of dam, gage height, 16.2 ft, at former site, from rating curve extended above 3,700 ft³/s; no flow at times during 1914, 1919, 1923.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	37	38	39	39	35	34	35	36	36	36	35
2	35	37	38	39	39	35	35	35	36	36	36	35
3	35	37	38	39	39	35	34	35	36	36	36	35
4	35	37	38	39	39	35	35	36	36	36	36	35
5	35	37	38	39	39	35	35	35	36	36	36	35
6	35	37	38	39	39	35	35	35	36	36	36	35
7	35	38	38	39	39	35	35	35	36	36	36	35
8	36	38	38	39	39	35	35	36	36	36	36	35
9	38	38	38	39	39	35	35	36	36	36	36	35
10	38	38	37	39	39	35	35	36	36	36	36	35
11	38	38	37	39	229	37	35	36	37	36	36	35
12	38	38	37	39	123	39	35	36	37	36	36	35
13	38	38	38	39	39	39	35	36	37	36	36	35
14	38	38	38	39	36	39	35	36	37	36	36	35
15	38	38	38	39	36	40	35	36	37	36	36	35
16	38	38	39	39	36	40	35	36	37	36	36	35
17	37	38	38	39	36	39	35	36	37	36	36	35
18	37	38	38	39	36	39	35	36	37	36	36	35
19	37	38	38	39	36	39	35	36	37	36	36	35
20	37	38	38	39	36	38	35	36	36	36	36	35
21	37	38	38	39	36	36	35	36	36	36	36	35
22	37	38	38	39	36	36	35	36	36	36	36	35
23	38	38	38	39	36	36	35	36	36	36	36	35
24	38	38	38	39	36	36	35	36	36	36	36	35
25	37	38	38	39	36	36	35	36	36	36	35	35
26	37	38	38	39	36	36	35	36	36	36	35	35
27	37	38	39	39	36	36	35	36	36	36	35	35
28	37	38	39	39	35	36	35	36	36	36	35	35
29	37	38	39	39	---	35	35	36	36	36	35	35
30	37	38	39	39	---	35	35	36	36	36	35	34
31	37	---	39	39	---	35	---	36	---	36	35	---
TOTAL	1142	1134	1181	1209	1320	1132	1048	1110	1089	1116	1109	1049
MEAN	36.8	37.8	38.1	39.0	47.1	36.5	34.9	35.8	36.3	36.0	35.8	35.0
MAX	38	38	39	39	229	40	35	36	37	36	36	35
MIN	35	37	37	39	35	35	34	35	36	36	35	34
AC-FT	2270	2250	2340	2400	2620	2250	2080	2200	2160	2210	2200	2080
a	69040	37280	25300	21140	54310	3600	0	2820	54770	72320	85330	79570

a Diversion, in acre-feet, to Butt Valley Powerplant (station 11400600), provided by Pacific Gas & Electric Co.

11400500 BUTT CREEK BELOW ALMANOR–BUTT CREEK TUNNEL, NEAR PRATTVILLE, CA

LOCATION.—Lat 40°11'14", long 121°11'13", in NE 1/4 NW 1/4 sec.22, T.27 N., R.7 E., [Plumas County](#), Hydrologic Unit 18020121, on right bank, 500 ft downstream from outlet of old Almanor–Butt Creek Tunnel, and 2.2 mi southwest of Prattville.

DRAINAGE AREA.—69.3 mi².

PERIOD OF RECORD.—October 1936 to September 1959, October 1964 to current year. Published as "below tunnel No. 1" 1938–40. Records for water years 1937–38 published in WSP 1515. Records prior to 1964 not equivalent owing to inflow from Almanor–Butt Creek Tunnel.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 4,300 ft above NGVD of 1929, from topographic map. Prior to Oct. 5, 1937, at site 200 ft downstream at datum 4 ft lower.

REMARKS.—No regulation upstream from station. Howell–Bunger valve in conduit from Lake Almanor (station 11399000) to Butt Valley Powerplant (station 11400600) is opened for short periods several times a year, causing sharp peaks. Wallack Ditch upstream from station diverts about 3 ft³/s during each irrigation season into Yellow Creek Basin. Some inflow 500 ft upstream that is the leakage from the abandoned Almanor–Butt Creek Tunnel at Outlet (station 11400200) is included in the table below. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2105.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,080 ft³/s, Jan. 1, 1997, gage height, 6.22 ft, from rating curve extended above 1,400 ft³/s; minimum daily, 26 ft³/s, several days during May and June 1976.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	43	48	102	172	80	205	191	192	66	57	54
2	41	44	48	91	164	80	199	196	181	66	59	54
3	42	43	48	86	147	81	176	211	172	65	60	54
4	41	43	48	84	135	80	170	313	164	65	58	54
5	41	43	48	82	125	80	157	255	156	64	56	54
6	41	48	48	79	117	82	151	238	147	64	55	53
7	41	82	48	76	109	84	143	228	139	63	55	53
8	41	157	46	74	103	85	141	237	133	62	55	53
9	41	135	47	75	98	85	140	212	126	61	54	54
10	41	90	50	83	95	100	138	197	119	62	54	55
11	41	113	48	85	93	106	138	197	113	60	54	55
12	41	70	48	91	90	111	144	196	109	60	53	54
13	42	56	77	192	109	129	153	205	105	59	54	54
14	42	54	299	185	111	291	151	223	100	59	55	54
15	42	52	188	147	109	551	148	242	95	59	54	53
16	42	51	256	125	129	324	141	250	91	59	54	52
17	42	49	135	114	110	240	137	236	88	58	54	53
18	42	48	94	109	102	200	144	224	85	58	54	53
19	42	48	81	104	100	178	145	212	83	58	53	53
20	42	48	76	100	94	177	145	205	82	58	54	53
21	42	48	73	101	92	163	149	213	80	58	55	53
22	42	48	67	134	91	173	153	235	80	57	62	53
23	42	48	69	251	89	201	148	258	78	57	57	52
24	42	48	75	201	89	180	200	268	80	58	54	54
25	42	48	72	200	87	168	208	259	75	58	53	54
26	42	48	61	191	85	395	183	238	73	57	54	54
27	42	48	136	193	85	286	175	226	71	56	55	54
28	42	48	306	194	82	226	193	230	69	55	54	53
29	43	48	214	171	---	200	193	228	69	55	54	53
30	43	48	140	158	---	191	187	216	67	56	54	53
31	43	---	114	161	---	195	---	203	---	57	54	---
TOTAL	1294	1797	3108	4039	3012	5522	4855	7042	3222	1850	1708	1605
MEAN	41.7	59.9	100	130	108	178	162	227	107	59.7	55.1	53.5
MAX	43	157	306	251	172	551	208	313	192	66	62	55
MIN	41	43	46	74	82	80	137	191	67	55	53	52
AC-FT	2570	3560	6160	8010	5970	10950	9630	13970	6390	3670	3390	3180
a	424	411	431	449	398	457	440	494	488	513	517	495

a Inflow, in acre-feet, from Almanor–Butt Creek Tunnel at Outlet (station 11400200), provided by Pacific Gas & Electric Co.

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

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	351	326	338	289	286	321	330	363	352	368	361	357
MAX	995	1073	1419	1098	1025	1050	1178	1176	1092	1038	1019	990
(WY)	1943	1938	1959	1953	1941	1953	1952	1956	1958	1953	1953	1953
MIN	32.3	39.2	39.3	39.4	38.0	47.8	47.5	42.7	32.9	28.7	27.8	29.4
(WY)	1989	1992	1991	1992	1937	1977	1977	1976	1976	1977	1977	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1937 - 2003	
ANNUAL TOTAL	28417		39054			
ANNUAL MEAN	77.9		107		337	
HIGHEST ANNUAL MEAN					974	
LOWEST ANNUAL MEAN					40.1	
HIGHEST DAILY MEAN	306	Dec 28	551	Mar 15	2830	Feb 17 1986
LOWEST DAILY MEAN	41	Sep 19	41	Oct 1	26	May 26 1976
ANNUAL SEVEN-DAY MINIMUM	41	Sep 19	41	Oct 4	26	May 30 1976
MAXIMUM PEAK FLOW			665	Mar 15	4080	Jan 1 1997
MAXIMUM PEAK STAGE			2.41	Mar 15	6.22	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	56370		77460		244300	
ANNUAL DIVERSION (AC-FT) a	5130		5520			
10 PERCENT EXCEEDS	138		206		987	
50 PERCENT EXCEEDS	59		80		95	
90 PERCENT EXCEEDS	42		45		42	

a Inflow, in acre-feet, from Almanor-Butt Creek Tunnel at Outlet (station 11400200), provided by Pacific Gas & Electric Co.

11401050 BUTT VALLEY RESERVOIR NEAR CARIBOU, CA

LOCATION.—Lat 40°06'59", long 121°08'42", in SE 1/4 SW 1/4 sec.12, T.26 N., R.7 E., [Plumas County](#), Hydrologic Unit 18020121, on center intake tower in Butt Valley Reservoir, 2.5 mi north of Caribou, and 5.4 mi southwest of Canyon Dam.

DRAINAGE AREA.—83.5 mi².

PERIOD OF RECORD.—October 1985 to current year. Unpublished records for water years 1983–85 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 10.23 ft below NGVD of 1929 (levels by Great Western Power Co.).

REMARKS.—Lake is formed by earthfill dam. Storage began in 1924. Usable capacity, 49,900 acre-ft, between elevations 4,075.9 ft, invert of outlet tunnel, and 4,132.1 ft, crest of spillway. Water is diverted by tunnel and penstock to Caribou Powerplants (station 11401110). Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of [North Fork Feather River Basin](#).

REVISED RECORDS.—WDR CA-00-4 (discharge through Caribou Powerplants).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2105. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 52,667 acre-ft, Feb. 18, 19, 1986, elevation, 4,133.80 ft; minimum, 4,284 acre-ft, Mar. 3, 1997, elevation, 4,094.95 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 49,004 acre-ft, Aug. 25, elevation, 4,131.52 ft; minimum, 30,499 acre-ft, Jan. 9, elevation, 4,119.22 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on surveys by Great Western Power Co. in 1923 and 1924)

4,090	1,754	4,110	18,395	4,130	46,591	4,137	57,891
4,100	8,024	4,120	31,592				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45728	44041	41136	36339	40030	41166	39226	46042	45759	45289	46814	48127
2	45728	44647	41515	36101	40394	39651	39696	45775	44647	45461	47589	48016
3	45540	44741	41911	35196	39348	38386	39984	45838	43839	45289	48207	48064
4	45242	45351	42034	33979	38267	37407	40363	46104	43870	44896	48175	47874
5	45289	45493	41987	33747	37719	36814	40666	46042	44088	45461	48016	48557
6	45602	44274	42280	33108	36933	36190	40954	46057	44212	45838	47858	46497
7	45116	43404	42141	32537	36428	36279	41197	46104	44321	46371	47415	43948
8	45006	43311	41409	31421	36324	36354	41454	46152	44166	46513	47525	41363
9	44772	43234	40984	30499	36027	36457	41727	45838	44523	46640	48048	40348
10	44865	43389	40424	31718	36235	36621	41987	45461	43933	45665	48398	40469
11	44881	43219	39984	32805	36457	36784	42249	45085	44352	45587	48669	41015
12	44445	43404	39757	33456	37081	37066	42788	44476	44585	45681	48398	41287
13	43234	42634	39469	34414	36487	36992	43188	44166	45398	45948	48112	41363
14	42942	41941	40500	35687	34501	37882	43482	44741	45948	46324	47826	41621
15	42372	41454	41333	36962	34617	39499	43637	45712	45869	46497	47130	41621
16	41666	41818	42326	37289	34704	40242	43886	45869	46089	46940	47367	41727
17	41757	41987	42726	36561	36235	40697	43219	45712	46513	47003	46940	42465
18	41772	42326	42726	35658	36027	41060	43080	45744	46877	47415	46703	43513
19	42834	42141	41015	35196	35702	41439	43358	45304	47494	47747	46214	44368
20	42634	41926	39272	34762	35586	41772	43142	44492	47842	48032	46230	44787
21	42911	41530	38089	35138	35774	42111	43249	44383	47415	48271	46340	45163
22	43389	41318	36398	36428	35952	42495	43296	44399	45979	48239	47225	46246
23	43327	41227	34733	37467	36279	42865	43358	44492	45791	48064	47779	48096
24	43389	41363	34559	37852	35848	43219	43808	44554	45649	48000	48685	46434
25	43606	41287	34226	38682	35745	43296	44399	44616	45540	47826	49004	45744
26	43544	41499	34820	39196	36205	44088	44741	44756	45493	47257	48780	46561
27	43715	41911	35615	40439	37956	44243	44912	44990	45618	47209	48096	46261
28	43684	41515	36339	40939	39439	43342	45351	45540	45508	47146	47984	46655
29	44072	41742	36561	41272	---	41303	45838	45838	45336	47051	48159	47272
30	44181	41454	36547	40348	---	39560	46308	45963	45430	46956	48112	47731
31	43482	---	36665	40136	---	38832	---	46104	---	46782	48207	---
MAX	45728	45493	42726	41272	40394	44243	46308	46152	47842	48271	49004	48557
MIN	41666	41227	34226	30499	34501	36190	39226	44166	43839	44896	46214	40348
a	4128.01	4126.69	4123.50	4125.82	4125.36	4124.96	4129.82	4129.69	4129.26	4130.12	4131.02	4130.76
b	-2120	-2028	-4789	+3471	-697	-607	+7476	-204	-674	+1352	+1425	-476
c	70770	44420	40100	28630	62630	15100	3500	19830	61840	72160	84730	80490

CAL YR 2002 MAX 47114 MIN 31137 b +4297 c 392100
WTR YR 2003 MAX 49004 MIN 30499 b +2129 c 584200

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Discharge, in acre-feet, through Caribou Powerplants (station 11401110), provided by Pacific Gas & Electric Co.

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA

LOCATION.—Lat 40°04'17", long 121°09'49", in NE 1/4 NW 1/4 sec.35, T.26 N., R.7 E., [Plumas County](#), Hydrologic Unit 18020121, Plumas National Forest, on left bank, 0.4 mi downstream from Belden Dam, 0.5 mi upstream from Deadwood Canyon, and 6.4 mi northeast of Belden.

DRAINAGE AREA.—612 mi².

PERIOD OF RECORD.—October 1969 to current year. Records for July 1959 to September 1969 available in files of Pacific Gas & Electric Co.

REVISED RECORDS.—WDR CA-78-4: 1977 (monthly and yearly summaries).

GAGE.—Water-stage recorder. Datum of gage is 2,800.77 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.—Flow regulated by Butt Valley Reservoir (station 11401050), Lake Almanor (station 11399000), Belden Reservoir, and Mountain Meadows Reservoir, combined capacity, 1,267,000 acre-ft. Diversion to Belden Powerplant (station 11403050) began on Aug. 27, 1969. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2105.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,460 ft³/s, Jan. 1, 1997, gage height, 9.17 ft; minimum daily, 2.3 ft³/s, Oct. 25, 1981.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	64	64	66	64	65	64	141	143	143	145	138
2	65	64	64	65	64	65	107	145	144	143	143	85
3	64	64	64	65	64	65	133	142	144	142	143	64
4	64	64	64	66	64	65	101	141	144	143	144	64
5	64	65	64	65	65	65	99	142	144	143	143	63
6	65	64	64	65	65	65	96	142	144	143	144	63
7	64	64	63	65	65	65	93	142	147	141	145	63
8	65	62	64	65	66	65	70	141	147	143	143	63
9	65	62	64	65	65	65	69	143	146	143	142	64
10	65	63	63	66	65	65	64	144	146	143	142	63
11	65	63	64	66	65	65	64	144	146	142	144	63
12	65	64	63	65	65	65	64	145	145	144	142	63
13	65	64	64	66	65	64	64	145	143	147	143	63
14	65	64	66	67	65	65	64	144	144	147	142	63
15	65	64	65	65	65	66	65	143	143	147	142	63
16	65	64	62	64	66	65	63	142	141	144	142	64
17	66	65	64	65	65	65	63	143	143	144	142	64
18	65	65	65	65	66	65	64	142	142	144	143	64
19	65	65	64	65	65	65	64	142	142	144	143	63
20	66	64	65	64	65	65	64	143	143	144	141	63
21	66	65	63	64	65	66	62	142	142	144	147	63
22	66	65	64	64	66	66	61	145	142	144	146	63
23	66	65	65	65	66	66	61	143	142	144	142	64
24	66	65	65	65	65	66	100	142	143	144	142	64
25	68	69	65	64	64	65	144	142	143	141	143	64
26	67	70	65	65	65	65	143	142	142	143	143	64
27	65	67	65	64	66	65	143	143	142	143	141	64
28	65	64	66	64	65	64	144	143	141	142	142	64
29	64	64	65	64	---	63	143	143	144	143	141	65
30	64	64	65	64	---	64	143	143	143	142	141	65
31	64	---	65	64	---	63	---	145	---	141	141	---
TOTAL	2019	1936	1993	2012	1821	2013	2679	4429	4305	4445	4427	2003
MEAN	65.1	64.5	64.3	64.9	65.0	64.9	89.3	143	144	143	143	66.8
MAX	68	70	66	67	66	66	144	145	147	147	147	138
MIN	64	62	62	64	64	63	61	141	141	141	141	63
AC-FT	4000	3840	3950	3990	3610	3990	5310	8780	8540	8820	8780	3970
a	71490	42710	42010	31810	64660	16460	3690	17770	57010	68130	78670	79010

a Diversion, in acre-feet, to Belden Powerplant (station 11403050), provided by Pacific Gas & Electric Co.

SACRAMENTO RIVER BASIN

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

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	127	134	116	129	107	105	170	167	146	140	137	118
MAX	1414	2487	1664	1200	616	591	743	549	374	199	173	1134
(WY)	1975	1975	1975	1997	1997	1975	1983	1995	1995	1970	1970	1987
MIN	57.8	38.4	45.2	51.6	51.2	50.0	63.1	62.2	56.5	64.2	89.0	61.9
(WY)	1985	1981	1976	1976	1976	1976	1972	1971	1971	1971	1972	1976

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1970 - 2003	
ANNUAL TOTAL	35012		34082			
ANNUAL MEAN	95.9		93.4		133	
HIGHEST ANNUAL MEAN					745	
LOWEST ANNUAL MEAN					76.3	
HIGHEST DAILY MEAN	155	Apr 25	147	Jun 7	2800	Nov 20 1974
LOWEST DAILY MEAN	62	Sep 19	61	Apr 22	2.3	Oct 25 1981
ANNUAL SEVEN-DAY MINIMUM	63	Nov 6	63	Apr 17	3.5	Oct 25 1981
MAXIMUM PEAK FLOW			227		3460	
MAXIMUM PEAK STAGE			3.97		9.17	
ANNUAL RUNOFF (AC-FT)	69450		67600		96410	
ANNUAL DIVERSION (AC-FT) a	372900		573400			
10 PERCENT EXCEEDS	145		144		148	
50 PERCENT EXCEEDS	67		65		68	
90 PERCENT EXCEEDS	64		64		60	

a Diversion, in acre-feet, to Belden Powerplant (station 11403050), provided by Pacific Gas & Electric Co.

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

LOCATION.—Lat 40°00'07", long 120°42'07", in SE 1/4 NE 1/4 sec.26, T.25 N., R.11 E., [Plumas County](#), Hydrologic Unit 18020122, on left bank, 20 ft downstream from diversion dam, 30 ft downstream from Nye Creek, 3.5 mi upstream from Indian Creek, and 3.8 mi southeast of Genesee.

DRAINAGE AREA.—6.74 mi².

PERIOD OF RECORD.—October 1990 to current year (low-flow records only).

GAGE.—Water-stage recorder and V-notch sharp-crested weir in concrete control. Elevation of gage is 5,300 ft above NGVD of 1929, from topographic map.

REMARKS.—No records computed above 12 ft³/s. Flow regulated at diversion dam 20 ft upstream. Some water is diverted to Five Bears Powerplant and bypasses this gage. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Five Bears Hydro, Inc., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 6281.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.5	2.7	3.4	5.4	3.5	10	10	11	3.4	3.0	2.8
2	2.5	2.5	2.7	3.5	5.2	3.6	11	10	10	3.5	3.2	2.8
3	2.5	2.5	2.7	3.5	4.8	3.6	11	10	10	3.5	3.1	2.8
4	2.5	2.5	2.7	3.5	4.0	3.5	11	10	10	3.5	3.0	2.7
5	2.5	2.5	2.7	3.4	3.6	3.6	10	10	11	3.4	3.0	2.7
6	2.5	2.5	2.7	3.5	3.4	3.6	11	10	9.6	3.6	3.0	2.7
7	2.5	3.1	2.7	3.4	3.5	3.5	10	11	8.2	3.6	3.0	2.7
8	2.5	5.2	2.7	3.5	3.5	3.6	10	10	7.9	3.6	2.9	2.7
9	2.5	3.8	2.7	3.4	3.6	3.8	10	11	7.5	3.5	2.9	2.7
10	2.5	3.4	2.7	3.5	3.6	3.9	10	11	7.0	3.5	2.9	2.7
11	2.5	3.3	2.7	3.5	3.6	4.1	10	10	6.9	3.4	2.9	2.7
12	2.5	3.2	2.7	3.5	3.6	4.1	10	10	6.6	3.4	2.9	2.7
13	2.5	3.1	3.0	3.5	3.5	4.3	10	10	6.5	3.4	2.9	2.7
14	2.5	3.0	4.2	3.4	3.6	5.6	10	10	6.2	3.4	2.9	2.7
15	2.5	2.8	3.9	3.4	3.6	9.4	10	10	6.2	3.3	2.8	2.7
16	2.5	2.7	3.5	3.5	3.4	10	10	10	4.9	3.3	2.8	2.7
17	2.5	2.7	3.5	3.6	3.5	10	10	10	3.9	3.2	2.8	2.7
18	2.5	2.7	3.6	3.5	3.5	10	10	11	3.7	3.2	2.8	2.7
19	2.5	2.7	3.4	3.4	3.6	10	10	11	3.5	3.1	2.8	2.7
20	2.5	2.6	3.4	3.8	3.6	10	10	11	3.5	3.2	2.8	2.7
21	2.5	2.6	3.5	3.8	3.5	10	10	10	3.5	3.1	2.9	2.7
22	2.5	2.6	3.4	3.8	3.4	10	10	10	3.5	3.1	3.6	2.7
23	2.5	2.6	3.4	4.0	3.6	10	10	11	3.5	3.1	3.0	2.7
24	2.5	2.7	3.5	5.5	3.6	10	10	11	3.5	3.1	3.0	2.7
25	2.5	2.7	3.5	5.1	3.7	10	12	11	3.5	3.1	2.9	2.7
26	2.5	2.7	3.7	4.9	3.6	10	11	11	3.4	3.0	3.0	2.7
27	2.5	2.7	3.4	5.7	3.5	11	11	11	3.4	3.0	2.9	2.7
28	2.5	2.7	3.4	7.0	3.5	10	11	11	3.4	3.0	2.9	2.7
29	2.5	2.7	3.5	6.2	---	10	10	11	3.3	3.0	2.9	2.7
30	2.5	2.7	3.4	5.4	---	10	10	11	3.3	3.0	2.8	2.7
31	2.5	---	4.0	5.1	---	10	---	10	---	3.0	2.8	---
TOTAL	77.5	86.0	99.6	126.2	104.5	224.7	309	324	178.4	101.5	91.1	81.3
MEAN	2.50	2.87	3.21	4.07	3.73	7.25	10.3	10.5	5.95	3.27	2.94	2.71
MAX	2.5	5.2	4.2	7.0	5.4	11	12	11	11	3.6	3.6	2.8
MIN	2.5	2.5	2.7	3.4	3.4	3.5	10	10	3.3	3.0	2.8	2.7
AC-FT	154	171	198	250	207	446	613	643	354	201	181	161

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA

LOCATION.—Lat 40°00'11", long 120°57'12", in SE 1/4 NE 1/4 sec.27, T.25 N., R.9 E., [Plumas County](#), Hydrologic Unit 18020122, on right bank, 200 ft upstream from Blackhawk Creek, and 0.9 mi southeast of Keddie.

DRAINAGE AREA.—184 mi².

PERIOD OF RECORD.—October 1933 to current year.

REVISED RECORDS.—WSP 1041: 1938(M).

GAGE.—Water-stage recorder. Datum of gage is 3,129.86 ft above NGVD of 1929.

REMARKS.—Records good except estimated daily values, which are fair. Low flow regulated by five small reservoirs having a combined capacity of 800 acre-ft. Approximately 4,600 acres irrigated upstream from station (from information provided by U.S. Forest Service). City of Quincy diverts about 450 acre-ft annually for municipal supply. See schematic diagram of [North Fork Feather River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 22,100 ft³/s, Jan. 2, 1997, gage height, 15.68 ft, from rating curve extended above 5,200 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 3.0 ft³/s, Sept. 4, 5, 1988.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,700 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0645	3,360	6.60	Mar. 15	1045	4,130	7.24
Dec. 28	2100	2,650	5.96				

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	31	44	577	450	172	310	655	302	61	32	36
2	19	32	45	410	432	166	302	647	285	61	35	26
3	21	34	45	341	367	163	277	781	259	60	56	23
4	21	34	45	296	323	162	283	938	240	66	49	28
5	22	29	45	280	289	156	260	779	227	65	34	22
6	22	34	45	274	260	152	244	687	209	63	28	24
7	14	55	44	250	236	150	232	603	202	60	30	24
8	15	260	44	230	219	148	245	637	198	49	32	25
9	18	182	45	224	205	146	264	564	191	46	34	27
10	14	188	51	471	195	150	264	506	172	47	34	36
11	17	165	53	1070	188	161	269	482	160	46	34	32
12	24	99	49	652	182	174	346	479	e154	47	38	34
13	23	80	147	928	218	195	555	504	e149	48	37	29
14	25	70	1590	759	245	635	530	550	e143	47	35	29
15	18	64	1220	550	220	2770	457	571	e138	43	30	31
16	18	60	2380	432	458	1280	410	559	e132	40	33	28
17	24	57	959	367	363	752	394	502	e127	46	30	30
18	18	52	451	327	303	544	421	461	e121	44	29	25
19	20	51	298	302	278	437	413	414	e116	42	21	30
20	23	50	249	283	256	391	417	387	e110	39	18	21
21	19	50	256	300	233	347	470	391	e105	30	22	19
22	32	49	215	444	221	330	456	423	e99	29	41	20
23	24	49	182	1210	212	398	409	466	e93	30	48	21
24	31	48	161	941	203	379	772	477	e88	32	38	22
25	29	47	148	690	196	334	903	450	e85	32	36	21
26	30	46	145	623	189	435	892	418	82	32	37	21
27	31	45	1180	627	186	420	735	394	77	33	35	22
28	33	45	2190	703	179	346	747	412	74	42	33	23
29	29	45	1390	554	---	307	855	401	71	38	37	24
30	29	45	703	465	---	291	725	365	68	35	35	27
31	34	---	867	429	---	296	---	331	---	30	27	---
TOTAL	716	2096	15286	16009	7306	12787	13857	16234	4477	1383	1058	780
MEAN	23.1	69.9	493	516	261	412	462	524	149	44.6	34.1	26.0
MAX	34	260	2380	1210	458	2770	903	938	302	66	56	36
MIN	14	29	44	224	179	146	232	331	68	29	18	19
AC-FT	1420	4160	30320	31750	14490	25360	27490	32200	8880	2740	2100	1550

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	57.4	128	284	440	519	559	555	423	170	52.0	28.9	30.5
MAX	702	1015	1498	2657	2843	2043	1715	1301	755	187	74.6	63.8
(WY)	1963	1982	1956	1997	1986	1995	1952	1938	1983	1983	1983	1983
MIN	18.4	34.9	35.3	37.5	50.5	56.1	44.3	50.6	18.6	10.8	5.10	7.57
(WY)	1989	1991	1977	1937	1991	1977	1977	1977	1977	1934	1934	1934

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1934 - 2003	
ANNUAL TOTAL	58864.0		91989			
ANNUAL MEAN	161		252		269	
HIGHEST ANNUAL MEAN					641 1995	
LOWEST ANNUAL MEAN					34.1 1977	
HIGHEST DAILY MEAN	2380	Dec 16	2770	Mar 15	18000	Jan 2 1997
LOWEST DAILY MEAN	8.6	Aug 22	14	Oct 7	3.0	Sep 4 1988
ANNUAL SEVEN-DAY MINIMUM	12	Aug 21	17	Oct 5	4.4	Aug 18 1934
MAXIMUM PEAK FLOW			4130	Mar 15	22100	Jan 2 1997
MAXIMUM PEAK STAGE			7.24	Mar 15	15.68	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	116800		182500		195000	
10 PERCENT EXCEEDS	354		625		644	
50 PERCENT EXCEEDS	70		148		89	
90 PERCENT EXCEEDS	15		24		24	

11403200 NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM, CA

LOCATION.—Lat 39°58'49", long 121°16'33", in SW 1/4 NW 1/4 sec.35, T.25 N., R.6 E., [Plumas County](#), Hydrologic Unit 18020121, Plumas National Forest, on left bank, 0.7 mi downstream from Rock Creek Diversion Dam, and 5.0 mi northeast of Storrie.

DRAINAGE AREA.—1,773 mi².

PERIOD OF RECORD.—October 1985 to February 1986, October 1986 to current year. Unpublished records for water years 1982–85 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Elevation of gage is 2,120 ft above NGVD of 1929, from topographic map.

REMARKS.—Low and medium flow regulated by Rock Creek Forebay 0.7 mi upstream. Most of the flow is diverted to Rock Creek Powerplant (station 11403800). Diversion to Rock Creek Powerplant began Feb. 28, 1950. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1962.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 91,600 ft³/s, Jan. 2, 1997, gage height, 31.85 ft; minimum daily, 50 ft³/s, Feb. 7, 1989.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	218	199	248	291	244	315	310	388	320	233	205	207
2	214	223	236	240	247	317	316	391	327	208	202	208
3	216	225	230	245	239	327	302	564	277	205	206	207
4	219	220	231	249	236	316	329	1380	267	206	204	207
5	220	219	229	249	237	299	329	1010	265	206	204	204
6	645	222	228	247	234	298	332	574	270	201	203	205
7	218	224	228	242	236	292	324	377	273	204	203	204
8	220	245	227	240	231	292	339	403	263	222	203	205
9	220	233	227	243	231	287	337	436	265	226	203	203
10	219	234	228	248	227	298	324	363	266	222	203	205
11	217	225	223	321	234	304	317	341	267	225	204	206
12	214	225	226	288	235	293	314	341	264	225	201	205
13	216	223	233	771	236	294	324	338	263	227	201	203
14	214	221	1900	751	234	309	326	344	263	224	198	203
15	215	226	1530	259	236	5070	320	342	257	222	197	203
16	172	227	4220	250	250	2700	318	337	259	216	200	198
17	64	226	1230	245	248	664	317	327	261	212	199	201
18	113	220	237	243	245	342	324	337	265	208	200	204
19	223	221	228	243	239	330	300	332	257	208	197	206
20	222	219	232	243	242	1030	301	343	262	208	199	207
21	218	219	237	244	236	937	e301	350	250	208	198	208
22	216	216	221	265	243	333	e301	347	260	207	201	205
23	218	219	219	1390	243	308	e301	357	265	209	198	204
24	211	220	217	1550	239	307	e330	336	262	208	556	205
25	210	217	213	518	240	286	e509	344	260	209	210	207
26	210	211	211	256	241	328	e1050	338	259	205	209	206
27	205	226	723	245	250	308	e503	331	256	748	210	207
28	201	246	4340	251	262	297	379	359	253	211	208	682
29	201	243	2870	246	---	305	680	350	1090	209	212	213
30	200	244	590	238	---	312	452	334	268	211	207	211
31	200	---	750	241	---	315	---	325	---	209	209	---
TOTAL	6769	6738	23162	11552	6715	18413	11209	13039	8834	7142	6650	6639
MEAN	218	225	747	373	240	594	374	421	294	230	215	221
MAX	645	246	4340	1550	262	5070	1050	1380	1090	748	556	682
MIN	64	199	211	238	227	286	300	325	250	201	197	198
AC-FT	13430	13360	45940	22910	13320	36520	22230	25860	17520	14170	13190	13170
a	78050	63270	117100	162400	133400	105700	125700	174900	113900	87530	94210	88380

e Estimated.

a Diversion, in acre-feet, to Rock Creek Powerplant (station 11403800), provided by Pacific Gas & Electric Co.

11403200 NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	128	97.0	320	1063	741	1255	752	780	412	133	128	144
MAX	218	226	3012	12700	3378	8612	5384	7371	2684	230	215	313
(WY)	2003	1999	1997	1997	1996	1995	1995	1995	1995	2003	2003	1997
MIN	52.7	53.2	52.4	52.0	52.9	52.9	54.2	55.3	55.7	55.3	53.0	53.0
(WY)	1988	1988	1995	1992	1994	1994	1990	1987	1987	1987	1987	1987

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1987 - 2003	
ANNUAL TOTAL	112026		126862			
ANNUAL MEAN	307		348		496	
HIGHEST ANNUAL MEAN					2333	
LOWEST ANNUAL MEAN					77.7	
HIGHEST DAILY MEAN	4340	Dec 28	5070	Mar 15	74400	Jan 2 1997
LOWEST DAILY MEAN	64	Oct 17	64	Oct 17	50	Feb 7 1989
ANNUAL SEVEN-DAY MINIMUM	116	Feb 12	173	Oct 12	51	Dec 22 1993
MAXIMUM PEAK FLOW			9840	Mar 15	91600	Jan 2 1997
MAXIMUM PEAK STAGE			14.10	Mar 15	31.85	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	222200		251600		359200	
ANNUAL DIVERSION (AC-FT) a	864100		1345000			
10 PERCENT EXCEEDS	304		389		607	
50 PERCENT EXCEEDS	220		239		109	
90 PERCENT EXCEEDS	119		204		53	

a Diversion, in acre-feet, to Rock Creek Powerplant (station 11403800), provided by Pacific Gas & Electric Co.

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

LOCATION.—Lat 39°54'09", long 121°13'36", in SW 1/4 SW 1/4 sec.29, T.24 N., R.7 E., [Plumas County](#), Hydrologic Unit 18020121, Plumas National Forest, on left bank, 150 ft upstream from right abutment of Lower Bucks Lake Dam, 200 ft upstream from outlet, and 3.4 mi northwest of Bucks Lodge.

PERIOD OF RECORD.—October 1986 to current year. Unpublished records for water years 1981–84 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder in 3-ft steel pipe. Elevation of gage is 5,050 ft above NGVD of 1929.

REMARKS.—Conduit diverts from channel below Three Lakes Reservoir, capacity, 513 acre-ft, and from 12 additional diversions along the conduit. Water is used for power at Bucks Creek Powerplant (station 11403700) and Grizzly Powerplant (station 11404240). See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 619.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 71 ft³/s, Apr. 29, 1995, May 17, 1996; no flow for many days in water years 1997–2000, and several days in May 2001.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	0.41	1.9	9.5	36	12	41	18	13	2.5	1.3	0.61
2	8.5	0.41	1.9	9.9	28	12	35	20	15	3.7	1.8	0.59
3	8.3	0.41	1.9	9.9	23	12	29	29	40	5.5	1.7	0.56
4	8.1	0.41	1.8	9.9	22	11	27	33	66	5.2	1.4	4.8
5	7.8	0.41	1.8	10	20	10	23	27	42	4.8	1.3	11
6	7.6	0.41	1.8	10	19	7.9	22	26	2.5	4.6	1.3	11
7	7.3	6.4	1.8	9.7	18	7.8	22	25	1.9	4.3	1.1	11
8	7.0	15	1.7	9.6	17	7.9	24	27	1.3	4.1	1.1	11
9	7.0	8.9	1.9	9.6	16	7.9	26	22	1.0	3.9	1.1	11
10	6.9	10	3.3	11	16	9.6	27	22	0.49	3.8	1.0	11
11	6.7	7.7	2.6	12	15	11	32	25	0.43	3.8	0.95	11
12	6.5	7.5	2.4	11	15	13	34	33	0.38	3.8	0.94	11
13	6.3	7.6	17	18	24	19	29	45	0.36	3.5	0.90	10
14	6.2	6.8	28	14	20	46	24	53	0.33	3.4	0.86	10
15	6.0	6.1	11	12	18	57	21	58	0.30	3.1	0.82	10
16	5.4	5.7	9.7	12	17	34	20	54	0.28	2.9	0.79	10
17	5.0	5.3	8.2	12	16	26	20	51	0.27	2.7	0.78	10
18	4.2	4.9	7.5	12	15	22	19	49	0.24	2.5	0.77	10
19	3.4	4.6	7.1	12	15	21	19	45	0.20	2.4	0.73	10
20	1.3	4.8	7.0	12	14	21	20	45	0.14	2.3	0.72	9.8
21	0.71	4.4	7.0	13	14	21	21	48	0.14	2.1	0.80	9.7
22	0.58	3.4	6.8	19	14	28	19	45	0.12	1.9	1.5	9.5
23	0.52	3.1	6.6	26	14	33	19	31	0.10	2.0	1.1	9.2
24	0.52	2.9	6.5	19	13	28	23	23	0.08	2.0	0.87	8.8
25	0.52	2.5	6.4	19	13	26	21	18	0.03	1.8	0.78	8.5
26	0.50	2.2	6.4	18	13	57	19	18	2.2	1.7	0.75	8.3
27	0.46	2.1	21	21	12	43	17	18	3.0	1.6	0.73	8.1
28	0.46	2.0	27	20	12	33	18	16	2.9	1.5	0.68	7.8
29	0.45	1.9	14	18	---	30	18	13	2.7	1.4	0.66	7.6
30	0.41	1.9	11	22	---	36	16	13	2.6	1.3	0.62	7.5
31	0.41	---	10	30	---	42	---	13	---	1.3	0.62	---
TOTAL	133.84	130.16	243.0	451.1	489	745.1	705	963	199.99	91.4	30.47	259.36
MEAN	4.32	4.34	7.84	14.6	17.5	24.0	23.5	31.1	6.67	2.95	0.98	8.65
MAX	8.8	15	28	30	36	57	41	58	66	5.5	1.8	11
MIN	0.41	0.41	1.7	9.5	12	7.8	16	13	0.03	1.3	0.62	0.56
AC-FT	265	258	482	895	970	1480	1400	1910	397	181	60	514

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	3.33	3.88	5.78	6.57	9.05	16.1	26.0	26.3	12.2	5.22	2.80	3.58					
MAX	9.22	8.15	27.5	19.2	38.7	42.7	59.6	66.6	57.3	30.5	7.35	8.65					
(WY)	2000	1990	1997	1995	1996	1989	1989	1993	1993	1995	1992	2003					
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
(WY)	1998	1998	1998	1998	1997	1997	1997	1997	1997	1997	1997	1997					

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1987 - 2003	
ANNUAL TOTAL	4265.46		4441.42			
ANNUAL MEAN	11.7		12.2		10.1	
HIGHEST ANNUAL MEAN					21.6	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	55	Apr 14	66	Jun 4	71	Apr 29 1995
LOWEST DAILY MEAN	0.33	Sep 10	0.03	Jun 25	0.00	Jan 2 1997
ANNUAL SEVEN-DAY MINIMUM	0.34	Sep 10	0.12	Jun 19	0.00	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	8460		8810		7290	
10 PERCENT EXCEEDS	34		28		30	
50 PERCENT EXCEEDS	7.6		8.9		4.5	
90 PERCENT EXCEEDS	0.48		0.62		0.00	

11403500 BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.—Lat 39°53'45", long 121°12'08", in SE 1/4 NW 1/4 sec.33, T.24 N., R.7 E., **Plumas County**, Hydrologic Unit 18020121, Plumas National Forest, in outlet structure, 100 ft upstream from dam on Bucks Creek, 2.0 mi northwest of Bucks Lodge, and 15 mi west of Quincy.

DRAINAGE AREA.—28.6 mi².

PERIOD OF RECORD.—Water years 1927–28 (year-end contents only, published in WSP 1315-A), October 1928 to current year. Prior to October 1954, published as "Bucks Creek Reservoir near Bucks Ranch".

GAGE.—Water-stage recorder. Datum of gage is 3.50 ft below NGVD of 1929 (levels by Feather River Power Co.).

REMARKS.—Reservoir is formed by concrete-faced, rockfill dam, completed in 1927; storage began in May 1927. Capacity, 101,400 acre-ft, between elevations 5,064.75 ft, sill of outlet gate, and 5,154.85 ft, spillway crest. Storage of 274 acre-ft is not available for release. Released water flows down Bucks Creek to Lower Bucks Lake (station 11403520), where most of the water is diverted to Bucks Creek Tunnel or Grizzly Powerplant (station 11404240), which discharges into Grizzly Creek. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 619. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 107,278 acre-ft, May 17, 1996, elevation, 5,157.9 ft; minimum, 12,330 acre-ft, Feb. 27, 1929, elevation, 5,090.7 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 104,867 acre-ft, June 15, elevation, 5,156.60 ft; minimum, 46,666 acre-ft, Dec. 12, elevation, 5,120.86 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1927)

5,090	11,742	5,110	32,519	5,130	59,997	5,150	92,950
5,095	16,183	5,120	45,472	5,140	75,894	5,160	111,220
5,100	21,180						

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70632	57577	50616	57079	61825	66528	78764	89481	104737	101088	96003	88146
2	70149	57094	50216	57079	62057	66718	79163	89708	104737	100706	96021	87920
3	69763	56646	49800	57139	62150	66829	79616	90197	104737	100269	96057	87471
4	69296	56215	49404	57215	62166	66924	80119	90703	104700	100160	96074	87040
5	68754	56140	49037	57079	62274	67130	80420	91140	104664	100160	96092	86489
6	68291	55902	48627	57124	62506	67320	80671	91473	104627	100051	96092	86179
7	67875	56498	48202	56884	62459	67463	80973	92001	104608	99960	96092	85698
8	67400	57366	47784	56988	62676	67621	81278	92405	104553	99960	95950	85219
9	66956	57637	47463	56958	62830	67795	81514	92792	104479	99960	95415	84962
10	66464	58043	47183	57411	62923	67987	81919	93092	104479	100033	95308	84534
11	65975	58058	46845	57637	62954	68163	82341	93463	104534	99870	95059	84107
12	65488	57712	46666	58058	63155	68451	83172	93888	104664	99743	94898	83546
13	65047	57667	47519	58313	63640	68882	83631	94154	104737	99472	94525	83002
14	64653	57230	49376	58615	63936	70262	83920	94773	104774	99328	93959	82798
15	64123	56795	50259	58828	64341	71617	84226	95415	104867	99111	93694	82324
16	63655	56409	51086	58950	64653	72152	84448	96021	104830	99002	93446	81902
17	63187	55976	51405	58844	64874	72556	84808	96592	104645	98749	93180	81548
18	62753	55633	51608	58722	65126	72866	85116	97166	104350	98604	92897	81075
19	62367	55201	51897	58905	65425	73176	85305	97741	104073	98387	92651	80588
20	62227	54805	52301	58676	65550	73486	85664	98387	103796	98225	92388	80286
21	61732	54423	52560	58783	65299	73682	86006	99111	103466	98010	92159	79783
22	61270	54006	52713	59452	65393	74122	86248	99834	103172	97812	92142	79381
23	60842	53794	52805	60274	65550	74614	86592	100943	102843	97525	91684	79280
24	60427	53384	52866	60857	65739	74942	87385	101926	102769	97274	91157	79280
25	60381	52927	52516	61224	65896	75386	87938	102641	102824	96717	91122	79163
26	60289	52430	52387	61377	66116	76176	88198	103612	102879	96646	90826	78647
27	59831	52013	53597	61316	66242	76639	88562	104073	102531	96413	90337	78131
28	59345	51637	55328	61654	66432	76986	88978	104405	102219	96021	89883	77648
29	58889	51420	55857	61716	---	77399	89290	104627	101671	96021	89411	77168
30	58433	51072	56394	61592	---	77781	89411	104700	101525	96021	89221	77019
31	57983	---	56839	61747	---	78198	---	104737	---	96003	88683	---
MAX	70632	58058	56839	61747	66432	78198	89411	104737	104867	101088	96092	88146
MIN	57983	51072	46666	56884	61825	66528	78764	89481	101525	96003	88683	77019
a	5128.67	5123.98	5127.91	5131.14	5134.14	5141.39	5147.98	5156.53	5154.78	5151.72	5147.56	5140.68
b	-14054	-6911	+5767	+4908	+4685	+11766	+11213	+15326	-3212	-5522	-7320	-11664

CAL YR 2002 MAX 96935 MIN 46666 b -809

WTR YR 2003 MAX 104867 MIN 46666 b +4982

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11403520 LOWER BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.—Lat 39°53'59", long 121°13'32", in NE 1/4 NW 1/4 sec.32, T.24 N., R.7 E., [Plumas County](#), Hydrologic Unit 18020121, Plumas National Forest, in outlet tower for Bucks Creek Tunnel, 900 ft upstream from Buck Diversion Dam, 1.3 mi downstream from Bucks Lake Dam, and 3.2 mi northwest of Bucks Lodge.

DRAINAGE AREA.—31.3 mi².

PERIOD OF RECORD.—October 1985 to current year. Unpublished records for water years 1981–85 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 3.50 ft below NGVD of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.—Lake is formed by concrete dam. Storage began in October 1929. Usable capacity, 5,796 acre-ft, between elevations 4,952 ft, point of lowest drawdown, and 5,021.95 ft, crest of spillway. Water is received from Bucks Lake (station 11403500) and from Milk Ranch Conduit (station 11403450). Most of the water is diverted through Bucks Creek Tunnel or Grizzly Powerplant (station 11404240) and discharges into Grizzly Creek for power development downstream. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 619. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 6,203 acre-ft, May 18, 1996, elevation, 5,024.6 ft; minimum, 99 acre-ft, Sept. 9, 1993, elevation, 4,956.1 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 6,079 acre-ft, June 3, elevation, 5,022.46 ft; minimum, 3,643 acre-ft, May 1, elevation, 5,004.25 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1928)

4,950	24	4,980	1,314	5,000	3,175	5,020	5,573
4,960	194	4,990	2,171	5,010	4,307	5,030	6,981
4,970	624						

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5014	4960	4489	4484	4693	4349	4919	3643	6052	5261	5459	5372
2	4965	4873	4407	4627	4480	4367	4941	3715	6047	5308	5465	5214
3	4916	4828	4345	4625	4581	4386	4876	3945	6079	5346	5465	5268
4	4890	4747	4256	4459	4608	4401	4727	3940	6074	5338	5467	5340
5	4864	4650	4177	4600	4506	4414	4610	3907	6018	5243	5467	5404
6	4869	4436	4157	4475	4485	4422	4656	4006	5980	5421	5451	5225
7	4846	4624	4201	4688	4570	4432	4518	4099	5956	5369	5426	5290
8	4799	4583	4262	4481	4519	4440	4346	4186	5903	5345	5273	5367
9	4756	4556	4325	4669	4462	4448	4148	4248	5604	5354	5408	5223
10	4715	4578	4523	4603	4543	4468	3973	4311	5410	5229	5205	5222
11	4660	4557	4637	4529	4550	4485	3875	4411	5226	5359	5434	5285
12	4608	4694	4498	4456	4443	4510	3992	4527	5108	5306	5213	5348
13	4547	4458	4742	4675	4514	4562	4068	4663	4988	5308	5247	5410
14	4528	4517	4878	4635	4560	4740	4116	4805	4773	5300	5340	5222
15	4702	4540	4947	4555	4605	4933	4157	4961	4527	5305	5166	5283
16	4927	4547	4964	4523	4653	5030	4192	5124	4415	5279	5014	5377
17	5026	4532	5008	4480	4682	5099	4228	5270	4549	5288	4873	5229
18	5021	4579	5036	4666	4639	5154	4258	5400	4648	5282	4747	5296
19	5441	4573	5039	4448	4511	5097	4290	5516	4812	5295	4777	5350
20	5180	4571	4876	4598	4411	5151	4331	5691	4948	5277	4816	5225
21	5199	4549	4876	4656	4638	5201	4392	5863	5100	5303	4845	5324
22	5226	4546	4894	4654	4714	5171	4435	5774	5251	5223	4896	5355
23	5272	4418	4703	4736	4735	5150	4297	5656	5343	5260	5139	5450
24	5409	4504	4460	4701	4756	5108	4235	5642	5404	5306	5404	5303
25	5441	4483	4583	4574	4588	5172	4282	5536	5196	5559	5201	5188
26	5206	4485	4678	4464	4411	5329	4317	5442	5147	5220	5164	5242
27	5158	4468	4691	4670	4310	5291	4222	5492	5227	5162	5230	5291
28	5127	4631	4749	4501	4331	5151	4084	5514	5305	5461	5287	5345
29	5089	4426	4707	4568	---	5112	3814	5580	5394	5461	5352	5413
30	5019	4462	4658	4622	---	5059	3673	5795	5201	5462	5265	5261
31	5085	---	4610	4416	---	5015	---	5989	---	5459	5322	---
MAX	5441	4960	5039	4736	4756	5329	4941	5989	6079	5559	5467	5450
MIN	4528	4418	4157	4416	4310	4349	3673	3643	4415	5162	4747	5188
a	5016.17	5011.13	5012.29	5010.79	5010.17	5015.66	5004.52	5021.96	5017.04	5019.06	5017.97	5017.39
b	+195	-623	+148	-194	-85	+684	-1342	+2316	-788	+258	-137	-61
CAL YR 2002	MAX 5883	MIN 3607	b -86									
WTR YR 2003	MAX 6079	MIN 3643	b +371									

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

11403530 BUCKS CREEK BELOW DIVERSION DAM, NEAR BUCKS LODGE, CA

LOCATION.—Lat 39°54'16", long 121°13'47", in NW 1/4 SW 1/4 sec.29, T.24 N., R.7 E., [Plumas County](#), Hydrologic Unit 18020121, Plumas National Forest, on left bank, 20 ft upstream from unnamed tributary, 0.2 mi downstream from diversion dam, and 3.6 mi northwest of Bucks Lodge.

DRAINAGE AREA.—31.5 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records for water years 1981–90 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and concrete control with V-notch sharp-crested weir Sept. 19, 1990, to Sept. 24, 1998. Ultrasonic-velocity meter since Sept. 24, 1998. Elevation of gage is 4,850 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by diversion dam at Lower Bucks Lake 0.2 mi upstream, where most of the flow is diverted to Grizzly Creek via Bucks Creek Tunnel outlet or Grizzly Powerplant (station 11404240). Low flows regulated by fixed-plate orifice at outlet of diversion dam. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 619.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge recorded, 5,870 ft³/s, Feb. 17, 1986, gage height, 9.54 ft; no flow on several days in February 1986.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	4.0	3.9	1.5	1.5	1.5	4.0	3.7	e41	e4.0	e4.0	e4.0
2	4.0	4.0	2.5	1.5	1.5	1.5	4.0	3.7	e62	e4.0	e4.0	e4.0
3	4.0	4.0	1.5	1.5	1.5	1.5	4.0	3.7	e76	e4.0	e4.0	e4.0
4	4.0	3.9	1.5	1.5	1.5	1.5	3.9	3.7	e133	e4.0	e4.0	e4.0
5	4.0	3.9	1.5	1.5	1.5	1.5	3.9	3.7	e80	e4.0	e4.0	e4.0
6	4.0	3.9	1.5	1.5	1.5	1.5	3.9	3.7	e5.5	e4.0	e4.0	e4.0
7	4.0	3.9	1.5	1.5	1.5	1.5	3.9	3.8	e4.0	e4.0	e4.0	e4.0
8	4.0	3.9	1.5	1.5	1.5	1.5	3.8	3.8	e4.0	e4.0	e4.0	e4.0
9	3.9	3.9	1.5	1.5	1.5	1.5	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
10	3.9	3.9	1.5	1.5	1.5	1.5	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
11	3.9	3.9	1.5	1.5	1.5	1.5	3.7	e4.0	e4.0	e4.0	e4.0	e4.0
12	3.9	3.9	1.5	1.5	1.5	1.5	3.7	e4.0	e4.0	e4.0	e4.0	e4.0
13	3.9	3.9	1.5	1.5	1.5	1.5	3.7	e4.0	e4.0	e4.0	e4.0	e4.0
14	3.9	3.9	1.5	1.5	1.5	1.5	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
15	3.9	3.9	1.6	1.5	1.5	1.5	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
16	4.0	3.9	1.6	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
17	4.0	3.9	1.6	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
18	4.0	3.9	1.6	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
19	4.0	3.9	1.6	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
20	4.1	3.9	1.6	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
21	4.0	3.9	1.5	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
22	4.0	3.9	1.6	1.5	1.5	1.6	3.9	e4.0	e4.0	e4.0	e4.0	e4.0
23	4.0	3.9	1.5	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
24	4.1	3.9	1.5	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
25	4.1	3.9	1.5	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
26	4.0	3.9	1.5	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
27	4.0	3.9	1.5	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
28	4.0	3.9	1.5	1.5	1.5	1.6	3.8	e4.0	e4.0	e4.0	e4.0	e4.0
29	4.0	3.9	1.5	1.5	---	1.6	3.7	e4.0	e4.0	e4.0	e4.0	e4.0
30	4.0	3.9	1.5	1.5	---	1.6	3.7	e4.0	e4.0	e4.0	e4.0	e4.0
31	4.0	---	1.5	1.5	---	2.6	---	e4.0	---	e4.0	e4.0	---
TOTAL	123.5	117.3	50.6	46.5	42.0	49.1	114.6	121.8	493.5	124.0	124.0	120.0
MEAN	3.98	3.91	1.63	1.50	1.50	1.58	3.82	3.93	16.4	4.00	4.00	4.00
MAX	4.1	4.0	3.9	1.5	1.5	2.6	4.0	4.0	133	4.0	4.0	4.0
MIN	3.9	3.9	1.5	1.5	1.5	1.5	3.7	3.7	4.0	4.0	4.0	4.0
AC-FT	245	233	100	92	83	97	227	242	979	246	246	238
a	12410	10730	6810	6210	3100	1210	3210	5330	15550	6520	7550	11710

e Estimated.

a Diversion, in acre-feet, to Grizzly Powerplant (station 11404240), provided by Pacific Gas & Electric Co.

SACRAMENTO RIVER BASIN

11403530 BUCKS CREEK BELOW DIVERSION DAM, NEAR BUCKS LODGE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.36	3.11	1.68	1.50	10.9	1.66	3.67	21.8	25.9	3.62	3.93	4.14
MAX	4.30	3.98	1.82	1.50	57.9	1.85	4.00	187	167	4.70	9.06	11.6
(WY)	1994	2002	2001	1999	1986	2002	2002	1995	1995	1991	1993	1993
MIN	1.54	1.64	1.54	1.50	1.50	1.52	2.70	1.78	1.47	1.45	1.45	1.51
(WY)	1995	1996	1999	1999	1999	1999	1999	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1986 - 2003	
ANNUAL TOTAL	1161.5		1526.9			
ANNUAL MEAN	3.18		4.18		3.29	
HIGHEST ANNUAL MEAN					4.18 2003	
LOWEST ANNUAL MEAN					2.87 1999	
HIGHEST DAILY MEAN	4.1	Apr 9	133	Jun 4	1340	May 18 1996
LOWEST DAILY MEAN	1.5	Jan 1	1.5	Dec 3	0.00	Feb 1 1986
ANNUAL SEVEN-DAY MINIMUM	1.5	Jan 1	1.5	Dec 3	0.00	Feb 1 1986
MAXIMUM PEAK FLOW					5870	Feb 17 1986
MAXIMUM PEAK STAGE					9.54	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	2300		3030		2390	
ANNUAL DIVERSION (AC-FT) a	66310		90360			
10 PERCENT EXCEEDS	4.1		4.0		4.0	
50 PERCENT EXCEEDS	3.9		3.9		3.8	
90 PERCENT EXCEEDS	1.5		1.5		1.5	

a Diversion, in acre-feet, to Grizzly Powerplant (station 11404240), provided by Pacific Gas & Electric Co.

11404250 GRIZZLY FOREBAY NEAR STORRIE, CA

LOCATION.—Lat 39°53'32", long 121°17'25", in SW 1/4 NE 1/4 sec.34, T.24 N., R.6 E., [Plumas County](#), Hydrologic Unit 18020121, Plumas National Forest, in outlet tower for Bucks Creek Powerplant, 100 ft upstream from Grizzly Diversion Dam, 2.4 mi southeast of Storrie, and 6.2 mi west of Bucks Lodge.

DRAINAGE AREA.—14.4 mi².

PERIOD OF RECORD.—October 1986 to current year. Unpublished records for water years 1981–86 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 3.50 ft below NGVD of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.—Lake is formed by concrete dam. Storage began in July 1928. Usable capacity, 1,033 acre-ft, between elevations 4,271 ft, bottom of diversion tunnel, and 4,316.0 ft, crest of spillway. Water is received from Bucks Creek via Bucks Creek Tunnel and Grizzly Powerplant (station 11404240) which enter Grizzly Creek upstream. Most of the water is diverted through tunnel to Bucks Creek Powerplant (station 11403700) for power development downstream on North Fork Feather River. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 619. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 1,329 acre-ft, Dec. 30, 1996, elevation, 4,321.5 ft; minimum, 216 acre-ft, Sept. 20, 1991, elevation, 4,282.8 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,172 acre-ft, Dec. 13, elevation, 4,317.56 ft; minimum, 745 acre-ft, Jan. 14, elevation, 4,305.29 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1928)

4,290	350	4,300	592	4,310	898	4,320	1,268
4,295	464	4,305	736				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	948	997	856	878	976	958	1032	839	1143	836	1075	963
2	984	999	840	888	992	912	951	928	1141	879	1082	966
3	1003	1019	821	904	996	925	841	1032	1140	926	1085	958
4	1009	1072	848	962	1028	912	860	959	1139	1017	1087	976
5	1009	1023	907	970	958	934	885	958	1138	1032	961	992
6	975	943	965	1006	1060	955	849	893	1136	1075	967	1022
7	967	841	967	1017	1061	943	876	813	1136	1016	984	1042
8	977	960	993	1025	970	971	980	854	1134	988	1021	1023
9	979	864	1007	888	921	997	998	808	1131	987	1026	1024
10	986	889	991	989	885	976	981	755	1125	1031	1019	999
11	989	882	1012	969	920	915	888	750	1077	1049	1015	1017
12	1015	865	1023	838	935	803	873	780	925	1048	1090	1024
13	1076	907	1172	965	894	760	860	783	767	1024	1030	1032
14	1088	908	1129	745	851	1061	851	837	776	1002	1047	1051
15	1009	970	914	756	778	1115	885	993	786	981	1049	1057
16	1049	990	948	872	796	906	928	1118	820	959	1058	1020
17	990	1044	833	889	877	870	964	1129	854	941	1036	994
18	991	1021	846	917	777	836	942	1126	900	914	1027	998
19	960	1019	843	939	898	869	893	1128	880	891	1019	1009
20	940	1014	917	945	880	987	897	981	904	865	949	1022
21	927	1029	757	893	914	1028	904	952	930	819	967	1017
22	923	1001	785	1060	963	982	906	1068	940	899	994	1054
23	917	1014	862	1117	981	1080	928	1107	937	936	1040	1009
24	908	1037	907	1000	974	1082	997	1037	944	888	1027	926
25	863	993	950	895	896	930	973	978	920	853	1029	937
26	894	971	973	982	860	1028	902	1027	896	973	1020	971
27	909	918	1149	946	830	886	848	1146	889	1044	1042	998
28	955	919	1133	1011	855	867	780	1148	883	1049	1059	1026
29	1027	881	1001	904	---	914	834	1146	863	1043	1061	1053
30	1025	860	864	813	---	944	860	1145	848	1054	932	1035
31	941	---	878	961	---	985	---	1144	---	1065	950	---
MAX	1088	1072	1172	1117	1061	1115	1032	1148	1143	1075	1090	1057
MIN	863	841	757	745	777	760	780	750	767	819	932	926
a	4311.24	4308.86	4309.42	4311.82	4308.72	4312.51	4308.89	4316.84	4308.52	4314.73	4311.51	4314.10
b	-81	-81	+18	+83	-106	+130	-125	+284	-296	+217	-115	+85
CAL YR 2002	MAX 1172	MIN 757	b -6									
WTR YR 2003	MAX 1172	MIN 745	b +13									

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11404300 GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE, CA

LOCATION.—Lat 39°53'29", long 121°17'35", in SW 1/4 NE 1/4 sec.34, T.24 N., R.6 E., [Plumas County](#), Hydrologic Unit 18020121, Plumas National Forest, on right bank, 0.2 mi downstream from diversion dam, and 2.4 mi southeast of Storrie.

DRAINAGE AREA.—14.4 mi².

PERIOD OF RECORD.—October 1985 to current year. Unpublished records for water years 1976–85 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and concrete control with V-notch sharp-crested weir, since Oct. 8, 1987. Elevation of gage is 4,320 ft above NGVD of 1929, from topographic map. Prior to Oct. 8, 1987, at datum 1.79 ft higher.

REMARKS.—Flow regulated by diversion dam 0.2 mi upstream. There is considerable inflow upstream from the diversion dam from Bucks Creek Tunnel outlet and Grizzly Powerplant (station 11404240). Most of the flow is diverted to Bucks Creek Powerplant (station 11403700) on North Fork Feather River. See schematic diagram of [North Fork Feather River Basin](#).

REVISED RECORDS.—WDR CA-01-4 (discharge through Bucks Creek Powerplant).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 619.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,300 ft³/s, Jan. 1, 1997, gage height, 7.33 ft, from rating curve extended above 260 ft³/s, on basis of computation of peak flow over dam; maximum gage height, 9.54 ft, Feb. 17, 1986, datum then in use; minimum daily, 1.9 ft³/s, June 14, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAILY MEAN VALUES (REVISED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.4	4.6	2.3	2.3	2.4	5.2	4.5	4.6	4.4	4.5	4.5
2	4.4	4.4	4.6	2.3	2.3	2.4	5.0	4.6	4.6	4.4	4.5	4.5
3	4.4	4.4	4.5	2.3	2.3	2.4	4.9	4.5	4.6	4.4	4.5	4.5
4	4.4	4.5	3.6	2.3	2.3	2.7	4.8	4.4	4.6	4.4	4.5	4.5
5	4.4	4.5	2.4	2.3	2.3	2.8	4.7	4.5	4.6	4.4	4.6	4.5
6	4.4	4.4	2.4	2.3	2.3	2.7	4.7	4.6	4.5	4.4	4.6	4.5
7	4.5	4.4	2.3	2.3	2.3	2.7	4.8	4.6	4.4	4.4	4.6	4.6
8	4.5	4.4	2.3	2.3	2.3	2.7	4.7	4.6	4.4	4.4	4.6	4.6
9	4.6	4.4	2.4	2.3	2.4	2.7	4.7	4.6	4.4	4.4	4.5	4.6
10	4.4	4.4	2.4	2.3	2.4	2.7	4.7	4.5	4.4	4.4	4.5	4.5
11	4.3	4.4	2.3	2.3	2.4	2.7	4.7	4.5	4.4	4.4	4.5	4.5
12	4.4	4.3	2.3	2.3	2.4	2.6	4.7	4.5	4.4	4.4	4.5	4.5
13	4.4	4.4	2.4	2.3	2.4	2.6	4.8	4.4	4.4	4.4	4.5	4.5
14	4.4	4.4	2.5	2.3	2.4	2.6	4.7	4.4	4.4	4.4	4.5	4.5
15	4.4	4.4	2.4	2.3	2.4	2.6	4.6	4.4	4.4	4.4	4.5	4.5
16	4.4	4.4	2.3	2.3	2.4	2.6	4.6	4.6	4.4	4.5	4.5	4.5
17	4.4	4.4	2.3	2.3	2.4	2.6	4.7	4.7	4.4	4.5	4.5	4.5
18	4.5	4.4	2.3	2.4	2.4	2.7	4.9	4.6	4.4	4.5	4.5	4.5
19	4.5	4.4	2.3	2.4	2.4	2.7	4.9	4.6	4.4	4.5	4.5	4.5
20	4.4	4.5	2.3	2.4	2.4	2.7	4.8	4.6	4.4	4.5	4.5	4.5
21	4.4	4.5	2.3	2.4	2.4	2.7	4.8	4.6	4.4	4.5	4.5	4.5
22	4.4	4.4	2.3	2.4	2.5	2.8	4.8	4.6	4.3	4.5	4.5	4.5
23	4.3	4.4	2.3	2.4	2.4	2.8	4.8	4.6	4.3	4.5	4.5	4.5
24	4.3	4.5	2.3	2.4	2.4	2.9	4.7	4.6	4.3	4.5	4.5	4.6
25	4.5	4.5	2.3	2.4	2.4	3.6	4.8	4.6	4.3	4.5	4.5	4.6
26	4.5	4.5	2.3	2.4	2.3	3.0	4.7	4.6	4.4	4.5	4.5	4.6
27	4.5	4.5	2.3	2.4	2.4	2.8	4.7	4.6	4.4	4.4	4.5	4.7
28	4.7	4.6	2.3	2.3	2.4	2.8	4.7	4.5	4.4	4.5	4.5	4.8
29	4.7	4.7	2.3	2.3	---	3.9	4.6	4.5	4.4	4.5	4.5	4.8
30	4.6	4.6	2.3	2.3	---	5.1	4.5	4.5	4.4	4.5	4.5	4.8
31	4.4	---	2.3	2.3	---	5.0	---	4.6	---	4.5	4.5	---
TOTAL	137.8	133.4	80.2	72.3	66.4	90.0	142.7	141.0	132.7	137.9	139.9	136.7
MEAN	4.45	4.45	2.59	2.33	2.37	2.90	4.76	4.55	4.42	4.45	4.51	4.56
MAX	4.7	4.7	4.6	2.4	2.5	5.1	5.2	4.7	4.6	4.5	4.6	4.8
MIN	4.3	4.3	2.3	2.3	2.3	2.4	4.5	4.4	4.3	4.4	4.5	4.5
AC-FT	273	265	159	143	132	179	283	280	263	274	277	271
a	10260	12730	4390	2800	1680	4920	6370	6880	778	398	791	271

a Diversion, in acre-feet, to Bucks Creek Powerplant (station 11403700), provided by Pacific Gas & Electric Co.

11404300 GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.62	4.99	22.3	51.4	60.7	43.7	19.4	32.6	32.7	9.11	3.92	3.85
MAX	11.8	19.7	284	650	396	174	215	277	286	61.0	5.49	5.57
(WY)	1996	1999	1997	1997	1997	1995	1995	1995	1998	1998	1991	1999
MIN	2.01	2.01	2.09	2.11	2.17	2.20	2.10	2.03	2.01	2.08	2.03	2.00
(WY)	1995	1988	1994	1994	1994	1988	1987	1987	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1986 - 2001	
ANNUAL TOTAL	2035.8		1411.0			
ANNUAL MEAN	5.56		3.87		23.9	
HIGHEST ANNUAL MEAN					125 1997	
LOWEST ANNUAL MEAN					2.58 1994	
HIGHEST DAILY MEAN	478	Feb 14	5.2	Apr 1	4810	Jan 1 1997
LOWEST DAILY MEAN	2.2	Jan 3	2.3	Dec 7	1.9	Jun 14 1988
ANNUAL SEVEN-DAY MINIMUM	2.2	Jan 2	2.3	Dec 16	2.0	May 2 1987
MAXIMUM PEAK FLOW			7.1	Mar 25	6300	Jan 1 1997
MAXIMUM PEAK STAGE			1.37	Mar 25	9.54	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	4040		2800		17340	
ANNUAL DIVERSION (AC-FT) a	116700		52270			
10 PERCENT EXCEEDS	4.9		4.6		5.1	
50 PERCENT EXCEEDS	4.5		4.4		2.9	
90 PERCENT EXCEEDS	2.4		2.3		2.1	

a Diversion, in acre-feet, to Bucks Creek Powerplant (station 11403700), provided by Pacific Gas & Electric Co.

11404300 GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE, CA—Continued

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	4.4	4.5	2.7	2.8	2.4	4.9	5.1	197	4.5	4.8	4.6
2	4.4	4.4	3.3	2.6	2.8	2.4	4.9	5.3	191	4.5	4.8	4.6
3	4.4	4.4	2.1	2.6	2.7	2.4	4.8	5.8	183	4.6	4.8	4.6
4	4.5	4.5	2.1	2.6	2.7	2.4	4.7	6.3	174	4.8	4.8	4.6
5	4.5	4.6	2.1	2.6	2.6	2.4	4.8	5.7	162	4.8	4.8	4.6
6	4.5	4.6	2.2	2.6	2.6	2.4	4.8	5.7	151	4.8	4.6	4.6
7	4.4	5.1	2.2	2.6	2.7	2.4	4.8	5.7	142	4.8	4.6	4.6
8	4.4	4.7	2.2	2.6	2.7	2.4	4.8	5.7	134	4.8	4.7	4.6
9	4.4	4.7	2.2	2.6	2.7	2.4	4.9	5.2	116	4.7	4.7	4.6
10	4.4	4.7	2.3	2.9	2.7	2.5	4.9	5.0	78	4.7	4.7	4.6
11	4.4	4.7	2.3	3.1	2.7	2.4	4.9	4.9	34	4.7	4.7	4.6
12	4.4	4.6	2.3	3.0	2.7	2.4	4.9	4.9	4.9	4.8	4.7	4.6
13	4.5	4.6	54	3.3	2.7	2.4	4.9	4.9	4.7	4.8	4.7	4.6
14	4.5	4.5	422	3.2	2.6	2.9	4.8	4.8	4.5	4.7	4.7	4.6
15	4.5	4.6	9.1	3.0	2.6	277	4.8	4.9	4.5	4.7	4.7	4.6
16	4.5	4.6	4.5	3.0	2.6	3.2	4.8	5.1	4.5	4.7	4.7	4.6
17	4.5	4.7	3.1	2.9	2.6	2.8	4.9	48	4.6	4.6	4.7	4.6
18	4.5	4.7	2.7	2.9	2.6	2.7	4.9	42	4.6	4.6	4.7	4.6
19	4.5	4.7	2.5	2.9	2.6	2.6	4.9	33	4.6	4.6	4.7	4.6
20	4.4	4.7	2.5	2.9	2.5	2.6	4.9	20	4.6	4.6	4.7	4.6
21	4.4	4.7	2.4	2.9	2.5	2.6	4.9	4.9	4.7	4.5	4.6	4.6
22	4.4	4.7	2.3	3.0	2.5	2.6	4.9	4.9	4.7	4.5	4.7	4.6
23	4.4	4.6	2.3	50	2.5	2.6	5.0	4.9	4.7	4.6	4.7	4.6
24	4.4	4.6	2.3	3.9	2.5	2.6	5.8	4.9	4.7	4.6	4.6	4.6
25	4.4	4.7	2.3	3.1	2.5	2.6	5.7	4.9	4.7	4.5	4.6	4.5
26	4.4	4.6	2.3	3.0	2.4	2.6	5.6	4.8	4.6	4.6	4.6	4.5
27	4.4	4.6	96	3.0	2.4	2.5	5.0	63	4.6	4.6	4.7	4.6
28	4.4	4.6	388	3.0	2.4	2.5	5.3	241	4.6	4.8	4.7	4.6
29	4.4	4.5	21	2.9	---	2.4	5.4	234	4.6	4.7	4.7	4.6
30	4.5	4.5	2.9	2.8	---	2.5	5.1	215	4.5	4.7	4.7	4.6
31	4.5	---	2.8	2.7	---	3.6	---	205	---	4.7	4.6	---
TOTAL	137.7	138.6	1054.8	136.9	72.9	354.2	149.7	1215.3	1649.9	144.6	145.5	137.8
MEAN	4.44	4.62	34.0	4.42	2.60	11.4	4.99	39.2	55.0	4.66	4.69	4.59
MAX	4.5	5.1	422	50	2.8	277	5.8	241	197	4.8	4.8	4.6
MIN	4.4	4.4	2.1	2.6	2.4	2.4	4.7	4.8	4.5	4.5	4.6	4.5
AC-FT	273	275	2090	272	145	703	297	2410	3270	287	289	273
a	12480	12250	12370	14010	8270	9420	9690	14590	16250	7200	8180	11720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	4.62	4.95	21.9	46.1	54.3	39.6	17.8	31.4	32.4	8.61	4.00	3.93						
MAX	11.8	19.7	284	650	396	174	215	277	286	61.0	5.49	5.57						
(WY)	1996	1999	1997	1997	1997	1995	1995	1995	1998	1998	1991	1999						
MIN	2.01	2.01	2.09	2.11	2.17	2.20	2.10	2.03	2.01	2.08	2.03	2.00						
(WY)	1995	1988	1994	1994	1994	1988	1987	1987	1992	1992	1992	1992						

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1986 - 2003	
ANNUAL TOTAL	2427.9		5337.9			
ANNUAL MEAN	6.65		14.6		22.3	
HIGHEST ANNUAL MEAN					125	1997
LOWEST ANNUAL MEAN					2.58	1994
HIGHEST DAILY MEAN	422	Dec 14	422	Dec 14	4810	Jan 1 1997
LOWEST DAILY MEAN	2.1	Dec 3	2.1	Dec 3	1.9	Jun 14 1988
ANNUAL SEVEN-DAY MINIMUM	2.2	Dec 3	2.2	Dec 3	2.0	May 2 1987
MAXIMUM PEAK FLOW			848		Dec 14	6300
MAXIMUM PEAK STAGE			3.29		Dec 14	9.54
ANNUAL RUNOFF (AC-FT)	4820		10590		16160	
ANNUAL DIVERSION (AC-FT) a	101500		136400			
10 PERCENT EXCEEDS	4.8		5.6		5.0	
50 PERCENT EXCEEDS	4.5		4.6		3.1	
90 PERCENT EXCEEDS	2.4		2.5		2.1	

a Diversion, in acre-feet, to Bucks Creek Powerplant (station 11403700), provided by Pacific Gas & Electric Co.

11404330 NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK, CA

LOCATION.—Lat 39°51'09", long 121°23'29", in NE 1/4 NW 1/4 sec.14, T.23 N., R.5 E., [Butte County](#), Hydrologic Unit 18020121, Lassen National Forest, on left bank, 0.7 mi upstream from Bear Ranch Creek, 1.6 mi downstream from Grizzly Creek, and 2.1 mi downstream from Cresta Dam.

DRAINAGE AREA.—1,914 mi².

PERIOD OF RECORD.—October 1985 to February 1986, October 1986 to current year. Unpublished records for water years 1982–85 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Elevation of gage is 1,480 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by numerous reservoirs upstream, combined capacity, 1,386,000 acre-ft. Most of the flow bypasses this station through Cresta Powerplant (station 11404360). Diversion through Cresta Powerplant began in 1949. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1962.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 115,000 ft³/s, Jan. 1, 1997, gage height, 29.97 ft; minimum daily, 37 ft³/s, July 25, 1994.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	249	275	337	957	475	337	410	886	566	308	278	265
2	247	278	313	563	457	335	413	863	555	303	299	251
3	245	277	296	506	423	334	391	1500	488	294	289	256
4	242	261	286	498	417	333	408	2500	424	295	273	260
5	643	256	277	526	399	338	372	1830	408	296	278	258
6	248	261	276	496	393	336	376	1240	394	298	289	273
7	250	344	272	444	392	330	363	945	390	295	287	291
8	252	863	286	432	389	336	389	971	369	294	282	286
9	247	531	275	442	355	325	380	888	353	287	281	283
10	258	389	287	718	361	330	375	738	325	285	284	276
11	247	318	300	1160	358	347	377	686	281	285	272	281
12	252	291	289	621	363	327	466	716	277	284	268	277
13	255	291	623	1790	426	333	458	817	271	288	271	272
14	250	281	5830	1910	377	556	434	895	272	289	275	264
15	140	302	3480	837	386	6840	408	897	272	284	272	260
16	97	291	6790	531	497	3560	409	841	292	281	279	260
17	238	294	2500	491	410	1190	409	621	301	281	272	258
18	229	295	559	482	380	534	407	843	300	285	277	267
19	240	286	446	470	395	446	375	527	299	288	262	255
20	261	283	481	457	370	1090	364	515	293	292	261	259
21	262	292	504	460	378	960	395	502	293	290	270	256
22	268	286	408	984	365	429	401	851	289	290	275	279
23	272	278	403	3190	376	431	397	973	285	289	620	277
24	275	278	394	2610	362	423	1060	1000	290	282	302	280
25	267	269	371	1660	354	380	1090	570	282	278	303	269
26	264	273	386	1120	345	818	1030	510	285	826	292	265
27	266	294	2280	935	354	493	716	448	288	302	299	528
28	266	325	8280	823	344	421	974	679	276	299	298	180
29	281	319	4630	782	---	396	1260	655	300	283	283	285
30	277	318	1710	653	---	404	986	614	317	280	277	295
31	275	---	1610	465	---	400	---	594	---	295	285	---
TOTAL	8063	9599	45179	28013	10901	24112	16293	27115	10035	9526	9053	8266
MEAN	260	320	1457	904	389	778	543	875	334	307	292	276
MAX	643	863	8280	3190	497	6840	1260	2500	566	826	620	528
MIN	97	256	272	432	344	325	363	448	271	278	261	180
AC-FT	15990	19040	89610	55560	21620	47830	32320	53780	19900	18890	17960	16400
a	89550	81840	143200	200700	160300	141500	161300	216400	152700	94950	99630	97030

a Diversion, in acre-feet, to Cresta Powerplant (station 11404360), provided by Pacific Gas & Electric Co.

SACRAMENTO RIVER BASIN

11404330 NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	104	142	524	1514	1247	1882	1053	1108	542	118	100	99.2
MAX	302	588	5071	16310	6576	10220	6777	9322	3842	307	292	276
(WY)	2000	1999	1997	1997	1997	1995	1995	1995	1995	2003	2003	2003
MIN	57.4	57.8	59.0	55.7	61.5	86.0	78.0	67.7	55.6	54.3	54.6	56.0
(WY)	1992	1993	1990	1991	1991	1988	1988	1992	1988	2001	2001	1991

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1986 - 2003	
ANNUAL TOTAL	152102		206155			
ANNUAL MEAN	417		565		707	
HIGHEST ANNUAL MEAN					3115 1995	
LOWEST ANNUAL MEAN					75.2 1994	
HIGHEST DAILY MEAN	8280	Dec 28	8280	Dec 28	96900	Jan 1 1997
LOWEST DAILY MEAN	97	Oct 16	97	Oct 16	37	Jul 25 1994
ANNUAL SEVEN-DAY MINIMUM	172	Jan 31	207	Oct 13	52	Dec 10 1989
MAXIMUM PEAK FLOW			10500	Dec 28	115000	Jan 1 1997
MAXIMUM PEAK STAGE			13.56	Dec 28	29.97	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	301700		408900		512200	
ANNUAL DIVERSION (AC-FT) a	1108000		1639000			
10 PERCENT EXCEEDS	454		950		1190	
50 PERCENT EXCEEDS	277		333		92	
90 PERCENT EXCEEDS	206		263		56	

a Diversion, in acre-feet, to Cresta Powerplant (station 11404360), provided by Pacific Gas & Electric Co.

11404380 CAMP CREEK NEAR PULGA, CA

LOCATION.—Lat 39°49'46", long 121°25'23", in SW 1/4 SE 1/4 sec.21, T.23 N., R.5 E., [Butte County](#), Hydrologic Unit 18020121, Plumas National Forest, on left bank at diversion dam, 0.45 mi upstream from mouth, and 2.2 mi northeast of Pulga.

DRAINAGE AREA.—9.10 mi².

PERIOD OF RECORD.—October 1992 to Dec. 17, 1994, October 2000 to current year (low-flow records only).

GAGE.—Water-stage recorder and fixed-plate orifice. Elevation of gage is 2,180 ft above NGVD of 1929, from topographic map. Prior to Jan. 1, 1997, at site 300 ft downstream at different datum.

REMARKS.—No records computed above 4.2 ft³/s. Low and medium flows regulated by diversion dam immediately upstream. Spill and leakage bypass this site. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Lassen Station Hydro, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 6120.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	4.1	3.0	---	---	1.9	3.5	---	---
2	---	---	---	---	4.0	---	---	---	3.2	3.6	---	---
3	---	---	---	---	3.9	---	---	---	---	3.6	---	---
4	---	---	---	---	3.8	---	---	---	0.80	---	---	---
5	---	---	---	4.2	3.9	---	---	---	3.7	---	---	---
6	3.8	---	---	---	3.8	---	---	---	3.7	3.5	---	---
7	3.5	---	---	---	3.6	---	---	---	3.8	---	---	---
8	3.4	---	---	---	3.2	---	---	---	3.9	3.5	---	---
9	3.5	---	---	---	2.0	---	---	---	---	---	---	---
10	3.6	---	---	---	2.1	---	---	---	---	3.2	---	---
11	3.7	---	---	---	2.3	---	---	---	3.3	3.1	---	---
12	3.7	---	---	---	3.2	3.5	---	---	3.0	---	---	---
13	3.5	---	---	---	---	2.1	---	---	3.1	---	---	---
14	3.6	---	---	---	---	2.2	---	---	---	---	---	---
15	3.6	---	---	---	---	---	---	---	---	---	---	---
16	3.6	---	---	---	---	---	---	---	---	---	---	---
17	3.5	---	---	---	---	---	---	---	---	---	---	---
18	3.8	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	4.0	---	---	---	---	---	---	---
20	---	---	---	---	3.9	---	---	---	---	---	---	---
21	---	---	---	---	3.8	---	---	---	---	---	---	---
22	---	---	---	---	3.5	---	---	---	---	---	---	---
23	---	---	---	---	2.9	---	---	---	---	---	---	---
24	---	---	4.1	---	2.9	---	---	---	---	---	---	---
25	---	---	3.9	---	---	---	---	---	3.6	---	---	---
26	---	---	---	---	---	---	---	3.6	3.5	---	---	---
27	---	---	---	---	3.2	---	---	2.5	3.4	---	---	---
28	---	---	---	---	3.0	---	---	1.5	3.2	---	---	---
29	---	---	---	---	---	---	---	0.90	3.4	---	---	---
30	---	---	---	4.1	---	---	---	0.80	3.5	---	---	---
31	---	---	---	4.0	---	---	---	1.0	---	---	---	---

11404400 NORTH FORK FEATHER RIVER BELOW POE DAM, CA

LOCATION.—Lat 39°48'32", long 121°26'04", in SW 1/4 NE 1/4 sec.32, T.23 N., R.5 E., [Butte County](#), Hydrologic Unit 18020121, Plumas National Forest, on right bank, 900 ft downstream from Poe Dam, 0.4 mi upstream from Mill Creek, and 0.8 mi northeast of Pulga.

DRAINAGE AREA.—1,942 mi².

PERIOD OF RECORD.—October 1999 to current year (low-flow records only). Records for water years 1976–99 available in the files of the U.S. Geological Survey.

GAGE.—Non-recording gage read daily. Elevation of gage is 1,350 ft above NGVD of 1929, from topographic map.

REMARKS.—Records not computed above 137 ft³/s. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2107.

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

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	116	109	---	133	128	133	---	e120	116	116	124
2	113	120	109	137	133	128	120	---	e120	120	120	120
3	120	113	109	128	116	128	124	---	e120	128	133	128
4	116	124	109	124	124	133	128	---	e120	133	120	124
5	120	116	109	137	128	120	124	---	116	120	133	120
6	120	113	113	116	124	120	120	---	113	116	124	116
7	109	113	113	124	137	128	137	---	116	124	124	113
8	113	113	116	120	120	120	137	---	116	116	120	120
9	109	109	116	120	128	116	124	---	116	133	120	124
10	116	128	113	133	124	128	124	---	128	120	120	128
11	113	116	113	---	133	128	124	---	124	116	120	128
12	113	116	113	---	128	128	128	---	128	133	116	116
13	116	120	109	---	124	---	120	---	124	128	116	116
14	113	116	---	---	124	128	120	---	124	120	120	120
15	113	116	---	---	124	---	124	---	124	137	120	124
16	105	116	---	120	124	---	133	---	128	124	124	133
17	113	116	---	113	120	---	128	---	120	124	128	120
18	113	109	---	116	120	---	133	---	120	128	124	133
19	113	113	---	116	128	124	133	e120	116	128	113	116
20	116	116	---	124	128	124	133	e120	133	128	116	120
21	113	116	---	124	128	124	133	133	128	124	120	128
22	113	113	---	105	120	128	128	128	124	124	116	116
23	113	120	---	---	124	128	128	---	124	128	120	116
24	113	116	---	---	120	137	---	---	124	124	124	128
25	113	109	---	---	124	128	---	---	124	128	116	113
26	113	105	---	---	124	---	---	---	120	120	116	113
27	116	105	---	---	120	---	---	---	120	128	124	128
28	116	113	---	---	128	128	---	---	116	120	113	120
29	120	113	---	---	---	133	---	---	120	124	124	124
30	113	109	---	---	---	133	---	e120	116	128	120	128
31	120	---	---	120	---	124	---	e120	---	124	124	---
TOTAL	3540	3438	---	---	3508	---	---	---	3642	3864	3744	3657
MEAN	114	115	---	---	125	---	---	---	121	125	121	122
MAX	120	128	---	---	137	---	---	---	133	137	133	133
MIN	105	105	---	---	116	---	---	---	113	116	113	113
AC-FT	7020	6820	---	---	6960	---	---	---	7220	7660	7430	7250

e Estimated.

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA

LOCATION.—Lat 39°47'40", long 121°27'02", in SE 1/4 NE 1/4 sec.6, T.22 N., R.5 E., [Butte County](#), Hydrologic Unit 18020121, Plumas National Forest, on left bank, between railroad and highway bridges, 0.6 mi downstream from Flea Valley Creek and Pulga, and 1.6 mi downstream from Poe Dam.

DRAINAGE AREA.—1,953 mi².

PERIOD OF RECORD.—October 1910 to current year. Monthly discharge only for some periods and yearly estimates for water years 1911 and 1938, published in WSP 1315-A. Prior to October 1960, published as "at Big Bar."

CHEMICAL DATA: Water years 1963–66, 1972, 1977.

WATER TEMPERATURE: Water years 1963–83.

REVISED RECORDS.—WSP 931: 1938(M), 1940. WSP 1515: 1935. WDR CA-77-4: 1976 (yearly summaries).

GAGE.—Water-stage recorder. Datum of gage is 1,305.62 ft above NGVD of 1929. Prior to Oct. 1, 1937, at site 1.1 mi upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft higher.

REMARKS.—Flow regulated by Lake Almanor, Bucks Lake, Butt Valley Reservoir (stations 11399000, 11403500, and 11401050, respectively), Mountain Meadows Reservoir, and five forebays, combined capacity, 1,386,000 acre-ft. Diversion through Poe Powerplant (station 11404900) began on May 29, 1958. See schematic diagram of [North Fork Feather River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2107.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 105,400 ft³/s, Jan. 1, 1997, gage height, 41.65 ft, from rating curve extended above 32,000 ft³/s, on basis of slope area measurement of peak discharge; minimum daily, 5.4 ft³/s, Sept. 18, 1977.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	125	118	1190	181	155	163	1620	143	132	125	128
2	118	123	116	327	174	153	160	1220	145	137	127	126
3	122	121	120	226	166	152	161	1930	147	133	129	129
4	123	125	116	184	162	153	168	3070	142	141	127	127
5	124	123	116	183	159	151	162	2290	139	131	132	124
6	123	120	116	170	158	149	157	1640	139	131	130	123
7	119	132	120	163	153	150	159	1290	139	137	129	121
8	119	141	121	156	150	147	160	1330	142	132	128	123
9	119	128	120	158	153	145	155	1210	141	140	127	127
10	123	142	123	281	150	146	154	1060	144	134	125	129
11	121	126	124	1400	154	150	152	988	144	131	122	128
12	118	125	120	723	154	148	197	996	145	134	122	128
13	118	125	219	2060	180	146	208	1070	144	131	123	121
14	117	124	7560	2190	161	177	202	1170	140	132	125	124
15	117	122	6020	977	156	7720	184	1140	142	136	126	128
16	117	126	10100	285	199	3810	183	1090	141	131	127	128
17	121	126	4970	191	174	1200	181	768	137	132	128	125
18	122	121	2450	185	167	328	175	441	140	133	130	127
19	120	119	1810	180	172	169	172	176	137	131	124	123
20	128	123	1260	175	167	170	170	172	142	133	125	122
21	118	114	1710	179	162	166	169	172	140	134	127	125
22	120	118	910	654	158	166	172	168	141	132	127	122
23	122	117	636	3540	159	167	171	641	141	132	128	121
24	124	115	651	2830	157	167	804	895	138	130	126	127
25	118	115	492	1780	158	161	939	454	137	134	123	124
26	119	116	476	1150	155	514	1010	333	135	129	125	121
27	124	115	4150	954	158	329	714	194	137	133	127	129
28	124	119	12000	816	155	161	1090	197	131	133	123	125
29	124	121	7550	754	---	152	1500	417	137	129	127	126
30	122	118	3210	594	---	160	2870	158	136	130	126	126
31	126	---	1900	231	---	159	---	149	---	133	127	---
TOTAL	3747	3685	69504	24886	4552	17821	12862	28449	4206	4121	3917	3757
MEAN	121	123	2242	803	163	575	429	918	140	133	126	125
MAX	128	142	12000	3540	199	7720	2870	3070	147	141	132	129
MIN	117	114	116	156	150	145	152	149	131	129	122	121
AC-FT	7430	7310	137900	49360	9030	35350	25510	56430	8340	8170	7770	7450
a	89770	85420	112000	202300	162600	145600	160700	208700	146400	96380	99490	96160

a Diversion, in acre-feet, to Poe Powerplant (station 11404900), provided by Pacific Gas & Electric Co.

SACRAMENTO RIVER BASIN

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	914	1106	1660	2186	2690	2802	3373	2929	1554	924	868	827
MAX	2943	4594	10690	14120	14320	11960	13580	12460	7689	2771	2441	2430
(WY)	1963	1951	1956	1997	1986	1995	1952	1922	1911	1952	1952	1952
MIN	16.4	26.4	50.7	52.6	56.0	58.2	54.9	41.7	34.0	32.6	13.3	14.2
(WY)	1978	1978	1977	1977	1990	1977	1990	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1911 - 2003	
ANNUAL TOTAL	131705		181507			
ANNUAL MEAN	361		497		1791	
HIGHEST ANNUAL MEAN					5320	
LOWEST ANNUAL MEAN					42.7	
HIGHEST DAILY MEAN	12000	Dec 28	12000	Dec 28	101000	Jan 1 1997
LOWEST DAILY MEAN	114	Jul 28	114	Nov 21	5.4	Sep 18 1977
ANNUAL SEVEN-DAY MINIMUM	116	Nov 21	116	Nov 21	12	Aug 10 1977
MAXIMUM PEAK FLOW			13900		105400	
MAXIMUM PEAK STAGE			16.06		41.65	
ANNUAL RUNOFF (AC-FT)	261200		360000		1297000	
ANNUAL DIVERSION (AC-FT) a	1121000		1606000			
10 PERCENT EXCEEDS	183		1140		4440	
50 PERCENT EXCEEDS	130		141		1230	
90 PERCENT EXCEEDS	117		121		55	

a Diversion, in acre-feet, to Poe Powerplant (station 11404900), provided by Pacific Gas & Electric Co.

11405120 PHILBROOK CREEK BELOW PHILBROOK DAM, NEAR BUTTE MEADOWS, CA

LOCATION.—Lat 40°01'48", long 121°28'36", unsurveyed, T.25 N., R.4 E., Butte County, Hydrologic Unit 18020121, Lassen National Forest, on right bank, 500 ft downstream from outlet structure on Philbrook Dam, and 5.4 mi southeast of Butte Meadows.

DRAINAGE AREA.—5.05 mi².

PERIOD OF RECORD.—July 1989 to current year (no winter records). Unpublished records for water years 1986–89 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder, Parshall flume, and V-notch sharp-crested weir. Elevation of gage is 5,490 ft above NGVD of 1929, from topographic map. October 1985 to July 1989, nonrecording gage at same site and datum. In June 1989, V-notch sharp-crested weir installed in flume to be used at low flows.

REMARKS.—Records not computed for winter months. Flow completely regulated by Philbrook Reservoir (station 11405100), usable capacity, 5,370 acre-ft, 500 ft upstream. Spillwater from Philbrook Reservoir bypasses this station.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 803.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.4	---	---	---	---	---	---	5.0	2.8	15	40
2	2.4	2.4	---	---	---	---	---	---	5.0	2.8	15	40
3	2.4	2.4	---	---	---	---	---	---	4.9	2.8	15	41
4	2.4	2.4	---	---	---	---	---	---	4.9	2.8	15	41
5	2.4	2.4	---	---	---	---	---	---	4.9	2.8	23	41
6	2.4	2.4	---	---	---	---	---	---	4.9	2.8	26	40
7	2.4	2.5	---	---	---	---	---	---	4.9	2.8	26	40
8	2.4	2.7	---	---	---	---	---	---	4.9	2.8	26	40
9	2.4	2.6	---	---	---	---	---	---	4.9	2.8	28	39
10	2.4	2.7	---	---	---	---	---	---	4.9	14	30	39
11	2.4	2.6	---	---	---	---	---	---	4.9	22	31	39
12	2.4	2.6	---	---	---	---	---	---	4.9	22	31	40
13	2.4	2.6	---	---	---	---	---	---	4.9	22	31	39
14	2.4	11	---	---	---	---	---	---	4.9	22	32	39
15	2.4	18	---	---	---	---	---	---	4.8	22	33	38
16	2.4	18	---	---	---	---	---	---	4.7	22	33	33
17	2.4	18	---	---	---	---	---	---	4.7	22	32	22
18	2.4	11	---	---	---	---	---	---	4.7	12	32	12
19	2.4	---	---	---	---	---	---	---	3.9	3.0	32	7.4
20	2.4	---	---	---	---	---	---	---	3.3	3.0	38	7.4
21	2.4	---	---	---	---	---	---	---	3.3	3.0	42	7.4
22	2.4	---	---	---	---	---	---	---	5.0	3.0	42	7.4
23	2.4	---	---	---	---	---	---	---	5.1	3.0	42	7.4
24	2.4	---	---	---	---	---	---	---	5.2	2.7	42	7.2
25	2.4	---	---	---	---	---	---	---	5.2	2.7	42	5.6
26	2.4	---	---	---	---	---	---	---	5.2	2.7	41	3.1
27	2.4	---	---	---	---	---	---	---	5.1	2.7	41	3.1
28	2.4	---	---	---	---	---	---	---	5.1	2.7	41	3.1
29	2.4	---	---	---	---	---	---	---	5.0	2.7	41	3.1
30	2.4	---	---	---	---	---	---	---	5.0	2.8	15	41
31	2.4	---	---	---	---	---	---	---	5.0	---	15	40
TOTAL	74.4	---	---	---	---	---	---	---	123.5	271.4	999	728.2
MEAN	2.40	---	---	---	---	---	---	---	4.12	8.75	32.2	24.3
MAX	2.4	---	---	---	---	---	---	---	5.0	22	42	41
MIN	2.4	---	---	---	---	---	---	---	2.7	2.5	15	3.0
AC-FT	148	---	---	---	---	---	---	---	245	538	1980	1440
a	553	617	3090	3570	3481	3634	4206	4321	5051	4611	2563	1037

a Contents, in acre-feet, at end of month from Philbrook Reservoir (station 11405100), provided by Pacific Gas & Electric Co.

11405200 WEST BRANCH FEATHER RIVER BELOW HENDRICKS DIVERSION DAM, NEAR STIRLING CITY, CA

LOCATION.—Lat 39°56'03", long 121°31'43", in NW 1/4 SE 1/4 sec.16, T.24 N., R.4 E., Butte County, Hydrologic Unit 18020121, on right bank, 200 ft upstream from road bridge, 1,800 ft downstream from Hendricks Diversion Dam, and 1.9 mi north of Stirling City.

DRAINAGE AREA.—46.1 mi².

PERIOD OF RECORD.—August 1986 to current year (low-flow records only).

GAGE.—Water-stage recorder. Elevation of gage is 3,210 ft above NGVD of 1929, from topographic map.

REMARKS.—Flows computed to 100 ft³/s. Most of the water is diverted at Hendricks Diversion Dam to the Hendricks Canal and Toadtown Canal (station 11389800) and then to De Sabla Powerplant (station 11389750) on Butte Creek.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 803.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	16	17	22	22	21	21	19	24	17	16	16
2	17	16	16	22	22	21	21	19	23	17	16	16
3	17	16	17	22	22	21	21	19	23	17	16	16
4	17	16	16	20	22	21	22	19	23	17	16	16
5	17	16	17	19	21	21	23	19	23	17	16	16
6	17	16	17	19	21	21	23	19	23	17	16	16
7	17	18	16	21	21	21	23	19	23	16	17	16
8	17	21	16	21	21	21	23	19	23	16	16	16
9	16	20	16	21	21	21	23	18	23	16	16	16
10	16	19	17	22	21	21	23	18	23	16	16	16
11	16	19	17	22	21	21	23	18	23	17	16	16
12	16	17	17	22	21	21	23	21	23	17	16	16
13	16	17	18	22	21	20	23	22	23	17	16	16
14	16	17	17	22	21	20	---	22	23	17	16	16
15	16	17	15	22	21	20	---	22	23	17	17	16
16	16	17	---	22	21	21	---	22	23	16	17	17
17	16	17	---	22	21	21	---	22	23	16	17	17
18	16	17	19	21	21	22	---	22	23	16	17	17
19	16	17	18	21	21	21	---	22	23	16	17	16
20	16	17	18	21	21	21	---	22	24	16	17	16
21	16	17	17	21	21	22	---	22	22	16	16	16
22	16	17	18	21	21	21	---	23	19	16	17	16
23	16	17	20	22	21	22	---	24	18	16	17	16
24	16	17	20	22	21	22	---	24	18	16	16	16
25	16	17	20	22	21	21	18	24	18	16	16	16
26	16	16	20	22	21	22	18	24	18	16	16	17
27	16	16	19	22	21	22	18	24	17	16	16	17
28	16	16	18	22	21	22	16	24	17	16	17	17
29	16	16	18	22	---	22	17	24	17	16	17	17
30	16	16	18	22	---	22	19	24	17	16	16	17
31	16	---	20	22	---	22	---	24	---	16	16	---
TOTAL	504	511	---	666	592	658	---	664	643	507	507	488
MEAN	16.3	17.0	---	21.5	21.1	21.2	---	21.4	21.4	16.4	16.4	16.3
MAX	17	21	---	22	22	22	---	24	24	17	17	17
MIN	16	16	---	19	21	20	---	18	17	16	16	16
AC-FT	1000	1010	---	1320	1170	1310	---	1320	1280	1010	1010	968

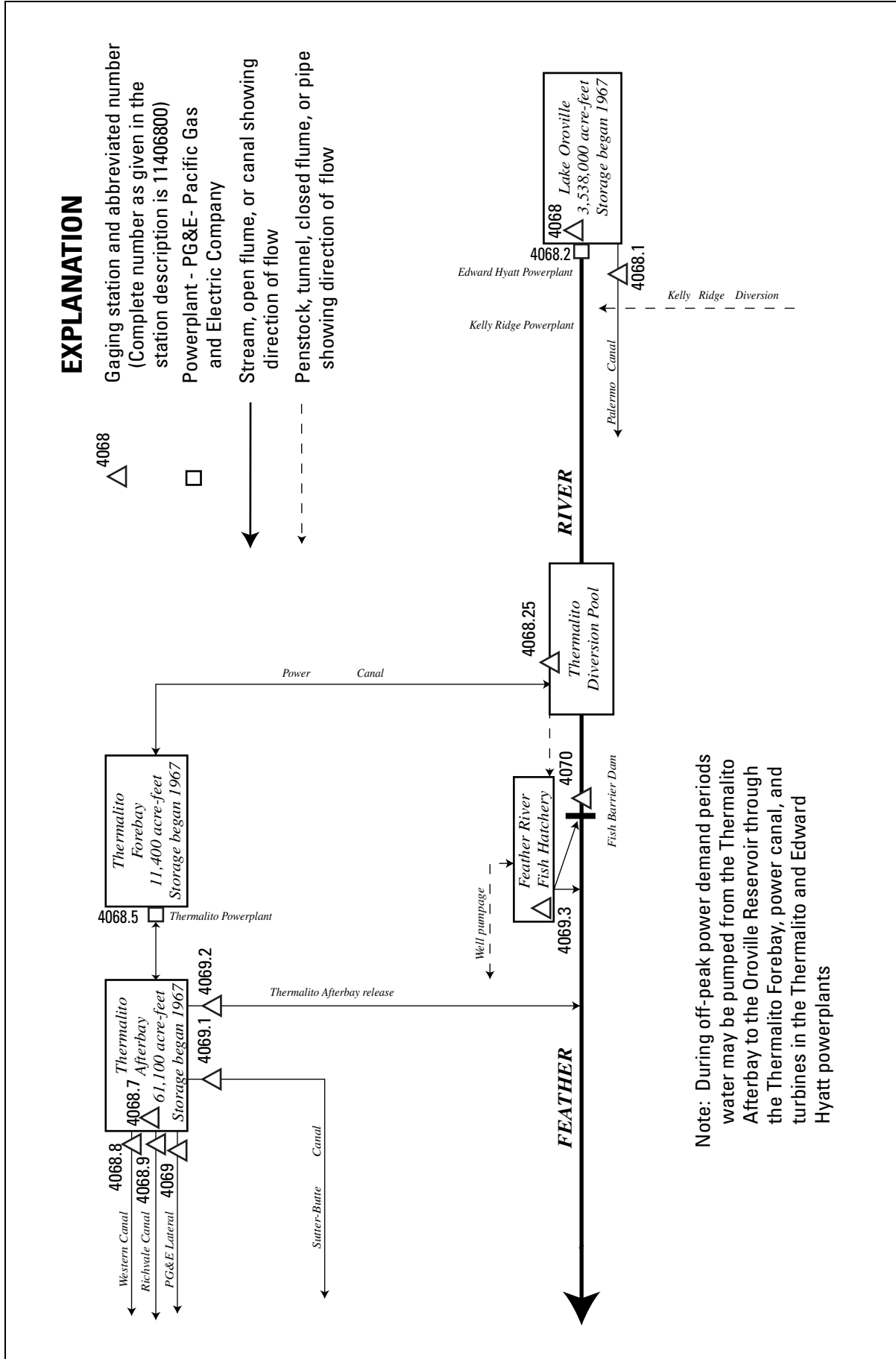


Figure 30. Diversions and storage from Feather River at Lake Oroville.

11406800 LAKE OROVILLE NEAR OROVILLE, CA

LOCATION.—Lat 39°32'06", long 121°28'25", in NE 1/4 SW 1/4 sec.1, T.19 N., R.4 E., [Butte County](#), Hydrologic Unit 18020123, near intake structure, at left end of Oroville Dam on Feather River, 1.0 mi downstream from North Fork Feather River, and 4.2 mi east of Oroville.

DRAINAGE AREA.—3,607 mi².

PERIOD OF RECORD.—November 1967 to current year.

GAGE.—Water-stage recorder. Datum of gage is 0.47 ft above NGVD of 1929 (levels by California Department of Water Resources). Contents based on capacity table in use since Sept. 21, 1967.

REMARKS.—Reservoir is formed by an earthfill dam with concrete chute-type sidehill spillway completed May 13, 1968; storage began Nov. 14, 1967. Usable capacity, 2,685,385 acre-ft, between elevations 640.0 ft, minimum power pool, and 900.0 ft, normal maximum pool. Dead storage, 852,192 acre-ft. Total capacity at normal maximum pool, 3,537,577 acre-ft; temporary detention storage occurred at times during construction; maximum was 155,200 acre-ft, Dec. 23, 1964. Water is released to Edward Hyatt Powerplant (station 11406820) 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. Maximum inflow of 266,000 ft³/s during a 2-hour period Feb. 17, 1986. See schematic diagram showing diversions and storage from [Feather River at Lake Oroville](#).

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 3,536,000 acre-ft, June 4, 1973, gage height, 899.88 ft; minimum since initial storage began, 882,395 acre-ft, Sept. 7, 1977, gage height, 645.11 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 3,530,154 acre-ft, June 9, gage height, 899.53 ft; minimum, 1,182,694 acre-ft, Dec. 12, gage height, 690.38 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources, dated Sept. 21, 1967)

640	852,192	710	1,332,547	780	1,974,240	850	2,808,349
650	911,975	720	1,413,685	790	2,080,969	860	2,944,741
660	974,560	730	1,498,175	800	2,191,742	870	3,085,747
670	1,040,003	740	1,586,086	810	2,306,597	880	3,231,454
680	1,108,406	750	1,677,554	820	2,425,571	890	3,382,038
690	1,179,915	760	1,772,690	830	2,548,850	900	3,537,577
700	1,254,634	770	1,871,511	840	2,676,446		

11406800 LAKE OROVILLE NEAR OROVILLE, CA—Continued

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1396211	1276670	1225781	1645496	2171503	2261084	2642981	3096366	3518175	3442569	2832159	2449277
2	1392848	1272735	1223304	1659896	2191178	2269627	2647357	3115806	3518017	3423850	2815328	2438074
3	1390719	1268424	1220531	1670754	2205988	2272287	2657416	3146219	3519120	3407819	2799639	2427998
4	1386793	1263738	1217464	1681194	2218478	2274834	2668408	3178158	3518962	3385100	2781611	2419526
5	1380430	1259294	1213656	1686339	2232389	2275413	2678912	3204582	3521009	3364469	2767912	2408787
6	1374006	1254937	1209634	1694686	2245442	2278425	2691911	3231012	3519749	3345904	2749632	2401927
7	1370355	1254103	1204953	1702309	2254404	2282600	2699731	3253579	3524791	3323632	2737755	2395560
8	1365984	1257535	1200581	1708822	2265930	2288176	2708352	3276114	3529996	3301767	2728806	2385254
9	1364771	1261055	1195630	1718671	2276571	2291782	2715682	3291098	3530154	3279107	2716862	2376171
10	1363317	1263355	1190399	1734285	2285968	2298772	2723420	3312460	3529365	3256111	2710576	2366042
11	1360331	1264429	1185139	1762720	2287362	2305427	2733278	3331196	3527788	3233825	2698166	2354876
12	1359284	1262895	1182694	1784442	2285154	2310807	2748706	3345601	3525264	3216081	2688137	2344573
13	1357269	1259754	1186139	1809688	2284806	2315024	2770303	3360660	3521010	3194434	2675667	2340437
14	1356143	1256924	1237009	1833205	2287013	2331120	2786277	3373780	3524476	3171869	2664913	2338784
15	1353569	1256236	1269347	1850137	2290734	2382144	2798434	3389850	3527944	3150727	2652383	2334302
16	1350839	1254332	1316236	1863462	2296324	2416023	2811165	3404282	3524476	3130842	2647743	2330885
17	1348353	1251738	1337084	1876354	2293994	2436619	2823937	3420609	3520222	3111190	2638609	2323356
18	1344350	1249680	1347311	1892452	2291200	2452693	2837290	3435289	3520852	3091913	2627319	2318600
19	1338200	1246561	1357753	1907425	2290851	2466026	2857606	3445049	3520222	3076152	2617467	2313852
20	1335650	1243371	1368007	1918992	2287827	2476828	2870798	3452965	3524633	3058881	2604966	2314907
21	1330242	1242612	1391783	1929787	2281788	2487662	2884716	3459338	3526841	3036432	2587180	2315259
22	1325879	1241930	1402789	1944558	2278077	2497046	2894432	3465251	3525580	3015509	2568848	2310339
23	1320736	1242537	1405179	1981371	2281092	2518250	2905956	3472421	3520852	2993847	2555504	2303558
24	1315763	1240945	1410545	2011033	2272287	2533080	2929518	3483351	3515028	2970340	2543837	2300523
25	1310960	1240945	1416920	2039510	2265353	2539330	2952934	3492582	3508110	2952935	2526218	2296790
26	1306797	1238219	1421403	2062002	2268356	2558772	2979839	3499164	3493052	2937540	2510423	2294460
27	1299905	1235875	1453311	2081188	2264314	2576927	3001008	3500418	3484289	2924684	2500138	2295858
28	1295220	1232931	1524622	2102800	2259701	2591491	3025534	3501046	3475229	2908705	2485690	2294111
29	1290079	1230143	1571607	2120711	---	2605347	3049916	3501046	3461360	2888134	2473264	2288874
30	1285030	1227434	1597143	2137288	---	2623221	3073436	3504969	3461360	2868346	2467497	2283761
31	1280304	---	1624336	2153511	---	2634628	---	3512826	---	2850416	2458192	---
MAX	1396211	1276670	1624336	2153511	2296324	2634628	3073436	3512826	3530154	3442569	2832159	2449277
MIN	1280304	1227434	1182694	1645496	2171503	2261084	2642981	3096366	3461360	2850416	2458192	2283761
a	703.34	696.41	744.23	796.59	805.96	836.76	869.14	898.43	895.14	853.12	822.68	808.04
b	-119358	-52870	+396902	+529175	+106190	+374927	+438808	+439390	-51466	-610944	-392224	-174431
c	3795	1786	737	689	1804	2895	2734	6697	10200	12790	8860	8100
d	202700	145200	168400	115300	268600	70990	54670	235300	350700	753000	524300	303600

CAL YR 2002 b +28454

WTR YR 2003 b +884099

ANNUAL DIVERSION (AC-FT) CAL YR 2002 d 2673000

ANNUAL DIVERSION (AC-FT) WTR YR 2003 d 3193000

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

b Change in contents, in acre-feet.

c Total evaporation, in acre-feet, provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

d Diversion, in acre-feet, to Edward Hyatt Powerplant (station 11406820), provided by California Department of Water Resources.

11406870 THERMALITO AFTERBAY NEAR OROVILLE, CA

LOCATION.—Lat 39°27'30", long 121°38'17", in NE 1/4 SE 1/4 sec.33, T.19 N., R.3 E., [Butte County](#), Hydrologic Unit 18020106, at dam, 195 ft northeast of centerline of outlet structure, and 5.7 mi southwest of Oroville.

PERIOD OF RECORD.—October 1967 to current year.

WATER TEMPERATURE: Water year 1968.

GAGE.—Water-stage recorder. Datum of gage is 100.47 ft above NGVD of 1929 (levels by California Department of Water Resources). Auxiliary water-stage recorder 90 ft southwest of centerline of Western Canal outlet and 7.2 mi west of Oroville.

REMARKS.—Reservoir is formed by an earthfill dam completed in 1967. Diversion from the reservoir began Oct. 12, 1967. Usable capacity, 61,144 acre-ft, between gage heights 120.0 and 139.0 ft, extreme operating levels. Normal operating range is from 123 to 136.5 ft. Water is released to four canals (stations 11406880, 11406890, 11406900, and 11406910) and to the Feather River (station 11406920) from the reservoir. Total maximum release to the four canals is approximately 4,000 ft³/s. Water is pumped, at times, from Thermalito Afterbay back into Thermalito Forebay (station 11406840) during off-peak periods to be re-released through Thermalito Powerplant (station 11406850) for power generation during peak-demand periods. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from [Feather River at Lake Oroville](#).

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 57,300 acre-ft, May 24, 1969, gage height, 136.56 ft; minimum since initial operation began, 5,590 acre-ft, Mar. 1, 1968, gage height, 119.09 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 50,739 acre-ft, May 29, gage height, 135.00 ft; minimum, 16,518 acre-ft, Feb. 23, gage height, 124.57 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources, dated Oct. 10, 1968)

119	5,465	124	15,157	128	25,832	134	46,719
120	7,054	126	20,171	130	32,150	139	68,198
122	10,792						

11406870 THERMALITO AFTERBAY NEAR OROVILLE, CA—Continued

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26312	27442	19931	24472	33223	33562	38214	43108	42501	32719	35139	37247
2	27689	26859	19352	24794	29036	31424	44646	43337	44801	34312	34966	38648
3	25264	26403	19299	24970	28374	32853	45697	41972	45385	33190	35521	38829
4	25235	26282	20144	24179	29481	34931	44762	41671	48550	34380	34758	39083
5	26222	26585	20843	26737	29290	38901	43912	44066	48230	33936	32920	38865
6	28031	26494	21717	27875	28751	39595	40146	42276	49802	33629	37711	34380
7	28062	28062	22751	27968	30933	39083	41110	43261	47353	32618	37711	30026
8	29194	28249	23461	27782	31589	37854	41484	41447	44220	33867	38575	31227
9	26981	27596	25802	27165	32052	37783	43605	45267	45267	36150	39011	29737
10	25324	27165	28751	29036	33799	36750	44878	41073	45854	37675	35451	30607
11	24675	26253	31062	26041	33190	35835	44259	37282	46878	38865	37104	34243
12	23630	26646	32785	23688	30640	35556	43376	37890	47791	36291	36185	39011
13	22244	26829	35834	25474	31754	38250	39485	40146	47353	35625	37175	35835
14	20897	27442	33222	25533	30122	41447	40257	41934	48070	37425	37890	32719
15	20978	27504	32317	27503	22580	39595	41972	41822	44105	37890	38974	32987
16	21772	27442	33901	29099	19932	38901	42956	44298	46405	38901	31655	33867
17	22608	27534	35834	30542	21388	39595	44143	41972	49447	39156	28437	35069
18	22299	28124	37353	28218	23745	40887	45932	40220	47870	40961	28814	36396
19	22833	28751	37639	25951	23316	42766	38901	41036	46444	35800	26828	37425
20	22890	29384	38757	25771	23173	44956	38142	42614	46721	33799	27165	33358
21	23316	29609	36537	27844	26191	46642	37603	45190	41897	36608	27844	29545
22	24034	28562	34106	30737	24034	49558	41334	46918	37639	39120	31031	30154
23	24763	25444	34965	32218	16518	45151	42463	48230	36962	41559	29672	32485
24	24763	22610	33867	32853	19404	40183	45387	45424	39521	43682	27226	32085
25	24792	21360	30802	31754	24587	39668	46997	43759	43720	43185	31622	33426
26	24646	21663	31292	31260	21827	38286	43414	43529	44762	39047	35800	34896
27	25383	21250	30412	32251	26342	38034	41934	44336	43644	34586	37175	31096
28	25861	20466	30121	32418	32185	38938	43070	46878	37104	33561	40664	30933
29	26464	20439	28030	33867	---	39229	44220	50739	29961	34483	45658	31556
30	27073	20119	29225	34621	---	34243	44491	50371	30413	33156	40961	32351
31	27720	---	27043	34552	---	36361	---	46602	---	33562	38034	---
MAX	29194	29609	38757	34621	33799	49558	46997	50739	49802	43682	45658	39083
MIN	20897	20119	19299	23688	16518	31424	37603	37282	29961	32618	26828	29545
a	128.62	125.98	128.40	130.71	130.01	131.23	133.43	133.97	129.47	130.42	131.70	130.06
b	+1408	-7601	+6924	+7509	-2367	+4176	+8130	+2111	-16189	+3149	+4472	-5683
c	1239	640	449	158	394	850	970	1691	2305	2480	2147	1904
d	209400	178500	156700	97960	255000	49180	36920	219100	331600	732600	502400	281600

CAL YR 2002 b -12259

WTR YR 2003 b +6039

ANNUAL DIVERSION (AC-FT) CAL YR 2002 d 2497000

ANNUAL DIVERSION (AC-FT) WTR YR 2003 d 3051000

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

b Change in contents, in acre-feet.

c Total evaporation, in acre-feet, provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

d Diversion, in acre-feet, to Thermalito Powerplant (station 11406850), provided by California Department of Water Resources.

11406880 WESTERN CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.—Lat 39°30'19", long 121°41'06", in SW 1/4 NW 1/4 sec.18, T.19 N., R.3 E., [Butte County](#), Hydrologic Unit 18020105, on left bank, 500 ft downstream from Thermalito Afterbay Dam, and 7.3 mi west of Oroville.

PERIOD OF RECORD.—October 1967 to current year.

GAGE.—Water-stage recorder. Datum of gage is 100.47 ft above NGVD of 1929 (levels by California Department of Water Resources).

REMARKS.—Water is diverted from Thermalito Afterbay (station 11406870) and is used for irrigation. See schematic diagram showing diversions and storage from [Feather River at Lake Oroville](#).

COOPERATION.—Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 1,230 ft³/s, May 11, 12, 2001; no flow at times each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	1090	230	59	0.00	0.00	0.00	47	1200	897	872	559
2	58	1050	54	72	0.00	0.00	0.00	47	1170	897	867	533
3	57	998	54	89	0.00	0.00	0.00	46	1120	862	851	508
4	56	934	54	97	0.00	0.00	0.00	45	1070	832	823	485
5	58	837	53	97	0.00	0.00	0.00	46	990	849	791	462
6	59	760	54	97	0.00	0.00	0.00	45	922	872	775	447
7	60	599	54	105	0.00	0.00	0.00	46	819	888	768	447
8	87	465	54	123	0.00	0.00	0.00	47	747	925	767	434
9	101	406	53	137	0.00	0.00	0.00	46	748	965	762	379
10	120	397	53	147	0.00	0.00	0.00	49	734	972	756	303
11	134	397	54	147	0.00	0.00	0.00	84	687	987	756	240
12	138	386	53	147	0.00	0.00	0.00	133	672	996	778	222
13	137	349	53	118	0.00	0.00	0.00	157	672	967	798	221
14	151	322	53	88	0.00	0.00	0.00	185	660	978	797	223
15	158	323	53	31	0.00	0.00	0.00	198	647	980	803	204
16	158	322	53	0.00	0.00	0.00	0.00	251	671	972	807	198
17	158	323	52	0.00	0.00	0.00	0.00	362	697	988	801	177
18	154	313	52	0.00	0.00	0.00	0.00	443	697	997	797	168
19	170	298	50	0.00	0.00	0.00	0.00	506	712	996	780	148
20	178	320	49	0.00	0.00	0.00	0.00	613	738	996	772	136
21	179	362	49	0.00	0.00	0.00	34	763	764	988	773	135
22	191	372	48	0.00	0.00	0.00	52	881	762	962	772	138
23	377	371	48	0.00	0.00	0.00	52	988	747	934	753	138
24	591	372	47	0.00	0.00	0.00	66	1020	775	907	726	138
25	850	433	48	0.00	0.00	0.00	73	1080	809	887	693	125
26	1020	444	47	0.00	0.00	0.00	71	1170	839	892	656	107
27	1050	439	49	0.00	0.00	0.00	63	1200	864	914	613	99
28	1080	447	50	0.00	0.00	0.00	55	1200	872	935	597	94
29	1120	448	49	0.00	---	0.00	49	1200	872	940	585	95
30	1120	447	48	0.00	---	0.00	47	1200	890	914	578	133
31	1110	---	48	0.00	---	0.00	---	1200	---	893	577	---
TOTAL	10938	15024	1766	1554.00	0.00	0.00	562.00	15298	24567	28982	23244	7696
MEAN	353	501	57.0	50.1	0.000	0.000	18.7	493	819	935	750	257
MAX	1120	1090	230	147	0.00	0.00	73	1200	1200	997	872	559
MIN	56	298	47	0.00	0.00	0.00	0.00	45	647	832	577	94
AC-FT	21700	29800	3500	3080	0.00	0.00	1110	30340	48730	57490	46100	15270

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

MEAN	292	263	124	31.5	0.000	0.37	142	697	708	803	660	170
MAX	706	607	403	155	0.000	12.4	566	947	959	1032	890	305
(WY)	2002	1975	2000	1977	1968	1972	1977	1999	1981	1981	1981	1995
MIN	95.2	38.9	0.000	0.000	0.000	0.000	1.00	271	477	504	456	49.9
(WY)	1990	1974	1971	1969	1968	1968	1982	1995	1983	1970	1970	1977

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	143343.00		129631.00			
ANNUAL MEAN	393		355		327	
HIGHEST ANNUAL MEAN					443	
LOWEST ANNUAL MEAN					217	
HIGHEST DAILY MEAN	1200	May 6	1200	May 27	1230	May 11 2001
LOWEST DAILY MEAN	0.00	Jan 4	0.00	Jan 16	0.00	Dec 4 1967
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 4	0.00	Jan 16	0.00	Jan 5 1968
ANNUAL RUNOFF (AC-FT)	284300		257100		236700	
10 PERCENT EXCEEDS	1040		963		855	
50 PERCENT EXCEEDS	183		138		211	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11406890 RICHVALE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.—Lat 39°30'19", long 121°41'06", in SW 1/4 NW 1/4 sec.18, T.19 N., R.3 E., [Butte County](#), Hydrologic Unit 18020105, on right bank, 500 ft downstream from axis of Thermalito Afterbay Dam, and 7.3 mi west of Oroville.

PERIOD OF RECORD.—April 1968 to current year.

REVISED RECORDS.—WDR CA-91-4: 1990.

GAGE.—Water-stage recorder. Datum of gage is 100.47 ft above NGVD of 1929 (levels by California Department of Water Resources).

REMARKS.—Canal diverts from Thermalito Afterbay (station 11406870); water is used for irrigation. See schematic diagram showing diversions and storage from [Feather River at Lake Oroville](#).

COOPERATION.—Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 511 ft³/s, May 16, 1974; no flow for many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	310	230	198	0.00	0.00	0.00	0.00	429	349	389	269
2	278	295	228	200	0.00	0.00	0.00	0.00	430	349	388	268
3	284	289	257	198	0.00	0.00	0.00	0.00	419	349	390	268
4	302	280	293	199	0.00	0.00	0.00	0.00	386	364	374	268
5	319	274	303	200	0.00	0.00	0.00	0.00	351	369	369	268
6	325	256	305	200	0.00	0.00	0.00	0.00	354	360	362	240
7	324	240	304	198	0.00	0.00	0.00	16	358	343	359	229
8	325	234	303	205	0.00	0.00	0.00	35	359	334	358	229
9	322	234	299	208	0.00	0.00	0.00	35	320	342	340	218
10	323	233	295	217	0.00	0.00	0.00	36	286	344	333	195
11	324	233	257	218	0.00	0.00	0.00	45	258	355	319	189
12	323	235	228	218	0.00	0.00	0.00	61	249	358	314	178
13	324	234	216	219	0.00	0.00	0.00	99	249	359	314	149
14	324	213	203	218	0.00	0.00	0.00	128	260	370	314	139
15	354	204	204	220	0.00	0.00	0.00	164	248	374	314	125
16	363	204	195	219	0.00	0.00	0.00	174	244	374	313	95
17	364	205	190	219	0.00	0.00	0.00	175	244	388	314	86
18	362	205	195	217	0.00	0.00	0.00	223	244	393	314	84
19	365	204	199	218	0.00	0.00	0.00	266	262	400	299	85
20	364	205	200	218	0.00	0.00	0.00	273	277	404	294	73
21	365	211	198	220	0.00	0.00	0.00	303	278	404	294	68
22	364	218	199	219	0.00	0.00	0.00	362	279	404	294	70
23	365	223	199	218	0.00	0.00	0.00	404	278	404	294	60
24	366	223	199	75	0.00	0.00	0.00	426	304	404	294	48
25	364	231	197	0.00	0.00	0.00	0.00	428	325	403	294	47
26	363	220	199	0.00	0.00	0.00	0.00	429	329	392	283	36
27	364	223	198	0.00	0.00	0.00	0.00	429	330	388	279	32
28	337	227	199	0.00	0.00	0.00	20	429	344	389	279	31
29	324	229	199	0.00	---	0.00	14	429	348	389	279	34
30	324	228	199	0.00	---	0.00	0.00	428	349	389	271	37
31	315	---	198	0.00	---	0.00	---	428	---	389	268	---
TOTAL	10366	7020	7088	4939.00	0.00	0.00	34.00	6225.00	9391	11633	9900	4118
MEAN	334	234	229	159	0.000	0.000	1.13	201	313	375	319	137
MAX	366	310	305	220	0.00	0.00	20	429	430	404	390	269
MIN	246	204	190	0.00	0.00	0.00	0.00	0.00	244	334	268	31
AC-FT	20560	13920	14060	9800	0.00	0.00	67	12350	18630	23070	19640	8170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

	55.6	84.1	75.2	30.9	0.000	0.22	69.2	284	297	327	279	77.1
MEAN	55.6	84.1	75.2	30.9	0.000	0.22	69.2	284	297	327	279	77.1
MAX	334	328	297	185	0.000	6.32	201	436	400	444	397	154
(WY)	2003	2000	2001	2000	1969	1972	1972	1974	1979	1999	1999	1995
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	104	129	140	130	8.43
(WY)	1972	1969	1969	1969	1969	1969	1983	1991	1991	1991	1991	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	78935.00		70714.00			
ANNUAL MEAN	216		194		134	
HIGHEST ANNUAL MEAN					216	
LOWEST ANNUAL MEAN					66.4	
HIGHEST DAILY MEAN	469	Jun 15	430	Jun 2	511	May 16 1974
LOWEST DAILY MEAN	0.00	Jan 22	0.00	Jan 25	0.00	Sep 25 1968
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 22	0.00	Jan 25	0.00	Oct 5 1968
ANNUAL RUNOFF (AC-FT)	156600		140300		96740	
10 PERCENT EXCEEDS	422		369		364	
50 PERCENT EXCEEDS	220		219		64	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11406900 PACIFIC GAS & ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.—Lat 39°29'22", long 121°41'12", in SE 1/4 NW 1/4 sec.19, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, on right bank, 82 ft downstream from axis of Thermalito Afterbay Dam, and 7.2 mi west of Oroville.

PERIOD OF RECORD.—April 1968 to current year.

GAGE.—Water-stage recorder. Datum of gage is 113.47 ft above NGVD of 1929 (levels by California Department of Water Resources).

REMARKS.—Flow regulated at outlet works from Thermalito Afterbay (station 11406870); water is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.—Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 46 ft³/s, Apr. 24, 1977, May 16, 1978; no flow for many days each year.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	1.5	3.8	0.00	0.00	0.00	0.00	0.00	8.5	24	18	15
2	0.00	0.00	3.8	0.00	0.00	0.00	0.00	0.00	4.0	20	17	14
3	0.00	0.00	3.8	0.00	0.00	0.00	0.00	0.00	2.6	18	17	13
4	0.00	2.3	3.8	0.00	0.00	0.00	0.00	0.00	3.6	18	16	9.3
5	0.00	4.3	3.8	0.00	0.00	0.00	0.00	0.00	7.9	17	16	6.1
6	0.00	4.3	2.9	0.00	0.00	0.00	0.00	0.00	9.3	16	16	6.0
7	0.00	2.0	1.8	0.00	0.00	0.00	0.00	0.00	8.5	17	16	5.2
8	0.00	0.00	1.8	1.3	0.00	0.00	0.00	0.00	9.2	17	16	4.6
9	0.00	0.00	2.7	2.3	0.00	0.00	0.00	0.00	8.4	17	16	4.6
10	0.00	0.00	3.4	2.3	0.00	0.00	0.00	0.00	7.7	17	16	3.8
11	0.00	0.00	3.4	2.2	0.00	0.00	0.00	0.00	8.2	16	16	2.8
12	0.00	0.00	3.5	2.1	0.00	0.00	0.00	0.00	8.6	14	16	2.7
13	0.00	0.00	3.6	2.0	0.00	0.00	0.00	0.00	8.6	14	15	2.8
14	0.00	0.00	3.5	2.0	0.00	0.00	0.00	0.00	6.4	15	14	2.6
15	0.00	0.00	3.4	2.0	0.00	0.00	0.00	0.00	3.6	15	15	2.6
16	0.00	0.00	3.1	2.0	0.00	0.00	0.00	0.00	3.6	15	15	2.7
17	0.00	0.00	1.2	2.0	0.00	0.00	0.00	0.00	6.8	15	15	1.4
18	0.00	14	0.00	2.0	0.00	0.00	0.00	0.00	7.0	15	14	0.00
19	0.00	24	0.00	2.0	0.00	0.00	0.00	0.00	6.0	15	14	0.00
20	0.00	25	0.00	0.76	0.00	0.00	0.00	0.00	7.0	15	14	0.00
21	0.00	25	0.00	0.00	0.00	0.00	0.00	4.9	7.3	16	14	0.00
22	5.3	20	0.00	0.00	0.00	0.00	0.00	7.1	8.0	17	15	0.00
23	8.2	16	0.00	0.00	0.00	0.00	0.00	20	9.7	17	15	0.00
24	8.2	15	0.00	0.00	0.00	0.00	0.00	35	14	17	15	0.00
25	8.2	15	0.00	0.00	0.00	0.00	0.00	40	17	18	15	0.00
26	8.2	8.6	0.00	0.00	0.00	0.00	0.00	38	18	17	15	0.00
27	8.2	3.9	0.00	0.00	0.00	0.00	0.00	35	20	18	15	0.00
28	8.2	3.8	0.00	0.00	0.00	0.00	0.00	36	20	18	15	0.00
29	8.3	3.9	0.00	0.00	---	0.00	0.00	38	22	18	15	0.00
30	8.3	3.8	0.00	0.00	---	0.00	0.00	30	24	18	15	0.00
31	6.9	---	0.00	0.00	---	0.00	---	17	---	18	15	---
TOTAL	78.00	192.40	53.30	24.96	0.00	0.00	0.00	301.00	295.5	522	476	99.20
MEAN	2.52	6.41	1.72	0.81	0.000	0.000	0.000	9.71	9.85	16.8	15.4	3.31
MAX	8.3	25	3.8	2.3	0.00	0.00	0.00	40	24	24	18	15
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.6	14	14	0.00
AC-FT	155	382	106	50	0.00	0.00	0.00	597	586	1040	944	197

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

	0.69	2.16	0.95	0.14	0.000	0.000	3.43	12.4	12.6	13.8	11.1	1.26
MEAN	0.69	2.16	0.95	0.14	0.000	0.000	3.43	12.4	12.6	13.8	11.1	1.26
MAX	7.14	6.58	5.74	1.00	0.000	0.000	14.8	23.2	18.3	17.1	15.4	3.31
(WY)	2002	1996	2000	2000	1969	1969	1977	1975	1981	1981	2003	2003
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.55	8.40	9.37	7.12	0.000
(WY)	1969	1969	1969	1969	1969	1969	1974	1994	1998	1970	1988	1994

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	2115.91		2042.36			
ANNUAL MEAN	5.80		5.60		4.94	
HIGHEST ANNUAL MEAN					6.18	
LOWEST ANNUAL MEAN					3.67	
HIGHEST DAILY MEAN	35	Apr 30	40	May 25	46	Apr 24 1977
LOWEST DAILY MEAN	0.00	Jan 3	0.00	Oct 1	0.00	Sep 9 1968
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 3	0.00	Oct 1	0.00	Sep 9 1968
ANNUAL RUNOFF (AC-FT)	4200		4050		3580	
10 PERCENT EXCEEDS	18		17		15	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11406910 SUTTER-BUTTE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.—Lat 39°27'01", long 121°39'27", in NW corner of Boga Fernandez Grant, T.18 N., R.3 E., [Butte County](#), Hydrologic Unit 18020105, on left bank, 675 ft downstream from Thermalito Afterbay Dam, and 6.8 mi southwest of Oroville.

PERIOD OF RECORD.—November 1967 to current year.

GAGE.—Water-stage recorder. Datum of gage is 109.97 ft above NGVD of 1929 (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 109.50 ft lower.

REMARKS.—Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from [Feather River at Lake Oroville](#).

COOPERATION.—Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 2,110 ft³/s, Apr. 22–24, 1968; no flow for many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	700	822	871	532	0.00	0.00	0.00	103	1820	1530	1550	1320
2	686	882	872	536	0.00	0.00	0.00	103	1780	1560	1540	1310
3	676	883	863	533	0.00	0.00	0.00	103	1710	1600	1520	1270
4	656	943	876	532	0.00	0.00	0.00	102	1680	1590	1520	1260
5	706	906	899	534	0.00	0.00	0.00	101	1650	1570	1500	1270
6	719	893	902	535	0.00	0.00	0.00	111	1580	1600	1480	1270
7	716	897	900	547	0.00	0.00	0.00	116	1520	1620	1470	1250
8	739	883	899	552	0.00	0.00	0.00	150	1500	1620	1470	1220
9	791	883	869	547	0.00	0.00	0.00	180	1480	1640	1450	1140
10	866	883	855	552	0.00	0.00	0.00	199	1470	1650	1410	1090
11	884	883	829	550	0.00	0.00	0.00	232	1470	1680	1390	1020
12	871	882	775	552	0.00	0.00	0.00	266	1440	1690	1390	1000
13	844	901	726	553	0.00	0.00	0.00	284	1390	1670	1410	988
14	830	893	704	538	0.00	0.00	0.00	330	1390	1630	1410	977
15	834	848	703	512	0.00	0.00	0.00	399	1400	1620	1390	969
16	843	832	646	503	0.00	0.00	0.00	475	1410	1620	1400	967
17	848	833	579	504	0.00	0.00	0.00	619	1440	1600	1410	934
18	875	815	563	503	0.00	0.00	0.00	733	1470	1590	1420	902
19	922	843	551	503	0.00	0.00	0.00	881	1470	1570	1410	892
20	928	888	544	378	0.00	0.00	0.00	1070	1470	1570	1420	886
21	915	900	544	263	0.00	0.00	0.00	1300	1480	1590	1420	886
22	961	898	543	265	0.00	0.00	0.00	1540	1490	1620	1380	860
23	999	898	550	92	0.00	0.00	164	1600	1530	1630	1360	799
24	996	899	547	0.00	0.00	0.00	189	1650	1510	1650	1330	784
25	1000	894	544	0.00	0.00	0.00	132	1660	1500	1620	1320	758
26	936	904	545	0.00	0.00	0.00	96	1680	1510	1580	1310	745
27	909	888	544	0.00	0.00	0.00	98	1770	1500	1570	1310	712
28	896	879	544	0.00	0.00	0.00	102	1810	1490	1570	1300	705
29	878	874	545	0.00	---	0.00	103	1870	1490	1570	1320	720
30	874	871	537	0.00	---	0.00	104	1880	1500	1570	1320	690
31	862	---	533	0.00	---	0.00	---	1840	---	1550	1320	---
TOTAL	26160	26398	21402	11116.00	0.00	0.00	988.00	25157	45540	49740	43650	29594
MEAN	844	880	690	359	0.000	0.000	32.9	812	1518	1605	1408	986
MAX	1000	943	902	553	0.00	0.00	189	1880	1820	1690	1550	1320
MIN	656	815	533	0.00	0.00	0.00	0.00	101	1390	1530	1300	690
AC-FT	51890	52360	42450	22050	0.00	0.00	1960	49900	90330	98660	86580	58700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

MEAN	416	212	163	64.9	20.9	84.4	516	1388	1396	1487	1363	739
MAX	844	880	690	384	374	571	1294	1815	1643	1709	1608	986
(WY)	2003	2003	2003	2001	1977	1976	1968	1975	1975	1981	1982	2003
MIN	77.2	0.000	0.000	0.000	0.000	0.000	0.000	519	826	834	776	283
(WY)	1978	1975	1971	1969	1969	1978	1983	1977	1992	1991	1991	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	312477.00		279745.00			
ANNUAL MEAN	856		766		656	
HIGHEST ANNUAL MEAN					822	
LOWEST ANNUAL MEAN					401	
HIGHEST DAILY MEAN	1780		1880		2110	
LOWEST DAILY MEAN	0.00		0.00		0.00	
ANNUAL SEVEN-DAY MINIMUM	0.00		0.00		0.00	
ANNUAL RUNOFF (AC-FT)	619800		554900		475400	
10 PERCENT EXCEEDS	1660		1570		1560	
50 PERCENT EXCEEDS	871		843		469	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER, NEAR OROVILLE, CA

LOCATION.—Lat 39°27'23", long 121°38'10", in NW 1/4 SE 1/4 sec.33, T.19 N., R.3 E., [Butte County](#), Hydrologic Unit 18020106, on left bank of outlet channel, 955 ft downstream from centerline of Thermalito Afterbay Dam, and 5.7 mi southwest of Oroville.

PERIOD OF RECORD.—November 1967 to current year.

WATER TEMPERATURE: Water years 1969–92.

GAGE.—Water-stage recorder. Datum of gage is 113.47 ft above NGVD of 1929 (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 13.00 ft lower.

REMARKS.—Flow regulated by gates of Thermalito Afterbay outlet 955 ft upstream. See schematic diagram showing diversions and storage from [Feather River at Lake Oroville](#).

COOPERATION.—Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 21,600 ft³/s, Jan. 28, 1970, gage height, 23.30 ft, datum then in use, 21,600 ft³/s, Jan. 2, 1997, gage height, 11.45 ft; no flow for many days during 1968.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2140	1400	1400	1140	631	2510	428	432	3400	7430	7250	4880
2	2140	1390	1390	1140	634	2010	436	431	3400	8180	7250	4900
3	2140	1400	1400	1140	629	1670	435	432	3390	8940	7250	4910
4	2140	1400	1390	1140	634	1480	428	424	2900	8940	7250	4910
5	2140	1390	1390	1140	633	1280	440	431	2900	8940	6770	4910
6	2140	1390	1400	1140	633	1080	430	428	2900	8950	6190	4910
7	2140	1390	1390	1140	630	880	428	431	2900	9440	5200	4910
8	2150	1390	1390	1140	628	681	430	1270	2890	9450	4190	4910
9	2140	1390	1400	1140	632	630	432	1400	2900	9440	3910	4910
10	2140	1400	1400	1140	626	633	437	1890	2900	9440	3910	4900
11	2140	1390	1390	1140	5260	483	431	1890	2900	9430	4150	4400
12	1890	1390	1390	1140	6930	447	436	1890	2890	9440	4900	3890
13	1690	1390	1390	1140	6930	453	429	1900	2390	9440	4910	3380
14	1530	1400	1240	1140	6940	437	437	1890	1890	9350	4910	2900
15	1390	1390	1140	989	6920	430	435	1890	1890	9420	4910	2900
16	1400	1400	1140	790	6930	426	422	1890	1880	8590	4910	2900
17	1400	1390	1140	632	6200	425	426	1890	1680	8300	4910	2900
18	1400	1390	1140	637	5920	433	431	1890	1480	8310	4910	2880
19	1400	1400	1140	633	7300	436	428	1890	1390	8310	5400	2390
20	1390	1390	1140	630	7440	427	430	1890	1400	8310	5900	2390
21	1400	1390	1140	635	7440	433	427	1890	1390	8350	6410	2390
22	1400	1390	1130	630	7430	433	434	2390	1390	8440	6420	2380
23	1390	1390	1140	631	7410	426	436	2400	1400	8380	6410	1880
24	1390	1400	1140	637	7180	428	434	2770	1400	8310	6410	1880
25	1400	1400	1140	626	6180	429	434	2900	1830	8310	6160	1880
26	1390	1390	1140	626	5190	433	432	2900	4380	8300	5410	1880
27	1400	1390	1140	628	4170	430	430	3770	6970	8300	5150	1880
28	1400	1390	1140	638	3170	428	432	3910	7430	8300	4880	1880
29	1400	1400	1140	636	---	434	434	3400	7420	8280	4880	1880
30	1390	1400	1140	628	---	428	438	3400	7420	8250	4880	1880
31	1400	---	1140	634	---	425	---	3400	---	7760	4880	---
TOTAL	52400	41810	38730	27220	121250	21978	12960	59609	91300	269030	170870	99790
MEAN	1690	1394	1249	878	4330	709	432	1923	3043	8678	5512	3326
MAX	2150	1400	1400	1140	7440	2510	440	3910	7430	9450	7250	4910
MIN	1390	1390	1130	626	626	425	422	424	1390	7430	3910	1880
AC-FT	103900	82930	76820	53990	240500	43590	25710	118200	181100	533600	338900	197900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

MEAN	1921	2243	3936	4321	5236	5455	4290	3396	3150	4046	3544	2867
MAX	5867	11020	15120	14700	14600	16890	15410	12340	9717	8678	7043	7085
(WY)	1975	1974	1984	1997	1983	1983	1983	1983	1983	2003	1974	1974
MIN	145	336	56.7	391	345	239	207	549	337	0.13	116	398
(WY)	1978	1978	1968	1993	1968	1992	1992	1977	1990	1968	1968	1968

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	698467		1006947			
ANNUAL MEAN	1914		2759		3778	
HIGHEST ANNUAL MEAN					9352	
LOWEST ANNUAL MEAN					970	
HIGHEST DAILY MEAN	5840	Jul 6	9450	Jul 8	21200	Jan 28 1970
LOWEST DAILY MEAN	574	Feb 11	422	Apr 16	0.00	Nov 16 1967
ANNUAL SEVEN-DAY MINIMUM	580	Feb 22	428	Apr 16	0.00	Nov 16 1967
MAXIMUM PEAK FLOW			9490		21600	
MAXIMUM PEAK STAGE			6.56		23.30	
ANNUAL RUNOFF (AC-FT)	1385000		1997000		2737000	
10 PERCENT EXCEEDS	4820		7420		9290	
50 PERCENT EXCEEDS	1390		1400		2260	
90 PERCENT EXCEEDS	581		433		584	

11407000 FEATHER RIVER AT OROVILLE, CA

LOCATION.—Lat 39°31'18", long 121°32'48", in Boga Fernandez Grant, T.19 N., R.4 E., [Butte County](#), Hydrologic Unit 18020106, on right bank, 300 ft upstream from fish barrier dam on Feather River, 0.4 mi downstream from Thermalito Diversion Dam, 0.8 mi northeast of Oroville Post Office, and 4.8 mi downstream from Oroville Dam.

DRAINAGE AREA.—3,624 mi².

PERIOD OF RECORD.—October 1901 to current year. Monthly discharge only for some periods, published in WSP 1315-A. October 1934 to September 1961 published as "near Oroville."

CHEMICAL DATA: Water years 1906–07, 1951–77.

SPECIFIC CONDUCTANCE: Water years 1972–78.

WATER TEMPERATURE: Water years 1954–92.

SEDIMENT DATA: Water years 1957–79.

REVISED RECORDS.—WSP 843: 1907(M), 1909(M), 1914–15(M), 1919(M), 1927–28(M). WSP 881: 1913–28 (yearly summaries). WSP 1515: 1906–8. WSP 1931: Drainage area. WDR CA-74-2: 1968–70, adjusted monthly discharge.

GAGE.—Water-stage recorder. Datum of gage is 148.97 ft above NGVD of 1929 (levels by California Department of Water Resources). See WSP 1931 for history of changes prior to Oct. 1, 1964.

REMARKS.—Flow completely regulated by Lake Oroville (station 11406800), beginning November 1967, and Thermalito Diversion Pool (station 11406825), capacity 13,500 acre-ft. Diversions upstream from station for power and irrigation. Feather River Fish Hatchery (station 11406930) diverts up to 120 ft³/s at Thermalito Diversion Dam 0.4 mi upstream from gage. Daily figures shown are combined figures of river flow and diversion to fish hatchery. See schematic diagram showing diversions and storage from [Feather River at Lake Oroville](#).

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100.

EXTREMES FOR PERIOD OF RECORD.—Prior to completion of Oroville Dam: Maximum discharge observed, 230,000 ft³/s, Mar. 19, 1907, elevation, 167.5 ft above NGVD of 1929, site and datum then in use, maximum discharge (since completion of Oroville Dam), 161,000 ft³/s, Jan. 2, 1997, gage height, 25.45 ft; minimum, 300 ft³/s, estimated, Nov. 9, 1931.

Combined flow (since completion of Oroville Dam): Maximum daily discharge, 132,000 ft³/s, Feb. 18, 1986; minimum daily, 222 ft³/s, Sept. 19, 1972.

EXTREMES OUTSIDE OF PERIOD OF RECORD.—Flood on Feb. 12, 1879, reached a stage of 11.7 ft; discharge not determined; flood in February 1881, reached a stage of 25.0 ft; discharge not determined; flood on Mar. 9, 1884, reached a stage of 13.0 ft, discharge not determined; flood on Dec. 23, 1884, reached a stage of 13.8 ft; discharge not determined; flood on Dec. 25, 1885, reached a stage of 15.7 ft, discharge not determined; information supplied from Magnitude and Frequency of Floods in the United States, Part 11, Vol. 2 (USGS Water-Supply Paper 1686).

EXTREMES FOR CURRENT YEAR.—River only: Maximum discharge, 996 ft³/s, June 5, gage height, 1.20 ft; minimum daily, 505 ft³/s, June 7. Combined flow: Maximum daily discharge, 771 ft³/s, Aug. 20; minimum daily, 613 ft³/s, June 7.

11407000 FEATHER RIVER AT OROVILLE, CA—Continued

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	636	634	631	633	631	630	632	623	622	626	749	630
2	632	634	630	633	630	627	633	623	621	625	752	631
3	633	631	628	632	632	632	632	633	622	625	749	634
4	633	632	629	633	631	632	634	627	663	625	749	637
5	635	631	628	633	632	633	632	630	702	625	747	637
6	635	632	629	633	629	637	633	625	657	628	624	639
7	635	635	628	635	625	629	631	630	613	624	731	636
8	637	630	631	642	632	629	628	624	615	620	758	636
9	634	632	632	644	631	632	630	625	619	623	757	637
10	639	630	631	654	631	632	629	627	620	623	751	639
11	641	627	630	649	635	631	630	625	622	623	767	629
12	640	631	626	651	642	629	636	623	621	624	765	630
13	639	627	631	652	644	632	635	624	623	621	763	629
14	641	633	628	652	638	634	633	623	623	623	761	633
15	638	627	628	645	640	636	631	637	623	625	759	628
16	639	632	631	643	644	633	631	624	622	703	758	632
17	637	631	624	643	636	630	630	625	622	749	763	632
18	637	631	625	644	634	638	630	627	623	748	767	631
19	641	631	628	642	636	632	628	626	623	744	767	626
20	639	633	628	641	636	633	624	627	625	747	771	626
21	635	633	643	639	634	633	626	625	623	702	706	632
22	634	633	627	637	632	632	625	625	622	624	634	631
23	631	634	621	636	631	632	627	627	621	693	638	630
24	634	634	623	632	632	631	636	630	622	750	636	644
25	634	634	626	629	632	629	631	630	621	749	637	630
26	634	636	631	627	631	632	625	629	623	748	636	632
27	635	642	635	628	630	630	625	627	619	747	635	630
28	634	643	648	626	632	626	631	624	619	749	638	630
29	634	642	636	627	---	623	629	625	623	749	635	631
30	634	643	632	625	---	622	626	624	626	749	633	628
31	635	---	631	630	---	622	---	624	---	749	632	---
TOTAL	19715	18998	19529	19770	17743	19553	18903	19418	18800	21060	22068	18970
MEAN	636	633	630	638	634	631	630	626	627	679	712	632
MAX	641	643	648	654	644	638	636	637	702	750	771	644
MIN	631	627	621	625	625	622	624	623	613	620	624	626
AC-FT	39100	37680	38740	39210	35190	38780	37490	38520	37290	41770	43770	37630
MEAN ^a	2070	2681	9464	10839	6871	7578	8713	11387	5456	2702	2646	2530
AC-FTa	127300	159500	581900	666500	381600	465900	518400	700100	324600	166200	162700	150600

^a Adjusted for unreviewed evaporation, change in contents, and diversions in and out of Lake Oroville, Thermalito Diversion Pool, Thermalito Forebay, and Thermalito Afterbay (station 11406870).

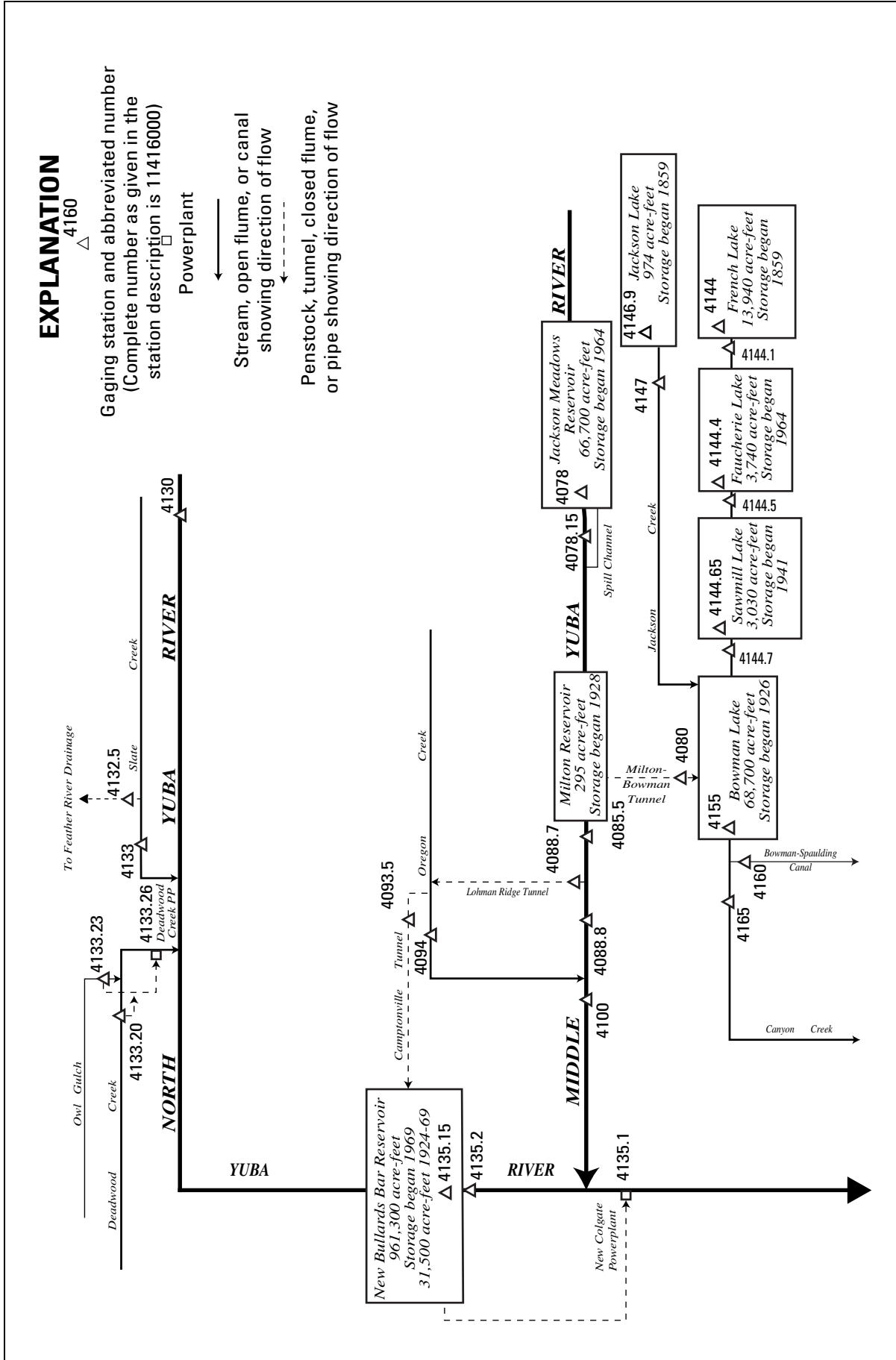


Figure 31. Diversions and storage in North and Middle Yuba River Basins.

11407800 JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY, CA

LOCATION.—Lat 39°30'33", long 120°33'08", in NW 1/4 SE 1/4 sec.18, T.19 N., R.13 E., [Sierra County](#), Hydrologic Unit 18020125, Tahoe National Forest, on right bank, at Jackson Meadows Dam on Middle Yuba River, 0.7 mi downstream from Pass Creek, and 5.7 mi southeast of Sierra City.

DRAINAGE AREA.—37.6 mi².

PERIOD OF RECORD.—November 1964 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Nevada Irrigation District).

REMARKS.—Reservoir is formed by an earthfill dam. Storage began Nov. 9, 1964. Usable capacity, 66,700 acre-ft, between elevations 5,933.0 ft, bottom of intake tower, and 6,036.0 ft, top of radial spillway gates. Dead contents, 2,500 acre-ft. Records, including extremes, represent total contents. See schematic diagram of [North and Middle Yuba River Basin](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 71,100 acre-ft, May 31, June 1, 1993, elevation, 6,037.78 ft; minimum since reservoir first filled, 2,500 acre-ft, Sept. 27–29, 1976, elevation, 5,933.1 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 70,200 acre-ft, June 2–4, maximum elevation, 6,036.98 ft, June 3; minimum, 35,300 acre-ft, Nov. 4–6, minimum elevation, 5999.90 ft, Nov. 6.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Nevada Irrigation District, dated February 1965)

5,930	2,000	5,960	10,600	5,990	27,600	6,020	53,200
5,940	3,920	5,970	15,400	6,000	35,300	6,030	63,000
5,950	6,760	5,980	21,000	6,010	43,900	6,040	73,500

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42400	35400	36400	40400	45900	49700	55200	58900	70100	69100	62100	54000
2	42100	35400	36400	40500	46200	49800	55200	59000	70200	69000	61900	53700
3	41800	35400	36400	40500	46400	49900	55000	59200	70200	68800	61700	53500
4	41500	35300	36400	40600	46600	49900	55000	59500	70200	68600	61400	53200
5	41300	35300	36400	40700	46700	50000	54900	59700	70000	68400	61200	52900
6	41000	35300	36300	40800	46900	50100	54800	60000	69900	68200	61000	52500
7	40700	35400	36300	40800	47000	50100	54800	59900	69800	67900	60700	52200
8	40500	36000	36300	40900	47200	50200	54800	59600	69700	67700	60400	51800
9	40200	36200	36300	41000	47300	50300	55000	59200	69500	67500	60200	51500
10	39900	36300	36400	41200	47400	50400	55200	58700	69300	67300	60000	51200
11	39700	36400	36400	41300	47500	50500	55600	58300	69100	67000	59700	50900
12	39400	36400	36400	41400	47600	50600	56100	58000	68800	66800	59500	50600
13	39100	36400	36700	41400	47900	50800	56500	57900	68400	66600	59200	50200
14	38900	36400	37600	41500	48000	51200	56700	58100	68000	66300	59000	49900
15	38600	36400	37900	41600	48200	51800	56900	58500	67700	66100	58700	49600
16	38300	36400	38200	41600	48400	52100	57000	58900	67700	65900	58500	49200
17	38100	36400	38300	41700	48500	52300	57100	59300	68000	65600	58200	48900
18	37800	36400	38400	41800	48600	52500	57300	59600	68200	65400	57900	48600
19	37600	36400	38500	41800	48800	52600	57400	60000	68400	65200	57600	48300
20	37300	36400	38600	41900	48900	52800	57500	60400	68500	64900	57300	47900
21	37000	36400	38700	42100	49000	53000	57700	61100	68600	64700	57100	47600
22	36800	36400	38800	42200	49100	53200	57800	62100	68700	64500	56900	47300
23	36500	36400	38800	42800	49200	53800	57900	63200	68800	64200	56600	47000
24	36300	36400	38800	43200	49300	54200	58100	64200	68900	64000	56300	46700
25	36000	36400	38900	43600	49400	54500	58300	65000	69000	63800	55900	46400
26	35800	36400	39000	43800	49500	55300	58400	65800	69000	63500	55700	46100
27	35600	36400	39200	44300	49600	55300	58500	66800	69100	63300	55400	45800
28	35500	36400	39700	44700	49600	55100	58600	67800	69100	63100	55100	45400
29	35400	36400	39900	45000	---	55100	58700	68700	69200	62800	54800	45100
30	35400	36400	40100	45300	---	55100	58800	69500	69200	62600	54500	44800
31	35400	---	40300	45500	---	55100	---	69900	---	62400	54200	---
MAX	42400	36400	40300	45500	49600	55300	58800	69900	70200	69100	62100	54000
MIN	35400	35300	36300	40400	45900	49700	54800	57900	67700	62400	54200	44800
a	6000.06	6001.27	6005.90	6011.81	6016.28	6022.06	6025.82	6036.64	6035.99	6029.36	6021.10	6010.98
b	-7200	+1000	+3900	+5200	+4100	+5500	+3700	+11100	-700	-6800	-8200	-9400
CAL YR 2002	MAX 66400	MIN 28900	b +11500									
WTR YR 2003	MAX 70200	MIN 35300	b +2200									

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11407815 MIDDLE YUBA RIVER CONTROLLED RELEASE AT JACKSON MEADOWS DAM, NEAR SIERRA CITY, CA

LOCATION.—Lat 39°30'36", long 120°33'15", in NW 1/4 SE 1/4 sec.18, T.19 N., R.13 E., [Sierra County](#), Hydrologic Unit 18020125, Tahoe National Forest, in outlet structure, near right bank, below Jackson Meadows Dam on Middle Yuba River, 0.7 mi downstream from Pass Creek, and 5.7 mi southeast of Sierra City.

DRAINAGE AREA.—37.6 mi².

PERIOD OF RECORD.—July 1994 to current year.

GAGE.—Ultrasonic meter measures flow in two outlet pipes. Elevation of gage is 5,910 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by Jackson Meadows Reservoir (station 11407800). Flow over the spillway bypasses this station. See schematic diagram of [North and Middle Yuba River Basin](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 415 ft³/s, May 23, 28, 1996; minimum daily, 7.9 ft³/s, several days November 1994.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	9.7	9.9	10	10	10	10	74	383	53	118	136
2	e133	9.7	9.9	10	10	10	10	74	383	102	119	136
3	e133	9.7	9.9	10	10	10	10	74	383	121	118	148
4	e133	9.8	10	10	10	10	10	74	383	121	118	159
5	e132	9.8	10	10	10	10	10	74	383	121	118	158
6	e132	9.8	10	10	10	10	10	74	383	121	118	158
7	e132	9.8	10	10	10	10	10	217	383	121	118	158
8	e132	9.8	10	10	10	10	10	367	383	121	118	158
9	e132	9.8	10	10	10	10	41	367	383	121	118	158
10	e131	9.8	10	10	10	10	70	367	383	121	118	157
11	e131	9.8	10	10	10	10	70	365	383	121	116	157
12	e131	9.8	10	10	10	10	70	365	383	121	116	157
13	e131	9.8	10	10	10	10	72	365	383	121	116	157
14	e131	9.8	10	10	10	10	72	365	383	120	116	156
15	e130	9.8	10	10	10	10	72	339	301	120	116	156
16	e130	9.8	10	10	10	10	73	307	143	120	116	156
17	e130	9.8	10	10	10	10	73	307	50	120	127	156
18	e130	9.8	10	10	10	10	73	308	26	120	139	156
19	e130	9.8	10	10	10	10	73	309	26	120	138	158
20	e130	9.8	10	10	10	10	73	309	26	120	138	157
21	e129	9.8	10	10	10	10	73	310	26	119	138	157
22	e129	9.9	10	10	10	10	73	311	26	120	138	157
23	e129	9.9	10	10	10	10	73	312	26	119	138	157
24	e129	9.9	10	10	10	10	73	314	26	119	138	156
25	e129	9.9	10	10	10	10	73	315	26	119	138	156
26	e128	9.9	10	10	10	10	73	316	26	119	137	156
27	e99	9.9	10	10	10	10	73	317	26	119	137	155
28	e42	9.9	10	10	10	10	74	350	26	119	137	155
29	9.7	9.9	10	10	---	10	74	379	26	119	137	155
30	9.7	9.9	10	10	---	10	74	383	26	119	137	155
31	9.7	---	10	10	---	10	---	383	---	119	137	---
TOTAL	3570.1	294.6	309.7	310	280	310	1645	8791	6194	3636	3931	4651
MEAN	115	9.82	9.99	10.0	10.0	10.0	54.8	284	206	117	127	155
MAX	133	9.9	10	10	10	10	74	383	383	121	139	159
MIN	9.7	9.7	9.9	10	10	10	10	74	26	53	116	136
AC-FT	7080	584	614	615	555	615	3260	17440	12290	7210	7800	9230

CAL YR 2002 TOTAL 25659.8 MEAN 70.3 MAX 135 MIN 9.2 AC-FT 50900
WTR YR 2003 TOTAL 33922.4 MEAN 92.9 MAX 383 MIN 9.7 AC-FT 67290

e Estimated.

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA

LOCATION.—Lat 39°27'37", long 120°36'37", in NW 1/4 NE 1/4 sec.3, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank, 100 ft downstream from tunnel outlet, near upper end of Bowman Lake, and 6.9 mi east of Graniteville.

PERIOD OF RECORD.—May 1928 to September 1930, February 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "Milton-Bowman tunnel at outlet."

GAGE.—Water-stage recorder and Parshall flume. Datum of gage is 5,592.51 ft above NGVD of 1929. Prior to Sept. 22, 1964, at datum 0.56 ft higher.

REMARKS.—Tunnel diverts from Middle Yuba River at Milton Reservoir, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake. Nearly the entire flow of Middle Yuba River is diverted during low and medium flows. Middle Yuba River is regulated by Jackson Meadows Reservoir (station 11407800) since November 1964. See schematic diagram of [North and Middle Yuba River Basin](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 492 ft³/s, Feb. 11, 1941; minimum daily, 0.4 ft³/s, Oct. 7, 1944.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	9.1	9.4	21	32	17	319	88	60	35	118	135
2	131	8.8	9.4	20	32	16	331	91	59	93	119	135
3	131	8.7	9.4	19	28	16	303	98	58	121	118	142
4	131	8.6	9.4	18	26	16	260	110	58	121	118	157
5	131	8.5	9.4	18	25	16	222	104	56	121	117	156
6	131	8.5	9.4	17	23	16	189	104	55	121	117	155
7	130	14	9.4	17	22	16	167	e247	55	120	117	155
8	130	40	9.1	17	21	16	162	e353	54	120	117	155
9	130	24	9.2	17	20	16	136	e359	52	120	117	155
10	130	20	11	20	19	16	91	e362	50	120	116	155
11	130	18	10	23	19	17	95	e364	49	120	116	154
12	129	14	9.6	21	18	17	102	e367	48	120	116	154
13	129	14	23	21	22	19	99	e370	47	119	116	153
14	129	13	74	20	24	31	92	e374	46	119	116	153
15	129	12	34	19	22	60	90	e372	45	119	116	153
16	128	12	27	18	24	40	88	353	43	119	115	153
17	128	11	21	18	21	30	88	345	68	119	121	153
18	128	11	18	18	20	26	87	343	75	119	137	153
19	128	11	17	18	20	25	87	341	31	119	137	155
20	128	11	17	18	19	25	88	342	29	119	137	155
21	128	11	17	20	18	24	91	346	29	119	138	154
22	128	11	15	23	18	25	89	350	29	119	145	154
23	127	11	15	46	18	47	89	353	28	119	138	154
24	127	11	14	46	18	42	95	354	28	119	137	153
25	127	10	14	37	18	38	92	351	28	118	137	153
26	127	9.3	14	35	17	179	90	349	27	118	137	153
27	109	9.6	33	39	17	348	88	349	27	118	136	153
28	58	9.6	45	47	17	352	89	208	27	118	136	152
29	13	9.5	32	36	---	317	88	64	26	118	136	152
30	9.5	9.4	25	32	---	280	87	63	26	118	135	152
31	9.0	---	24	30	---	288	---	61	---	118	135	---
TOTAL	3555.5	378.6	593.7	769	598	2391	3994	8335	1313	3586	3911	4566
MEAN	115	12.6	19.2	24.8	21.4	77.1	133	269	43.8	116	126	152
MAX	132	40	74	47	32	352	331	374	75	121	145	157
MIN	9.0	8.5	9.1	17	17	16	87	61	26	35	115	135
AC-FT	7050	751	1180	1530	1190	4740	7920	16530	2600	7110	7760	9060

e Estimated.

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1964, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.00	14.6	31.4	35.3	51.6	72.9	176	242	142	28.6	6.77	3.88
MAX	101	65.4	118	124	143	213	294	414	272	90.9	26.8	10.1
(WY)	1963	1951	1956	1942	1963	1940	1936	1937	1933	1938	1952	1952
MIN	.50	.50	.70	1.00	4.28	9.19	19.7	45.6	24.8	4.21	2.06	1.00
(WY)	1931	1931	1931	1931	1931	1933	1938	1936	1934	1939	1964	1931

SUMMARY STATISTICS

WATER YEARS 1928 - 1964

ANNUAL MEAN	67.9
HIGHEST ANNUAL MEAN	97.2 1930
LOWEST ANNUAL MEAN	33.5 1949
HIGHEST DAILY MEAN	492 Feb 11 1941
LOWEST DAILY MEAN	.40 Oct 7 1944
ANNUAL SEVEN-DAY MINIMUM	.50 Oct 1 1930
ANNUAL RUNOFF (AC-FT)	49180
10 PERCENT EXCEEDS	220
50 PERCENT EXCEEDS	20
90 PERCENT EXCEEDS	3.0

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

MEAN	148	118	54.0	35.5	39.0	62.5	62.6	102	80.0	69.3	90.8	150
MAX	310	368	357	211	197	265	225	333	280	174	253	300
(WY)	1981	1973	1973	1985	1985	1986	1999	1969	1998	1976	1968	1974
MIN	1.52	1.34	1.25	1.17	1.20	1.68	5.38	7.69	5.23	3.95	2.20	1.72
(WY)	1977	1977	1977	1977	1977	1977	1977	1986	1976	1977	1993	1981

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1966 - 2003

ANNUAL TOTAL	28971.8	33990.8	
ANNUAL MEAN	79.4	93.1	84.5
HIGHEST ANNUAL MEAN			133 1998
LOWEST ANNUAL MEAN			14.5 1977
HIGHEST DAILY MEAN	133 Sep 24	374 May 14	438 Nov 4 1972
LOWEST DAILY MEAN	8.5 Nov 5	8.5 Nov 5	1.1 Dec 11 1976
ANNUAL SEVEN-DAY MINIMUM	8.7 Oct 31	8.7 Oct 31	1.1 Dec 26 1976
ANNUAL RUNOFF (AC-FT)	57470	67420	61190
10 PERCENT EXCEEDS	129	159	252
50 PERCENT EXCEEDS	96	75	28
90 PERCENT EXCEEDS	11	13	5.7

11408550 MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY, CA

LOCATION.—Lat 39°31'19", long 120°34'57", in SW 1/4 SW 1/4 sec.12, T.19 N., R.12 E., [Sierra County](#), Hydrologic Unit 18020125, Tahoe National Forest, on right bank, 350 ft downstream from Milton Dam, and 4.1 mi southeast of Sierra City.

DRAINAGE AREA.—39.9 mi².

PERIOD OF RECORD.—October 1987 to current year. Unpublished records for water years 1965–87 available in files of the U.S. Geological Survey.

REVISED RECORDS.—WDR CA-88-4: Drainage area.

GAGE.—Water-stage recorder, sharp-crested weir, and crest-stage gage. Elevation of gage is 5,690 ft above NGVD of 1929, from topographic map. Prior to October 1987, nonrecording gage 450 ft downstream at different datum.

REMARKS.—Middle Yuba River is regulated by Jackson Meadows Reservoir (station 11407800) since November 1964 and Milton Reservoir. Tunnel diverts from Middle Yuba River at Milton Dam, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake via Milton–Bowman Tunnel (station 11408000). Practically the entire flow of Middle Yuba River is diverted during low and medium flows. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,610 ft³/s, Jan. 2, 1997, gage height, 17.1 ft, from floodmarks; minimum daily, 0.77 ft³/s, Nov. 3, 1990.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	3.4	3.4	3.4	3.6	3.6	4.1	3.6	459	3.5	3.5	3.5
2	3.8	3.4	3.4	3.4	3.6	3.6	4.2	3.6	495	3.6	3.5	3.5
3	3.8	3.4	3.4	3.4	3.6	3.6	4.0	3.6	513	3.7	3.5	3.5
4	3.8	3.4	3.4	3.5	3.6	3.6	3.9	3.7	534	3.7	3.5	3.6
5	3.8	3.4	3.4	3.5	3.6	3.6	3.8	3.6	506	3.7	3.5	3.6
6	3.8	3.4	3.4	3.5	3.6	3.5	3.8	3.6	476	3.7	3.6	3.5
7	3.8	3.6	3.4	3.5	3.6	3.5	3.8	3.7	450	3.7	3.6	3.5
8	3.8	3.8	3.4	3.4	3.6	3.5	3.8	10	429	3.6	3.5	3.6
9	3.8	3.6	3.4	3.5	3.6	3.5	3.7	13	401	3.6	3.5	3.6
10	3.8	3.6	3.5	3.5	3.6	3.5	3.6	12	371	3.6	3.5	3.5
11	3.8	3.5	3.4	3.5	3.6	3.5	3.6	12	354	3.6	3.5	3.5
12	3.8	3.5	3.4	3.5	3.6	3.4	3.7	14	347	3.6	3.5	3.5
13	3.8	3.5	3.7	3.5	3.6	3.4	3.6	16	345	3.6	3.5	3.5
14	3.8	3.5	3.8	3.5	3.6	3.5	3.6	20	347	3.6	3.5	3.5
15	3.8	3.5	3.6	3.5	3.6	3.7	3.6	15	289	3.6	3.5	3.5
16	3.8	3.4	3.6	3.5	3.6	3.5	3.6	4.2	135	3.6	3.5	3.5
17	3.8	3.4	3.5	3.5	3.6	3.4	3.6	4.1	28	3.6	3.5	3.5
18	3.8	3.4	3.4	3.5	3.6	3.4	3.6	4.1	4.7	3.6	3.5	3.5
19	3.8	3.4	3.4	3.5	3.6	3.4	3.6	4.1	4.0	3.6	3.5	3.5
20	3.8	3.4	3.4	3.5	3.6	3.4	3.6	4.1	4.1	3.6	3.5	3.5
21	3.8	3.4	3.4	3.6	3.6	3.4	3.6	4.1	4.0	3.6	3.6	3.5
22	3.8	3.4	3.4	3.6	3.6	3.4	3.6	4.1	4.0	3.6	3.6	3.5
23	3.8	3.4	3.4	3.7	3.6	3.5	3.6	4.1	4.0	3.6	3.5	3.6
24	3.8	3.4	3.3	3.7	3.6	3.4	3.6	4.1	3.9	3.6	3.5	3.6
25	3.8	3.4	3.3	3.6	3.6	3.5	3.6	4.1	4.0	3.6	3.5	3.6
26	3.8	3.4	3.4	3.6	3.6	3.9	3.6	4.1	3.8	3.5	3.5	3.5
27	3.8	3.4	3.6	3.7	3.6	5.9	3.6	4.1	3.5	3.5	3.5	3.5
28	3.6	3.4	3.6	3.7	3.6	4.6	3.6	148	3.5	3.5	3.5	3.5
29	3.5	3.4	3.5	3.7	---	4.1	3.6	351	3.5	3.5	3.5	3.5
30	3.5	3.4	3.5	3.6	---	3.9	3.6	359	3.4	3.5	3.5	3.5
31	3.5	---	3.5	3.6	---	4.0	---	400	---	3.5	3.5	---
TOTAL	116.7	103.5	107.2	109.7	100.8	113.7	110.8	1444.7	6529.4	111.4	108.9	105.7
MEAN	3.76	3.45	3.46	3.54	3.60	3.67	3.69	46.6	218	3.59	3.51	3.52
MAX	3.8	3.8	3.8	3.7	3.6	5.9	4.2	400	534	3.7	3.6	3.6
MIN	3.5	3.4	3.3	3.4	3.6	3.4	3.6	3.6	3.4	3.5	3.5	3.5
AC-FT	231	205	213	218	200	226	220	2870	12950	221	216	210

11408550 MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.01	3.74	3.58	42.4	21.1	8.97	32.5	99.2	94.3	17.1	3.86	3.85
MAX	7.02	4.94	4.24	620	195	61.3	213	723	631	119	5.36	4.68
(WY)	1994	1994	2001	1997	1993	1995	1996	1995	1995	1995	1993	1993
MIN	3.39	3.21	3.26	3.24	3.19	3.45	3.09	3.16	3.38	3.37	3.39	3.42
(WY)	2001	1996	1989	1996	1989	1990	1994	2000	1990	1988	1995	1990

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1988 - 2003	
ANNUAL TOTAL	1311.7		9062.5			
ANNUAL MEAN	3.59		24.8		27.9	
HIGHEST ANNUAL MEAN					146 1995	
LOWEST ANNUAL MEAN					3.53 1990	
HIGHEST DAILY MEAN	4.0	Jun 19	534	Jun 4	6860	Jan 2 1997
LOWEST DAILY MEAN	2.2	Jul 14	3.3	Dec 24	0.77	Nov 3 1990
ANNUAL SEVEN-DAY MINIMUM	3.3	Jun 7	3.4	Dec 19	1.8	Apr 9 1994
MAXIMUM PEAK FLOW			563	Jun 4	8610	Jan 2 1997
MAXIMUM PEAK STAGE			7.88	Jun 4	17.10	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	2600		17980		20180	
10 PERCENT EXCEEDS	3.8		4.1		5.1	
50 PERCENT EXCEEDS	3.6		3.6		3.8	
90 PERCENT EXCEEDS	3.4		3.4		3.3	

11408870 LOHMAN RIDGE TUNNEL AT INTAKE, NEAR CAMPTONVILLE, CA

LOCATION.—Lat 39°24'45", long 120°59'43", in SW 1/4 NE 1/4 sec.20, T.18 N., R.8 E., [Sierra County](#), Hydrologic Unit 18020125, Tahoe National Forest, at tunnel intake at Our House Dam, and 4.0 mi southeast of Camptonville.

PERIOD OF RECORD.—October 1988 to current year. Records of monthly diversion published with "Middle Yuba River below Our House Dam, near Camptonville" (station 11408880), for water years 1969–88.

GAGE.—Water-stage recorder. Datum of gage is 2,014.77 ft above NGVD of 1929.

REMARKS.—Records good. Tunnel diverts water from Middle Yuba River to New Bullards Bar Reservoir (station 11413515) for power development. See schematic diagram of [North and Middle Yuba River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 839 ft³/s, Mar. 25, 1989; no flow for many days in most years.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.33	0.03	8.0	488	427	173	460	576	780	71	20	5.9
2	0.12	0.03	7.5	400	430	166	452	570	782	67	38	4.7
3	0.09	0.03	7.1	364	375	164	405	730	783	64	34	4.2
4	0.09	0.04	7.1	349	336	161	398	806	783	60	25	5.0
5	0.10	0.03	6.4	350	304	151	369	791	776	57	22	3.8
6	0.10	0.03	5.8	351	276	143	350	781	744	54	20	2.1
7	0.07	17	5.1	328	244	138	328	746	682	52	19	1.3
8	0.03	227	4.3	318	222	136	352	750	640	48	18	2.0
9	0.00	265	5.7	311	212	132	377	704	597	47	16	2.7
10	0.00	356	29	426	201	132	392	624	548	44	15	3.2
11	0.00	271	27	692	192	135	403	602	510	40	14	1.8
12	0.00	101	15	524	188	136	556	597	492	38	13	0.82
13	0.01	72	173	466	243	152	771	632	479	36	11	0.33
14	0.03	60	800	423	304	318	704	712	467	38	10	0.25
15	0.04	46	767	372	249	781	578	763	454	41	9.0	0.24
16	0.04	33	807	333	385	707	511	740	311	38	7.4	0.23
17	0.03	27	691	316	332	529	481	670	209	37	6.7	0.22
18	0.04	23	416	333	296	432	482	628	153	35	5.8	0.22
19	0.07	20	298	333	284	380	463	585	132	33	5.2	0.22
20	0.12	18	262	315	260	382	460	570	124	32	4.3	0.22
21	0.12	18	328	335	236	353	501	590	118	30	6.2	0.19
22	0.09	18	257	390	220	334	474	623	110	29	28	0.10
23	0.08	17	196	761	212	459	439	655	106	28	32	0.01
24	0.09	16	168	790	207	472	604	662	101	27	16	0.00
25	0.06	17	145	711	198	413	661	624	95	25	10	0.00
26	0.06	16	145	610	189	646	705	570	89	24	8.6	0.00
27	0.06	15	553	567	191	716	597	558	84	22	9.0	0.00
28	0.05	14	804	629	183	564	624	593	80	21	7.4	0.00
29	0.04	13	780	521	---	479	634	784	76	20	7.4	0.00
30	0.04	8.7	585	455	---	440	617	781	73	19	6.6	0.00
31	0.03	---	618	423	---	432	---	778	---	18	6.3	---
TOTAL	2.03	1688.89	8921.0	13984	7396	10756	15148	20795	11378	1195	450.9	39.75
MEAN	0.065	56.3	288	451	264	347	505	671	379	38.5	14.5	1.32
MAX	0.33	356	807	790	430	781	771	806	783	71	38	5.9
MIN	0.00	0.03	4.3	311	183	132	328	558	73	18	4.3	0.00
AC-FT	4.0	3350	17690	27740	14670	21330	30050	41250	22570	2370	894	79

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

	9.55	39.8	133	229	309	389	436	338	184	54.7	10.3	4.66
MEAN	9.55	39.8	133	229	309	389	436	338	184	54.7	10.3	4.66
MAX	51.4	112	486	509	649	644	688	701	503	269	41.4	23.6
(WY)	1990	1997	1997	1995	1998	1993	1995	1996	1993	1995	1998	1998
MIN	0.000	1.42	1.36	0.66	16.6	206	182	38.0	8.47	0.22	0.000	0.000
(WY)	1989	1991	1991	1997	1991	1997	1994	1995	2001	2001	1992	1992

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1989 - 2003

ANNUAL TOTAL	63872.37		91754.57			
ANNUAL MEAN	175		251		177	
HIGHEST ANNUAL MEAN					305	
LOWEST ANNUAL MEAN					71.7	
HIGHEST DAILY MEAN	807	Dec 16	807	Dec 16	839	Mar 25 1989
LOWEST DAILY MEAN	0.00	Sep 21	0.00	Oct 9	0.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 21	0.00	Sep 24	0.00	Oct 1 1988
ANNUAL RUNOFF (AC-FT)	126700		182000		128400	
10 PERCENT EXCEEDS	513		675		558	
50 PERCENT EXCEEDS	101		151		53	
90 PERCENT EXCEEDS	0.06		0.09		0.00	

11408880 MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE, CA

LOCATION.—Lat 39°24'42", long 120°59'49", in SW 1/4 NW 1/4 sec.20, T.18 N., R.9 E., [Sierra County](#), Hydrologic Unit 18020125, Tahoe National Forest, on right bank, 300 ft downstream from Our House Dam, and 4.0 mi southeast of Camptonville.

DRAINAGE AREA.—145 mi².

PERIOD OF RECORD.—October 1968 to current year.

GAGE.—Water-stage recorder, sharp-crested weir since Oct. 16, 1990, and crest-stage gage. Datum of gage is 1,957.51 ft above NGVD of 1929. Prior to Nov. 4, 1970, water-stage recorder at datum 10 ft higher. Prior to Oct. 1, 1987, at site 75 ft downstream.

REMARKS.—Records good. Natural flow of stream affected by Jackson Meadows Reservoir (station 11407800), Milton–Bowman Tunnel (station 11408000), which diverts upstream from station to Bowman Lake (station 11415500), and Lohman Ridge Tunnel (station 11408870), which diverts 300 ft upstream to Oregon Creek and then to New Bullards Bar Reservoir (station 11413515) via Camptonville Tunnel (station 11409350). Other small diversions upstream from station. See schematic diagram of [North and Middle Yuba River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 27,500 ft³/s, Jan. 2, 1997, gage height, 30.7 ft, from floodmark, present datum, from rating curve extended above 8,600 ft³/s, on basis of theoretical rating of Our House Dam spillway; minimum daily, 2.1 ft³/s, Jan. 10, 1982.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	29	39	45	44	41	36	55	110	39	38	38
2	30	29	39	44	44	41	36	55	127	39	38	38
3	29	29	39	44	43	37	35	100	132	39	38	38
4	29	29	39	44	43	36	36	399	132	39	38	38
5	29	29	39	44	42	39	35	218	92	39	38	38
6	29	29	39	43	42	39	35	128	60	39	38	38
7	29	31	39	43	42	38	35	61	57	39	38	38
8	28	41	39	43	41	38	35	65	56	39	38	38
9	28	42	39	43	41	38	35	58	55	39	38	38
10	28	43	39	44	41	37	35	56	54	39	38	38
11	28	42	39	49	41	37	36	56	55	39	38	38
12	28	39	39	45	41	37	41	55	54	38	38	38
13	28	38	41	45	42	35	91	56	54	38	38	37
14	28	37	405	44	43	34	57	58	54	38	38	36
15	28	38	125	44	42	358	54	72	54	38	38	36
16	28	40	338	43	44	65	54	72	45	38	38	36
17	28	40	90	43	43	37	54	57	41	38	38	36
18	28	40	44	43	43	36	54	55	40	38	38	36
19	28	39	42	43	42	35	53	55	40	38	38	36
20	29	39	42	43	42	35	53	55	39	38	38	36
21	29	39	43	43	42	35	53	55	39	38	38	35
22	29	38	42	44	42	35	53	56	39	38	38	35
23	29	38	41	175	42	36	53	57	39	38	38	34
24	30	38	41	182	42	36	56	57	39	38	38	34
25	30	37	40	48	42	35	60	56	39	38	38	35
26	30	37	40	46	41	137	59	55	39	38	38	34
27	30	36	140	46	41	58	55	55	39	38	38	34
28	29	36	339	47	41	37	56	58	39	38	38	34
29	29	36	149	45	---	36	56	142	39	38	38	34
30	29	39	46	44	---	36	56	117	39	38	38	34
31	29	---	47	44	---	36	---	92	---	38	38	---
TOTAL	893	1097	2563	1643	1179	1610	1457	2586	1741	1189	1178	1088
MEAN	28.8	36.6	82.7	53.0	42.1	51.9	48.6	83.4	58.0	38.4	38.0	36.3
MAX	30	43	405	182	44	358	91	399	132	39	38	38
MIN	28	29	39	43	41	34	35	55	39	38	38	34
AC-FT	1770	2180	5080	3260	2340	3190	2890	5130	3450	2360	2340	2160

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

MEAN	31.0	72.2	153	346	227	222	148	205	113	33.9	30.4	30.1
MAX	52.7	462	1040	2973	1521	1228	1368	1697	994	49.6	42.1	39.6
(WY)	1983	1982	1982	1997	1986	1995	1982	1995	1995	1983	1984	1986
MIN	16.6	20.4	20.7	7.10	28.0	31.3	33.9	32.5	28.8	17.5	13.0	14.3
(WY)	1978	1978	1987	1987	1977	1976	1970	1970	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1969 - 2003

ANNUAL TOTAL		16797		18224								
ANNUAL MEAN		46.0		49.9					134			
HIGHEST ANNUAL MEAN									481			1969
LOWEST ANNUAL MEAN									26.3			1977
HIGHEST DAILY MEAN				420	Feb 20		405	Dec 14	21000		Jan 2	1997
LOWEST DAILY MEAN				28	Sep 20		28	Oct 8	2.1		Jan 10	1982
ANNUAL SEVEN-DAY MINIMUM				28	Sep 20		28	Oct 8	3.2		Oct 21	1970
MAXIMUM PEAK FLOW							1140	Dec 16	27500		Jan 2	1997
MAXIMUM PEAK STAGE							20.59	Dec 16	30.70		Jan 2	1997
ANNUAL RUNOFF (AC-FT)		33320		36150					97160			
10 PERCENT EXCEEDS		54		57					132			
50 PERCENT EXCEEDS		39		39					36			
90 PERCENT EXCEEDS		29		30					26			

11409350 CAMPTONVILLE TUNNEL AT INTAKE, NEAR CAMPTONVILLE, CA

LOCATION.—Lat 39°26'25", long 121°03'30", in NW 1/4 SW 1/4 sec.11, T.18 N., R.8 E., [Yuba County](#), Hydrologic Unit 18020125, Tahoe National Forest, at tunnel intake, at Log Cabin Dam, 1.0 mi southwest of town of Camptonville.

PERIOD OF RECORD.—October 1988 to current year. Records of monthly diversion published with "Oregon Creek below Log Cabin Dam, near Camptonville" (station 11409400) for water years 1969–88.

GAGE.—Water-stage recorder. Datum of gage is 1,952.00 ft above NGVD of 1929 (from contractor's drawings).

REMARKS.—Records good. Water is diverted to Oregon Creek from the Middle Yuba River through Lohman Ridge Tunnel (station 11408870) 1,000 ft upstream. Camptonville Tunnel diverts water from Oregon Creek to New Bullards Bar Reservoir (station 11413515) for power development. See schematic diagram of [North and Middle Yuba River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 1,090 ft³/s, Mar. 25, 1989, Feb. 3, 1998; no flow for many days each year.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	4.9	658	549	202	561	757	816	61	11	0.31
2	0.00	0.00	4.5	542	550	187	557	739	821	58	26	0.00
3	0.00	0.00	4.1	488	481	182	504	882	825	55	28	0.00
4	0.00	0.00	3.5	463	433	177	500	1050	829	52	18	0.00
5	0.00	0.00	2.8	466	391	164	463	971	828	49	15	0.00
6	0.00	0.00	2.3	471	354	156	444	901	812	47	14	0.00
7	0.00	12	1.7	446	321	151	417	855	779	45	12	0.00
8	0.00	254	1.1	431	292	146	450	856	749	41	11	0.00
9	0.00	333	1.7	425	267	141	481	827	708	39	9.3	0.00
10	0.00	454	23	615	244	139	497	777	667	37	8.2	0.00
11	0.00	361	25	953	227	143	504	754	637	35	7.0	0.00
12	0.00	115	12	751	211	144	643	741	623	33	6.2	0.00
13	0.00	78	196	679	303	155	868	757	608	31	5.4	0.00
14	0.00	63	949	621	386	367	829	794	590	30	4.6	0.00
15	0.00	46	899	544	321	918	734	814	571	28	3.7	0.00
16	0.00	32	1000	482	501	830	667	799	422	27	2.7	0.00
17	0.00	25	859	450	451	683	637	760	291	25	2.0	0.00
18	0.00	21	570	463	398	574	640	728	188	24	1.5	0.00
19	0.00	16	400	459	379	502	623	688	142	22	0.98	0.00
20	0.00	14	351	436	353	506	616	671	122	20	0.49	0.00
21	0.00	14	436	463	327	467	657	682	111	19	1.4	0.00
22	0.00	14	343	538	306	437	637	705	103	18	24	0.00
23	0.00	14	241	968	284	564	594	724	97	18	31	0.00
24	0.00	13	186	973	270	588	734	729	92	17	13	0.00
25	0.00	12	154	851	258	521	818	705	85	15	6.8	0.00
26	0.00	10	155	770	237	728	864	667	80	14	4.7	0.00
27	0.00	9.5	730	721	238	806	772	659	75	13	5.0	0.00
28	0.00	8.8	1020	763	218	697	797	686	71	12	3.0	0.00
29	0.00	9.2	950	668	---	610	821	813	67	11	1.3	0.00
30	0.00	4.9	751	597	---	558	808	814	63	10	0.69	0.00
31	0.00	---	779	552	---	540	---	815	---	9.4	0.40	---
TOTAL	0.00	1933.40	11055.6	18707	9550	12983	19137	24120	12872	915.4	278.36	0.31
MEAN	0.000	64.4	357	603	341	419	638	778	429	29.5	8.98	0.010
MAX	0.00	454	1020	973	550	918	868	1050	829	61	31	0.31
MIN	0.00	0.00	1.1	425	211	139	417	659	63	9.4	0.40	0.00
AC-FT	0.00	3830	21930	37110	18940	25750	37960	47840	25530	1820	552	0.6

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

	9.08	46.1	161	314	413	537	529	394	199	60.3	7.76	2.86
MEAN	54.9	127	628	695	865	793	867	820	542	347	37.8	19.8
(WY)	1990	1999	1997	1995	1998	1993	1995	1996	1993	1995	1998	1998
MIN	0.000	1.28	0.83	1.16	16.7	308	173	53.2	3.95	0.000	0.000	0.000
(WY)	1989	1991	1991	1991	1991	1994	1994	1992	2001	2001	1992	1991

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1989 - 2003

ANNUAL TOTAL	79428.67		111552.07			
ANNUAL MEAN	218		306		222	
HIGHEST ANNUAL MEAN					364	
LOWEST ANNUAL MEAN					75.7	
HIGHEST DAILY MEAN	1050	Feb 20	1050	May 4	1090	Mar 25 1989
LOWEST DAILY MEAN	0.00	Jul 22	0.00	Oct 1	0.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 22	0.00	Oct 1	0.00	Oct 1 1988
ANNUAL RUNOFF (AC-FT)	157500		221300		160600	
10 PERCENT EXCEEDS	635		802		721	
50 PERCENT EXCEEDS	95		156		61	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA

LOCATION.—Lat 39°26'22", long 121°03'29", in SW 1/4 SW 1/4 sec.11, T.18 N., R.8 E., [Yuba County](#), Hydrologic Unit 18020125, Tahoe National Forest, on left bank, 500 ft downstream from Log Cabin Dam, 670 ft upstream from High Point Ravine, and 1.1 mi southwest of Camptonville.

DRAINAGE AREA.—29.1 mi².

PERIOD OF RECORD.—August 1968 to current year.

WATER TEMPERATURE: Water years 1972–79.

REVISED RECORDS.—WDR CA-81-4: 1980(M).

GAGE.—Water-stage recorder, sharp-crested weir since Nov. 13, 1990, and crest-stage gage. Datum of gage is 1,912.73 ft above NGVD of 1929 (levels by Yuba County Water Agency). Prior to July 24, 1973, at site 470 ft downstream at datum 8.40 ft lower. July 24, 1973, to Sept. 30, 1986, at site on right bank. Oct. 1, 1986, to Nov. 13, 1990, a sharp-crested weir was put in at same location and gage house located on left bank. The weir was deemed too shallow so a new sharp-crested weir was put in 70 ft downstream at a datum 7.24 ft lower.

REMARKS.—Records good except for estimated daily discharges, which are fair. Lohman Ridge Tunnel (station 11408870) diverts water into the basin from the Middle Yuba River. Camptonville Tunnel (station 11409350), maximum capacity, about 1,000 ft³/s, 520 ft upstream, diverts water out of the basin to New Bullards Bar Reservoir (station 11413515); diversion began October 1968. See schematic diagram of [North and Middle Yuba River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,400 ft³/s, Feb. 17, 1986, gage height, 11.24 ft, datum then in use, from rating curve extended above 50 ft³/s, based on flow-over-dam computation, maximum gage height, 15.70 ft (from floodmark), Jan. 1, 1997; minimum daily, 0.34 ft³/s, Sept. 18, 1972.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	2.8	7.0	13	12	10	13	14	15	9.8	8.8	8.3
2	2.9	2.8	6.9	12	12	10	13	14	15	9.9	9.1	7.8
3	2.4	2.8	6.8	12	12	10	12	15	15	9.8	9.2	7.0
4	2.3	3.0	6.8	12	12	10	12	46	15	9.8	9.0	7.1
5	2.3	3.0	6.9	12	11	10	12	18	15	9.7	9.0	6.9
6	2.3	3.0	6.9	12	11	10	12	16	15	9.7	9.0	6.0
7	2.3	4.5	7.0	11	11	10	12	16	14	9.6	8.9	4.9
8	2.2	8.5	7.0	11	11	10	12	16	14	9.5	8.9	5.0
9	2.1	9.8	7.0	11	11	10	12	16	14	9.4	8.8	5.6
10	2.1	11	7.3	13	11	10	12	15	13	9.4	8.8	6.0
11	2.1	9.5	7.4	16	11	10	12	15	14	9.4	8.7	5.7
12	2.1	8.4	6.9	14	10	10	13	15	14	9.3	8.7	4.5
13	2.2	8.2	12	13	11	10	15	15	14	9.3	8.7	3.7
14	2.2	9.1	35	13	11	11	15	15	14	9.3	8.6	3.3
15	2.2	9.9	18	12	11	16	14	15	14	e9.4	8.6	3.3
16	2.2	9.3	119	12	12	14	13	15	11	e9.2	8.5	3.3
17	2.3	8.7	13	12	12	13	15	14	9.7	e9.2	8.5	3.3
18	2.3	9.4	11	12	12	13	15	14	9.6	e9.0	8.5	3.3
19	2.3	10	10	12	12	12	14	14	9.9	e9.0	8.4	3.3
20	2.5	10	10	11	11	12	14	14	10	e8.8	8.3	3.2
21	2.6	9.9	11	12	11	12	15	14	10	e8.6	8.4	3.2
22	2.6	9.8	10	12	11	12	14	14	10	e8.8	9.1	3.1
23	2.6	9.4	9.8	20	11	13	14	14	10	8.9	9.2	3.1
24	2.6	9.3	9.9	16	11	13	15	14	10	8.9	8.9	3.1
25	2.6	8.9	9.9	14	11	12	15	14	10	8.9	8.7	3.0
26	2.7	8.3	9.9	14	11	14	16	14	9.9	8.8	8.6	3.1
27	2.7	7.9	14	13	11	14	15	14	9.9	8.8	8.6	3.0
28	2.7	7.7	31	14	11	13	15	14	9.8	8.8	8.5	3.0
29	2.7	7.5	16	13	---	13	15	15	9.8	8.7	8.5	3.0
30	2.7	7.5	13	13	---	12	15	15	9.8	8.7	8.4	3.0
31	2.7	---	14	12	---	12	---	15	---	8.7	8.3	---
TOTAL	76.1	229.9	460.4	399	315	361	411	489	364.4	285.1	270.2	132.1
MEAN	2.45	7.66	14.9	12.9	11.2	11.6	13.7	15.8	12.1	9.20	8.72	4.40
MAX	3.6	11	119	20	12	16	16	46	15	9.9	9.2	8.3
MIN	2.1	2.8	6.8	11	10	10	12	14	9.6	8.6	8.3	3.0
AC-FT	151	456	913	791	625	716	815	970	723	565	536	262

e Estimated.

SACRAMENTO RIVER BASIN

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.38	15.5	45.6	92.7	60.7	42.8	27.5	18.9	22.4	8.35	6.48	5.66
MAX	12.8	72.5	273	604	617	189	268	111	394	15.2	13.1	14.3
(WY)	1972	1982	1982	1969	1986	1969	1969	1969	1998	1983	1983	1984
MIN	1.95	2.27	1.97	4.57	3.39	7.14	8.11	8.00	4.89	1.82	1.32	1.37
(WY)	1989	1977	1977	1977	1977	1977	1986	1986	1987	1977	1977	1988

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	3628.1		3793.2			
ANNUAL MEAN	9.94		10.4		29.3	
HIGHEST ANNUAL MEAN					128	
LOWEST ANNUAL MEAN					4.20	
HIGHEST DAILY MEAN	128	Feb 20	119	Dec 16	5340	Feb 17 1986
LOWEST DAILY MEAN	1.7	Sep 29	2.1	Oct 9	0.34	Sep 18 1972
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 23	2.1	Oct 8	0.74	Sep 18 1972
MAXIMUM PEAK FLOW			226		6400	
MAXIMUM PEAK STAGE			8.66		15.70	
ANNUAL RUNOFF (AC-FT)	7200		7520		21240	
10 PERCENT EXCEEDS	14		15		18	
50 PERCENT EXCEEDS	10		10		10	
90 PERCENT EXCEEDS	2.2		3.0		3.3	

11410000 MIDDLE YUBA RIVER NEAR NORTH SAN JUAN, CA

LOCATION.—Lat 39°23'39", long 121°05'02", in NW 1/4 SE 1/4 sec.28, T.18 N., R.8 E., [Yuba County](#), Hydrologic Unit 18020125, Tahoe National Forest, on right bank, 100 ft downstream of State Highway 49 bridge, 400 ft downstream from Oregon Creek, and 2 mi northeast of North San Juan.

DRAINAGE AREA.—198 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—July to September 1900 (monthly discharge only, September 1900), August 1911 to March 1941, October 2000 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,450 ft above NGVD of 1929, from topographic map. July 1 to Sept. 30, 1900, and Aug. 1, 1911, to Oct. 7, 1930, nonrecording gage at site 0.5 mi downstream at different datum. Oct. 8, 1930, to Mar. 31, 1941, water-stage recorder 0.9 mi downstream at datum 1,400.62 ft above NGVD of 1929.

REMARKS.—Records good. Natural flow of stream affected by storage in Milton Reservoir beginning 1928 and Jackson Meadows Reservoir (station 11407800) beginning November 1964. Milton–Bowman Tunnel (station 11408000) diverts water from Milton Reservoir to Bowman Lake (station 11415500) beginning May 1928, and Lohman Ridge Tunnel (station 11408870) diverts water to Oregon Creek and then to New Bullards Bar Reservoir (station 11413515) via Camptonville Tunnel (station 11409350) beginning October 1968. Other small diversions upstream from station. See schematic diagram of [North and Middle Yuba River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 26,000 ft³/s, Mar. 25, 1928, gage height, 15.3 ft, site and datum then in use, from floodmarks, from rating curve extended above 1,200 ft³/s; minimum daily, 14 ft³/s, Aug. 27, 28, 1931.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	33	47	131	75	64	61	135	152	53	53	47
2	33	33	47	104	74	63	65	126	180	53	57	46
3	32	33	47	90	72	61	63	242	197	54	57	46
4	31	33	47	84	70	57	72	809	195	54	55	46
5	31	33	e47	79	68	60	68	498	147	52	54	47
6	31	33	e47	75	66	60	64	296	86	53	54	45
7	e31	44	e46	74	65	59	61	153	82	53	54	44
8	e31	73	46	72	64	58	60	183	80	53	54	44
9	e30	64	e46	73	63	58	60	178	78	52	54	44
10	e29	124	e46	93	62	58	60	147	76	52	52	45
11	e30	84	e48	120	62	57	60	135	76	51	52	45
12	30	55	46	94	61	57	111	126	77	52	52	44
13	30	52	121	89	79	56	319	121	77	51	53	42
14	30	50	861	83	74	74	226	118	76	51	52	41
15	30	49	584	78	69	680	139	133	75	55	51	40
16	30	52	1390	74	115	206	118	132	68	56	51	40
17	30	51	325	74	e85	89	110	107	58	54	50	40
18	30	50	97	72	e77	75	109	103	57	54	50	40
19	31	51	82	71	e83	72	100	99	56	54	50	40
20	32	51	92	69	e75	78	96	95	57	54	48	40
21	32	e50	251	75	e72	70	101	94	57	54	49	39
22	32	e49	128	81	71	68	93	93	57	52	65	39
23	32	49	86	307	69	72	90	93	56	53	52	38
24	32	48	74	445	68	69	137	92	56	53	50	38
25	33	48	69	112	69	66	156	90	56	53	49	38
26	33	47	70	94	67	210	165	88	55	53	49	38
27	33	45	212	90	66	145	126	86	55	52	49	37
28	33	45	728	88	65	71	175	86	54	52	49	37
29	32	43	580	82	---	67	164	202	54	52	48	37
30	32	47	170	77	---	64	152	188	54	53	48	37
31	33	---	196	75	---	62	---	134	---	52	48	---
TOTAL	971	1519	6676	3225	2006	3006	3381	5182	2504	1640	1609	1244
MEAN	31.3	50.6	215	104	71.6	97.0	113	167	83.5	52.9	51.9	41.5
MAX	33	124	1390	445	115	680	319	809	197	56	65	47
MIN	29	33	46	69	61	56	60	86	54	51	48	37
AC-FT	1930	3010	13240	6400	3980	5960	6710	10280	4970	3250	3190	2470

e Estimated.

11410000 MIDDLE YUBA RIVER NEAR NORTH SAN JUAN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1927, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	65.9	180	276	458	898	690	1132	1247	610	129	51.7	47.2
MAX	101	779	758	2286	2942	1643	1647	2673	1850	239	70.0	73.7
(WY)	1919	1927	1923	1914	1927	1916	1927	1915	1922	1922	1916	1918
MIN	42.1	54.5	78.4	77.4	104	116	315	180	45.3	25.7	23.5	24.9
(WY)	1914	1924	1924	1918	1920	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS

WATER YEARS 1912 - 1927

ANNUAL MEAN	479
HIGHEST ANNUAL MEAN	830 1927
LOWEST ANNUAL MEAN	111 1924
HIGHEST DAILY MEAN	15300 Feb 21 1927
LOWEST DAILY MEAN	21 Aug 12 1924
ANNUAL SEVEN-DAY MINIMUM	22 Aug 8 1924
MAXIMUM PEAK FLOW	21900 Feb 21 1927
MAXIMUM PEAK STAGE	14.00 Feb 21 1927
ANNUAL RUNOFF (AC-FT)	346900
10 PERCENT EXCEEDS	1270
50 PERCENT EXCEEDS	156
90 PERCENT EXCEEDS	44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1940, BY WATER YEAR (WY)

MEAN	41.7	70.9	246	334	609	744	828	763	316	60.9	33.2	29.0
MAX	63.2	174	1152	941	1629	1937	1832	2215	1053	135	61.6	48.3
(WY)	1939	1938	1938	1936	1940	1940	1935	1938	1938	1938	1938	1938
MIN	31.9	26.0	39.3	56.3	111	269	164	107	52.8	20.7	15.5	16.2
(WY)	1935	1930	1931	1937	1933	1931	1931	1931	1931	1931	1931	1931

SUMMARY STATISTICS

WATER YEARS 1929 - 1940

ANNUAL MEAN	338
HIGHEST ANNUAL MEAN	818 1938
LOWEST ANNUAL MEAN	90.5 1931
HIGHEST DAILY MEAN	16100 Dec 11 1937
LOWEST DAILY MEAN	14 Aug 27 1931
ANNUAL SEVEN-DAY MINIMUM	15 Aug 22 1931
MAXIMUM PEAK FLOW	26000 Mar 25 1928
MAXIMUM PEAK STAGE	15.30 Mar 25 1928
ANNUAL RUNOFF (AC-FT)	244800
10 PERCENT EXCEEDS	905
50 PERCENT EXCEEDS	90
90 PERCENT EXCEEDS	27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	35.8	50.3	126	90.7	86.8	96.0	86.7	106	68.6	45.6	39.7	34.3
MAX	45.0	50.6	215	111	114	117	113	167	83.5	52.9	51.9	41.5
(WY)	2001	2003	2003	2002	2002	2002	2003	2003	2003	2003	2003	2003
MIN	31.0	49.8	55.4	57.1	71.6	74.4	72.4	71.0	59.8	37.6	30.0	29.4
(WY)	2002	2001	2001	2001	2003	2001	2001	2001	2001	2001	2001	2001

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 2001 - 2003

ANNUAL TOTAL	29570	32963		
ANNUAL MEAN	81.0	90.3	72.2	
HIGHEST ANNUAL MEAN			90.3	2003
LOWEST ANNUAL MEAN			54.6	2001
HIGHEST DAILY MEAN	1390	Dec 16	1390	Dec 16 2002
LOWEST DAILY MEAN	29	Oct 10	29	Oct 10 2001
ANNUAL SEVEN-DAY MINIMUM	30	Oct 9	30	Oct 9 2001
MAXIMUM PEAK FLOW			2290	Dec 16 2002
MAXIMUM PEAK STAGE			11.06	Dec 16 2002
ANNUAL RUNOFF (AC-FT)	58650	65380	52310	
10 PERCENT EXCEEDS	100	147	100	
50 PERCENT EXCEEDS	63	60	57	
90 PERCENT EXCEEDS	32	33	32	

11410000 MIDDLE YUBA RIVER NEAR NORTH SAN JUAN, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1975–77, October 2000 to current year.

WATER TEMPERATURE: Water years 1975–77, October 2000 to current year.

SEDIMENT DATA: November 2000 to September 2001 (daily), October 2001 to current year (storm season only).

PERIOD OF DAILY RECORD.—October 1974 to September 1977, October 2000 to current year.

WATER TEMPERATURE: October 1974 to September 1977, October 2000 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 2000 to September 2001 (daily), October 2001 to current year (storm season only).

INSTRUMENTATION.—Water-temperature recorder September 1974–77 and since October 2000.

REMARKS.—Water-temperature records rated excellent. Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 30.5°C, June 25, 29, 1977; minimum recorded, 0.0°C, Dec. 24, 1974, Jan. 2, 3, 1975, Jan. 17, 1977.

SEDIMENT CONCENTRATION: Maximum daily mean, 404 mg/L, Dec. 16, 2002; minimum daily mean, 0 mg/L, several days during most years.

SEDIMENT LOAD: Maximum daily, 2,050 tons, Dec. 16, 2002; minimum daily, 0 ton, several days during most years.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 28.5°C, July 23, 24; minimum recorded, 2.0°C, Feb. 9.

SEDIMENT CONCENTRATION: Maximum daily mean, 404 mg/L, Dec. 16; minimum daily mean, 0 mg/L, Nov. 3, 4, 26, 27, Feb. 3.

SEDIMENT LOAD: Maximum daily, 2,050 tons, Dec. 16; minimum daily, 0.02 ton, Nov. 4, 27.

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.5	13.5	8.0	6.5	6.0	4.5	7.0	5.5	8.5	7.0	8.0	6.0
2	14.0	12.0	7.0	5.5	5.5	4.5	7.5	6.0	7.5	5.5	7.5	5.0
3	13.5	11.0	7.5	6.0	5.5	4.5	7.5	6.0	6.0	4.5	7.0	5.5
4	15.0	12.5	7.0	5.5	6.0	4.5	8.0	6.0	5.5	4.0	7.0	4.5
5	15.5	13.0	7.0	5.5	6.0	4.5	7.5	6.0	4.5	3.0	7.5	4.5
6	15.5	13.0	7.5	5.5	6.0	5.0	6.5	5.0	5.0	2.5	7.5	5.5
7	16.0	13.5	9.5	7.0	6.0	---	6.0	4.5	4.5	3.0	8.0	5.5
8	---	---	11.0	9.5	5.0	4.0	6.0	4.5	4.0	2.5	8.0	5.5
9	---	---	11.0	10.0	---	---	7.0	5.5	4.0	2.0	8.5	6.0
10	---	---	10.5	10.0	---	---	8.0	6.5	4.5	2.5	9.5	7.5
11	14.5	13.0	10.5	9.5	---	---	8.5	7.5	6.0	3.5	10.5	7.5
12	14.0	11.5	10.5	8.5	6.5	5.0	8.5	7.5	6.5	4.5	11.0	8.5
13	13.5	12.0	11.0	9.5	8.5	6.0	9.0	8.0	8.0	6.5	11.5	10.0
14	13.5	11.5	10.5	9.0	9.0	8.5	8.5	7.0	9.0	7.5	11.5	10.0
15	13.0	11.5	9.0	7.5	8.5	7.5	8.0	6.0	9.0	8.0	10.5	8.0
16	13.0	11.5	8.5	7.0	8.5	7.0	6.5	5.0	9.0	7.5	9.0	7.5
17	12.5	11.0	8.5	7.0	8.5	7.5	6.5	4.5	8.0	6.5	9.5	7.5
18	12.5	11.0	8.0	6.5	8.0	6.5	6.5	5.0	7.5	5.5	9.5	6.5
19	13.0	11.0	8.0	6.0	6.5	5.0	6.5	5.0	---	---	9.5	6.5
20	13.0	11.0	8.0	6.5	6.0	5.0	6.5	5.0	---	5.0	10.5	8.0
21	12.5	11.0	---	---	7.0	6.0	7.5	5.5	---	---	11.0	8.0
22	12.0	10.5	---	---	6.5	5.0	8.5	7.0	7.5	5.5	11.0	8.5
23	12.0	10.5	9.0	8.5	5.0	3.5	9.0	8.0	7.5	5.5	11.5	10.0
24	11.5	10.0	8.5	7.5	5.0	3.5	8.0	6.5	8.5	6.5	11.0	8.5
25	12.5	10.5	8.5	6.5	5.0	4.0	9.5	8.0	8.5	7.0	11.0	8.5
26	12.0	10.5	7.0	5.5	6.0	4.5	9.5	8.0	8.0	5.5	12.0	9.5
27	11.5	9.5	6.5	5.0	7.5	6.0	9.0	8.0	7.5	6.5	11.0	8.0
28	11.5	9.5	6.5	5.5	7.0	6.0	9.0	8.0	7.0	5.5	10.5	7.5
29	10.5	9.0	6.0	4.5	7.0	5.5	8.5	7.0	---	---	11.5	8.0
30	9.5	8.0	5.5	4.5	7.0	6.5	8.5	6.5	---	---	12.5	9.0
31	9.0	7.5	---	---	7.5	6.5	9.0	7.0	---	---	13.5	10.5
MONTH	---	---	---	---	---	---	9.5	4.5	---	---	13.5	4.5

SACRAMENTO RIVER BASIN

11410000 MIDDLE YUBA RIVER NEAR NORTH SAN JUAN, CA—Continued

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	10.0	12.5	8.5	18.5	14.0	22.5	18.0	25.5	23.5	22.5	19.5
2	10.5	8.0	11.5	10.0	18.5	14.0	22.5	18.0	24.5	22.5	23.5	20.0
3	9.0	7.0	11.0	9.5	19.0	14.5	22.5	18.0	25.5	21.5	23.0	21.0
4	8.0	6.0	---	---	19.5	15.0	23.0	18.0	25.5	21.5	23.5	20.5
5	8.5	5.5	---	---	20.0	16.0	23.5	18.5	24.5	21.0	24.0	21.0
6	9.0	7.0	11.5	9.0	21.0	16.0	23.5	19.0	24.0	20.5	23.0	19.5
7	10.5	6.5	12.5	9.0	21.5	17.0	23.5	19.5	23.5	19.5	21.5	19.5
8	12.0	8.0	11.0	8.0	22.0	17.5	23.5	18.5	23.5	19.0	21.0	19.0
9	13.0	9.0	9.5	7.0	22.0	17.5	24.0	19.0	23.5	19.0	20.0	18.5
10	12.0	10.0	12.0	8.0	20.5	16.5	24.5	19.5	23.5	19.5	20.0	16.5
11	12.5	10.5	13.0	8.5	20.0	15.5	24.5	19.5	23.5	19.5	20.5	17.0
12	11.5	8.5	14.5	9.5	20.0	15.5	24.5	20.0	23.0	19.0	21.0	18.0
13	8.5	6.5	15.5	11.0	20.0	16.0	25.0	20.5	23.0	18.5	21.0	18.5
14	9.5	6.0	16.0	11.5	20.0	15.5	24.5	20.0	23.5	19.0	21.0	18.0
15	9.5	6.5	16.0	12.0	20.5	15.0	25.0	20.0	23.5	19.5	20.0	17.5
16	9.5	7.5	15.0	11.0	21.5	16.0	25.0	20.5	23.5	19.0	19.5	17.0
17	10.5	8.0	15.5	11.0	23.0	18.0	25.5	20.5	23.0	19.0	19.0	16.0
18	11.5	8.5	15.0	10.5	22.5	19.0	25.5	21.0	23.5	19.5	18.5	15.5
19	12.0	8.0	15.5	10.5	22.5	18.0	26.5	22.5	24.0	20.0	19.0	16.0
20	11.5	9.0	16.5	11.5	22.5	18.5	27.5	23.0	24.0	20.0	19.0	16.0
21	11.0	9.5	17.5	12.5	22.0	18.0	28.0	23.5	22.5	21.0	19.0	16.5
22	10.0	8.0	18.5	13.5	21.5	17.5	28.0	23.5	22.5	20.5	19.5	17.0
23	10.5	8.0	18.5	14.5	21.0	17.0	28.5	24.5	23.0	19.5	19.5	17.0
24	10.0	8.5	19.0	14.5	21.0	16.5	28.5	24.5	23.5	20.0	19.5	17.0
25	8.5	7.5	18.0	14.5	22.0	16.5	27.0	23.5	23.5	20.0	20.0	17.0
26	10.5	7.5	18.0	14.0	23.0	17.5	27.0	22.5	24.0	21.0	19.5	16.5
27	11.5	8.5	19.0	14.0	24.0	19.0	27.0	22.5	24.0	21.0	19.0	17.0
28	11.0	8.5	20.0	15.5	24.5	20.0	27.5	22.5	23.0	19.5	19.0	16.5
29	9.5	8.0	19.0	15.0	24.0	19.5	27.5	23.0	22.5	19.0	19.0	16.5
30	11.5	7.5	17.5	13.0	23.0	19.0	28.0	24.0	22.5	19.0	18.5	16.0
31	---	---	18.0	13.5	---	---	27.5	24.0	21.5	19.5	---	---
MONTH	13.0	5.5	---	---	24.5	14.0	28.5	18.0	25.5	18.5	24.0	15.5

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)
NOV					
05...	1230	33	6.5	1	.09
08...	1445	80	10.5	78	17
DEC					
11...	1415	48	6.0	1	.13
30...	1215	150	7.0	3	1.2
JAN					
29...	1015	82	7.0	2	.44
MAR					
15...	1700	1090	8.5	86	253
APR					
16...	1230	118	8.5	4	1.3
MAY					
27...	1230	88	16.5	3	.71

11410000 MIDDLE YUBA RIVER NEAR NORTH SAN JUAN, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	32	---	---	33	1	0.08	47	3	0.41
2	33	---	---	33	1	0.06	47	4	0.46
3	32	---	---	33	0	0.04	47	2	0.30
4	31	---	---	33	0	0.02	47	1	0.14
5	31	---	---	33	1	0.04	e47	1	e0.13
6	31	---	---	33	1	0.09	e47	1	e0.13
7	e31	---	---	44	3	0.36	e46	1	e0.13
8	e31	---	---	73	33	7.5	46	1	0.13
9	e30	---	---	64	57	9.9	e46	1	e0.12
10	e29	---	---	124	40	17	e46	1	e0.12
11	e30	---	---	84	15	3.7	e48	1	e0.13
12	30	---	---	55	6	0.84	46	2	0.22
13	30	---	---	52	2	0.31	121	11	5.3
14	30	---	---	50	2	0.27	861	123	294
15	30	---	---	49	2	0.26	584	46	100
16	30	---	---	52	2	0.23	1390	404	2050
17	30	---	---	51	1	0.18	325	59	79
18	30	---	---	50	1	0.14	97	11	2.9
19	31	---	---	51	1	0.14	82	7	1.6
20	32	---	---	51	1	0.14	92	11	3.0
21	32	---	---	e50	1	e0.14	251	37	23
22	32	---	---	e49	1	e0.13	128	11	4.1
23	32	---	---	49	1	0.13	86	4	0.87
24	32	---	---	48	1	0.13	74	3	0.59
25	33	---	---	48	1	0.12	69	3	0.54
26	33	---	---	47	0	0.06	70	3	0.59
27	33	---	---	45	0	0.02	212	11	12
28	33	---	---	45	1	0.10	728	24	48
29	32	---	---	43	2	0.19	580	8	15
30	32	---	---	47	2	0.31	170	3	1.4
31	33	---	---	---	---	---	196	22	12
TOTAL	971	---	---	1519	---	42.63	6676	---	2656.31
	JANUARY			FEBRUARY			MARCH		
1	131	4	1.5	75	1	0.27	64	3	0.52
2	104	3	0.87	74	1	0.13	63	3	0.51
3	90	2	0.51	72	0	0.06	61	3	0.50
4	84	2	0.44	70	2	0.30	57	3	0.46
5	79	2	0.43	68	3	0.51	60	3	0.51
6	75	2	0.39	66	2	0.44	60	4	0.65
7	74	1	0.29	65	2	0.35	59	5	0.76
8	72	1	0.23	64	2	0.28	58	4	0.62
9	73	2	0.37	63	1	0.22	58	3	0.46
10	93	6	1.4	62	1	0.17	58	2	0.33
11	120	5	1.5	62	1	0.17	57	2	0.31
12	94	3	0.84	61	1	0.17	57	2	0.33
13	89	2	0.52	79	3	0.58	56	3	0.45
14	83	2	0.45	74	4	0.70	74	5	1.2
15	78	2	0.40	69	3	0.48	680	84	199
16	74	1	0.30	115	34	11	206	8	6.1
17	74	1	0.21	e85	6	e1.4	89	4	0.94
18	72	1	0.19	e77	3	e0.59	75	2	0.49
19	71	1	0.19	e83	1	e0.28	72	1	0.22
20	69	1	0.19	e75	2	e0.31	78	1	0.21
21	75	1	0.27	e72	2	e0.37	70	1	0.19
22	81	3	0.69	71	2	0.31	68	1	0.18
23	307	15	14	69	1	0.25	72	1	0.19
24	445	9	15	68	1	0.21	69	1	0.20
25	112	2	0.61	69	2	0.28	66	2	0.27
26	94	2	0.51	67	2	0.36	210	2	1.6
27	90	2	0.48	66	3	0.45	145	2	0.80
28	88	2	0.47	65	3	0.52	71	2	0.40
29	82	2	0.44	---	---	---	67	3	0.49
30	77	2	0.42	---	---	---	64	3	0.59
31	75	2	0.39	---	---	---	62	4	0.63
TOTAL	3225	---	44.50	2006	---	21.16	3006	---	220.11

e Estimated.

SACRAMENTO RIVER BASIN

11410000 MIDDLE YUBA RIVER NEAR NORTH SAN JUAN, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	61	3	0.48	135	2	0.90	152	---	---
2	65	2	0.34	126	2	0.69	180	---	---
3	63	1	0.19	242	2	1.7	197	---	---
4	72	1	0.20	809	8	19	195	---	---
5	68	1	0.22	498	6	8.3	147	---	---
6	64	1	0.24	296	4	3.5	86	---	---
7	61	2	0.26	153	5	2.0	82	---	---
8	60	2	0.29	183	5	2.4	80	---	---
9	60	2	0.31	178	4	1.9	78	---	---
10	60	1	0.24	147	3	1.3	76	---	---
11	60	1	0.17	135	3	1.0	76	---	---
12	111	2	1.2	126	2	0.74	77	---	---
13	319	9	8.2	121	2	0.51	77	---	---
14	226	8	5.9	118	1	0.34	76	---	---
15	139	3	1.0	133	1	0.53	75	---	---
16	118	3	0.81	132	3	0.98	68	---	---
17	110	3	0.89	107	2	0.58	58	---	---
18	109	3	0.91	103	2	0.56	57	---	---
19	100	4	1.0	99	2	0.51	56	---	---
20	96	4	1.1	95	1	0.38	57	---	---
21	101	5	1.3	94	1	0.27	57	---	---
22	93	4	0.99	93	1	0.25	57	---	---
23	90	3	0.80	93	1	0.27	56	---	---
24	137	14	5.9	92	1	0.26	56	---	---
25	156	19	9.8	90	1	0.25	56	---	---
26	165	18	8.6	88	1	0.24	55	---	---
27	126	8	2.9	86	2	0.36	55	---	---
28	175	39	19	86	2	0.47	54	---	---
29	164	11	5.0	202	6	3.7	54	---	---
30	152	3	1.4	188	5	2.7	54	---	---
31	---	---	---	134	5	1.8	---	---	---
TOTAL	3381	---	79.64	5182	---	58.39	2504	---	---
	JULY			AUGUST			SEPTEMBER		
1	53	---	---	53	---	---	47	---	---
2	53	---	---	57	---	---	46	---	---
3	54	---	---	57	---	---	46	---	---
4	54	---	---	55	---	---	46	---	---
5	52	---	---	54	---	---	47	---	---
6	53	---	---	54	---	---	45	---	---
7	53	---	---	54	---	---	44	---	---
8	53	---	---	54	---	---	44	---	---
9	52	---	---	54	---	---	44	---	---
10	52	---	---	52	---	---	45	---	---
11	51	---	---	52	---	---	45	---	---
12	52	---	---	52	---	---	44	---	---
13	51	---	---	53	---	---	42	---	---
14	51	---	---	52	---	---	41	---	---
15	55	---	---	51	---	---	40	---	---
16	56	---	---	51	---	---	40	---	---
17	54	---	---	50	---	---	40	---	---
18	54	---	---	50	---	---	40	---	---
19	54	---	---	50	---	---	40	---	---
20	54	---	---	48	---	---	40	---	---
21	54	---	---	49	---	---	39	---	---
22	52	---	---	65	---	---	39	---	---
23	53	---	---	52	---	---	38	---	---
24	53	---	---	50	---	---	38	---	---
25	53	---	---	49	---	---	38	---	---
26	53	---	---	49	---	---	38	---	---
27	52	---	---	49	---	---	37	---	---
28	52	---	---	49	---	---	37	---	---
29	52	---	---	48	---	---	37	---	---
30	53	---	---	48	---	---	37	---	---
31	52	---	---	48	---	---	---	---	---
TOTAL	1640	---	---	1609	---	---	1244	---	---

11410000 MIDDLE YUBA RIVER NEAR NORTH SAN JUAN, CA—Continued

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

DATE	TIME	Depth at sample loca- tion, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
MAY				
19...*	1303	1.00	13.9	4.00
19...*	1304	2.00	13.7	12.0
19...*	1305	2.00	13.7	20.0
19...*	1306	2.50	13.7	28.0
19...*	1308	3.00	13.7	36.0
19...*	1309	5.00	13.7	44.0
19...*	1311	6.00	13.6	52.0
19...*	1312	4.00	13.6	60.0
19...*	1314	4.50	13.5	68.0
19...*	1315	2.00	13.4	76.0
AUG				
11...*	1336	5.00	22.2	57.0
11...*	1337	7.00	22.2	51.0
11...*	1338	8.00	22.3	45.0
11...*	1339	8.00	22.3	39.0
11...*	1340	10.0	22.3	33.0
11...*	1341	5.00	22.2	27.0
11...*	1342	2.50	22.2	21.0
11...*	1343	2.00	22.2	15.0
11...*	1344	2.00	22.3	9.00

* Instantaneous discharge at time of cross-sectional measurement: May 19, 100 ft³/s; Aug. 11, 53.0 ft³/s.

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA

LOCATION.—Lat 39°31'30", long 120°56'13", in NE 1/4 SW 1/4 sec.11, T.19 N., R.9 E., [Sierra County](#), Hydrologic Unit 18020125, Tahoe National Forest, on right bank, 200 ft downstream from St. Catherine Creek, 3.1 mi southwest of Goodyears Bar, and 6.4 mi southwest of Downieville.

DRAINAGE AREA.—250 mi².

PERIOD OF RECORD.—October 1930 to current year. Prior to October 1949, published as "North Fork Yuba River below Goodyears Bar." Monthly and yearly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.—WSP 1041: 1944. WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 2,453 ft above NGVD of 1929 (river-profile survey).

REMARKS.—Records good. Several small diversions upstream from station for irrigation and mining. See schematic diagram of [North and Middle Yuba River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 45,500 ft³/s, Jan. 2, 1997, gage height, 25.65 ft, from rating curve extended above 11,900 ft³/s, on basis of one float measurement at 17,900 ft³/s and slope-area measurements at gage heights 19.15 and 23.8 ft; minimum daily, 60 ft³/s, Sept. 7–14, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 3,200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	0900	4,460	8.98	Mar. 26	1230	3,440	8.04
Mar. 15	1030	3,260	7.86	May 27	2230	3,580	8.19

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	110	154	1040	1310	531	1510	1290	2460	454	243	181
2	115	110	152	888	1250	511	1330	1330	2420	436	284	176
3	115	111	149	808	1100	504	1170	1720	2330	421	284	175
4	115	110	148	766	1000	490	1140	2370	2270	408	256	187
5	114	110	147	778	924	477	1030	2020	2100	395	245	176
6	112	110	146	795	859	471	974	1880	1930	382	239	170
7	112	211	144	765	799	467	934	1720	1850	372	232	167
8	111	1080	141	746	752	461	1000	1750	1790	361	227	167
9	109	881	145	745	717	460	1090	1560	1650	352	222	168
10	109	873	184	1050	682	467	1150	1450	1480	343	217	170
11	109	617	164	1730	655	495	1250	1440	1340	334	213	165
12	108	355	150	1250	629	531	1560	1530	1240	326	209	161
13	108	328	649	1140	769	645	1660	1770	1150	318	205	156
14	109	291	3230	1040	820	1160	1530	2100	1060	311	202	155
15	110	256	1740	923	739	2520	1360	2400	978	304	198	154
16	109	231	2350	839	945	1600	1240	2440	934	297	195	153
17	109	216	1390	811	816	1210	1190	2280	911	291	192	153
18	110	200	890	843	762	1040	1170	2200	884	286	190	153
19	111	190	696	850	741	945	1150	2090	816	279	188	151
20	112	195	643	825	697	926	1170	2120	761	274	185	151
21	111	203	658	901	666	869	1260	2380	720	272	187	148
22	112	202	554	1090	645	878	1190	2680	676	267	310	146
23	110	198	480	2610	626	1320	1130	2940	645	264	278	146
24	111	191	428	2350	621	1250	1490	3040	646	263	219	145
25	111	181	395	1840	604	1120	1510	2950	592	256	203	144
26	111	171	407	1650	583	2510	1490	2870	557	251	200	142
27	110	166	1690	1690	579	2080	1350	2910	533	247	199	141
28	109	161	2550	2010	549	1560	1370	3060	513	249	190	140
29	109	156	1810	1560	---	1340	1350	3000	492	243	184	141
30	110	155	1250	1350	---	1290	1310	2890	470	236	183	141
31	111	---	1290	1270	---	1380	---	2630	---	232	181	---
TOTAL	3438	8369	24924	36953	21839	31508	38058	68810	36198	9724	6760	4723
MEAN	111	279	804	1192	780	1016	1269	2220	1207	314	218	157
MAX	116	1080	3230	2610	1310	2520	1660	3060	2460	454	310	187
MIN	108	110	141	745	549	460	934	1290	470	232	181	140
AC-FT	6820	16600	49440	73300	43320	62500	75490	136500	71800	19290	13410	9370

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	184	350	642	883	955	1069	1374	1790	1110	367	187	151
MAX	1407	2380	3830	4526	4367	3074	2822	3894	3627	1384	417	256
(WY)	1963	1951	1965	1997	1986	1995	1982	1952	1983	1983	1983	1983
MIN	71.8	107	97.3	117	138	151	241	335	170	82.7	66.8	71.0
(WY)	1978	1978	1977	1991	1977	1977	1977	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	211210		291304			
ANNUAL MEAN	579		798		754	
HIGHEST ANNUAL MEAN					1566	
LOWEST ANNUAL MEAN					141	
HIGHEST DAILY MEAN	3230	Dec 14	3230	Dec 14	29600	Jan 2 1997
LOWEST DAILY MEAN	108	Oct 12	108	Oct 12	60	Sep 7 1977
ANNUAL SEVEN-DAY MINIMUM	109	Oct 9	109	Oct 9	60	Sep 7 1977
MAXIMUM PEAK FLOW			4460		45500	
MAXIMUM PEAK STAGE			8.98		25.65	
ANNUAL RUNOFF (AC-FT)	418900		577800		546100	
10 PERCENT EXCEEDS	1340		1860		1850	
50 PERCENT EXCEEDS	369		554		331	
90 PERCENT EXCEEDS	115		116		127	

11413250 SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY, CA

LOCATION.—Lat 39°36'57", long 121°03'03", in SE 1/4 SW 1/4 sec.2, T.20 N., R.8 E., [Plumas County](#), Hydrologic Unit 18020125, Plumas National Forest, on right bank, 30 ft upstream from diversion dam on Slate Creek, 0.3 mi upstream from Feny Ravine, and 4.5 mi northeast of town of Strawberry Valley.

PERIOD OF RECORD.—February 1962 to current year. Monthly discharge only published as adjustment to Slate Creek below diversion dam near Strawberry Valley (station 11413300) February 1962 to September 1966; records of daily discharge are in files of the U.S. Geological Survey.

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

REMARKS.—Tunnel diverts water from Slate Creek to Sly Creek Reservoir (station 11395400) for power development. See schematic diagrams of [South Fork Feather River Basin](#) and [North and Middle Yuba River Basins](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 863 ft³/s, Apr. 6, 1963; no flow for many days in each year.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	234	419	127	323	248	302	31	0.00	0.00
2	0.00	0.00	0.00	217	392	120	290	394	282	29	0.00	0.00
3	0.00	0.00	0.00	210	320	116	249	441	255	28	0.00	0.00
4	0.00	0.00	0.00	188	275	111	246	452	237	27	0.00	0.00
5	0.00	0.00	0.00	178	244	106	228	454	211	25	0.00	0.00
6	0.00	0.00	0.00	180	217	106	209	456	190	24	0.00	0.00
7	0.00	29	0.00	178	190	106	203	458	177	23	0.00	0.00
8	0.00	280	0.00	175	170	105	230	479	163	22	0.00	0.00
9	0.00	135	0.00	185	153	104	250	483	143	21	0.00	0.00
10	0.00	288	0.00	520	141	115	262	442	125	20	0.00	0.00
11	0.00	135	8.0	813	131	130	277	447	112	19	0.00	0.00
12	0.00	57	7.5	663	124	140	342	429	103	18	0.00	0.00
13	0.00	39	222	642	254	200	343	349	94	17	0.00	0.00
14	0.00	28	429	527	284	711	293	349	86	16	0.00	0.00
15	0.00	20	357	401	240	292	270	337	78	16	0.00	0.00
16	0.00	15	179	321	362	354	248	115	74	15	0.00	0.00
17	0.00	12	149	289	278	528	243	0.00	71	14	0.00	0.00
18	0.00	9.6	205	297	247	407	250	0.00	68	14	0.00	0.00
19	0.00	8.0	148	302	237	322	259	0.00	62	13	0.00	0.00
20	0.00	7.3	129	291	223	298	276	0.00	58	12	0.00	0.00
21	0.00	7.8	108	345	206	270	326	0.00	55	12	0.00	0.00
22	0.00	7.4	89	517	192	266	304	0.00	51	11	0.00	0.00
23	0.00	6.9	77	824	179	392	281	0.00	49	11	0.00	0.00
24	0.00	5.9	70	708	170	341	428	0.00	47	10	0.00	0.00
25	0.00	2.2	64	576	163	292	157	0.00	43	9.4	0.00	0.00
26	0.00	0.00	64	546	153	627	0.00	0.00	40	8.9	0.00	0.00
27	0.00	0.00	309	548	146	597	0.00	280	38	8.3	0.00	0.00
28	0.00	0.00	318	579	135	419	0.00	458	36	3.4	0.00	0.00
29	0.00	0.00	327	489	---	332	0.00	439	34	0.00	0.00	0.00
30	0.00	0.00	330	432	---	308	0.00	398	32	0.00	0.00	0.00
31	0.00	---	301	389	---	313	---	343	---	0.00	0.00	---
TOTAL	0.00	1093.10	3890.50	12764	6245	8655	6787.00	8251.00	3316	478.00	0.00	0.00
MEAN	0.000	36.4	126	412	223	279	226	266	111	15.4	0.000	0.000
MAX	0.00	288	429	824	419	711	428	483	302	31	0.00	0.00
MIN	0.00	0.00	0.00	175	124	104	0.00	0.00	32	0.00	0.00	0.00
AC-FT	0.00	2170	7720	25320	12390	17170	13460	16370	6580	948	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

MEAN	7.59	60.8	91.6	139	152	218	229	210	107	22.2	2.90	1.38
MAX	43.5	321	302	412	595	588	690	638	470	144	24.2	21.1
(WY)	1983	1984	1967	2003	1996	1993	1993	1973	1998	1983	1983	1986
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.000	0.000	0.000
(WY)	1963	1963	1974	1965	1965	1969	1969	1977	1977	1966	1963	1963

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1963 - 2003

ANNUAL TOTAL	46459.30	51479.60	
ANNUAL MEAN	127	141	103
HIGHEST ANNUAL MEAN			209
LOWEST ANNUAL MEAN			0.002
HIGHEST DAILY MEAN	801	Mar 7	824
LOWEST DAILY MEAN	0.00	Jul 13	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 13	0.00
ANNUAL RUNOFF (AC-FT)	92150	102100	74750
10 PERCENT EXCEEDS	359	399	341
50 PERCENT EXCEEDS	55	49	16
90 PERCENT EXCEEDS	0.00	0.00	0.00

11413300 SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.—Lat 39°36'52", long 121°03'04", in SE 1/4 SW 1/4 sec.2, T.20 N., R.8 E., [Plumas County](#), Hydrologic Unit 18020125, Plumas National Forest, on right bank, 300 ft downstream from diversion dam, 0.2 mi upstream from Feny Ravine, and 4.5 mi northeast of town of Strawberry Valley.

DRAINAGE AREA.—49.4 mi².

PERIOD OF RECORD.—October 1960 to current year.

GAGE.—Water-stage recorder and 130° V-notch weir since October 1982. Elevation of gage is 3,570 ft above NGVD of 1929, from topographic map.

REMARKS.—Slate Creek Tunnel (station 11413250) diverts up to 900 ft³/s from Slate Creek Reservoir, capacity, 223 acre-ft, at diversion dam 300 ft upstream, to Sly Creek Reservoir (station 11395400). Diversion began in February 1962. See schematic diagrams of [South Fork Feather River Basin](#) and [North and Middle Yuba River Basins](#).

COOPERATION.—Records provided by Oroville–Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088.

EXTREMES FOR PERIOD OF RECORD.—Creek only: Maximum discharge, 17,300 ft³/s, Jan. 1, 1997, gage height, 17.20 ft, from rating curve extended above 5,500 ft³/s, on basis of computed flow over dam at gage heights 12.75, 15.90, 16.89 and 17.20 ft; minimum, 0.3 ft³/s, Mar. 4, 5, 1962.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	7.5	16	11	12	13	11	140	11	11	17	12
2	7.7	7.5	16	12	12	13	11	11	11	11	20	12
3	7.5	7.5	15	12	12	13	11	193	11	11	22	11
4	7.5	7.5	15	12	12	13	11	438	11	11	19	11
5	7.5	7.5	15	12	12	13	11	229	11	11	17	11
6	7.5	7.5	15	12	12	13	11	130	11	11	17	11
7	7.1	11	14	12	12	13	11	64	11	11	17	10
8	6.8	10	14	12	12	12	11	92	11	11	16	11
9	6.7	10	15	12	12	12	11	12	11	11	16	11
10	6.7	13	42	56	12	12	11	12	11	11	15	11
11	6.7	10	20	329	12	12	11	12	11	11	15	11
12	6.7	11	11	16	12	12	11	39	11	11	14	10
13	6.7	12	124	13	12	13	11	128	11	11	14	10
14	6.7	12	879	13	12	169	11	197	11	11	14	9.8
15	6.9	12	312	13	13	1510	11	236	10	11	13	9.8
16	6.7	12	860	13	13	466	11	455	11	11	13	9.8
17	6.7	12	310	12	12	29	11	541	11	11	13	9.8
18	6.7	12	42	12	12	11	11	497	11	11	13	9.9
19	6.9	12	22	12	16	11	11	458	11	11	12	9.8
20	7.2	12	12	12	13	11	11	448	11	11	12	9.7
21	7.3	11	12	13	13	11	11	473	11	11	13	9.6
22	7.3	11	11	35	13	11	11	506	11	11	31	9.4
23	7.3	11	11	610	13	11	11	531	11	11	24	9.2
24	7.4	11	11	306	13	11	88	525	11	11	16	9.2
25	7.6	15	11	114	13	11	304	482	11	11	14	9.0
26	7.5	18	13	33	13	133	427	448	11	11	14	8.8
27	7.5	17	315	56	13	14	379	163	11	11	13	8.8
28	7.5	17	949	83	13	11	395	11	11	15	13	8.7
29	7.3	16	353	13	---	11	389	11	11	17	12	8.8
30	7.3	16	49	13	---	11	372	11	11	16	12	8.9
31	7.4	---	11	12	---	11	---	11	---	16	12	---
TOTAL	222.2	349.0	4515	1896	351	2617	2607	7504	329	361	483	301.0
MEAN	7.17	11.6	146	61.2	12.5	84.4	86.9	242	11.0	11.6	15.6	10.0
MAX	7.9	18	949	610	16	1510	427	541	11	17	31	12
MIN	6.7	7.5	11	11	12	11	11	11	10	11	12	8.7
AC-FT	441	692	8960	3760	696	5190	5170	14880	653	716	958	597

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

	1963	1974	1985	1996	2007	2018	2029	2040	2051	2062	2073	2084
MEAN	23.6	51.9	142	220	191	204	180	183	45.8	12.1	11.2	10.3
MAX	437	545	1303	1334	1415	901	753	795	481	21.3	19.3	17.7
(WY)	1963	1974	1965	1970	1986	1983	1982	1983	1983	1998	1965	1998
MIN	5.85	7.51	5.80	9.04	8.49	6.61	6.12	6.15	6.95	5.17	3.82	6.13
(WY)	1971	1977	1977	1975	1973	1968	1968	1968	1973	1977	1977	1987

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1963 - 2003
ANNUAL TOTAL	8992.3	21535.2	
ANNUAL MEAN	24.6	59.0	106
HIGHEST ANNUAL MEAN			352
LOWEST ANNUAL MEAN			10.4
HIGHEST DAILY MEAN	949	Dec 28	1510
LOWEST DAILY MEAN	6.7	Sep 24	6.7
ANNUAL SEVEN-DAY MINIMUM	6.7	Oct 8	6.7
MAXIMUM PEAK FLOW			3370
MAXIMUM PEAK STAGE			10.78
ANNUAL RUNOFF (AC-FT)	17840	42720	76810
10 PERCENT EXCEEDS	15	149	293
50 PERCENT EXCEEDS	11	12	11
90 PERCENT EXCEEDS	7.5	7.8	8.3

11413320 DEADWOOD CREEK NEAR STRAWBERRY VALLEY, CA

LOCATION.—Lat 39°33'00", long 121°05'36", in SW 1/4 SW 1/4 sec.33, T.20 N., R.8 E., [Yuba County](#), Hydrologic Unit 18020125, Plumas National Forest, on right bank, 250 ft upstream of confluence with Owl Gulch, and 1.3 mi southeast of Strawberry Valley.

DRAINAGE AREA.—3.16 mi².

PERIOD OF RECORD.—October 1994 to current year.

GAGE.—Water-stage recorder and 120° V-notch weir. Elevation of gage is 3,275 ft above NGVD of 1929, from topographic map.

REMARKS.—Water from creek is diverted at gage to Deadwood Creek Powerplant (station 11413326). See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 6780.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 400 ft³/s, Jan. 1, 1997; minimum daily, 1.7 ft³/s, several days in February and March 1997.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.1	2.5	2.9	2.9	2.9	3.0	3.3	2.6	2.6	4.7	3.9
2	2.1	2.1	2.5	2.9	2.9	2.9	3.0	6.2	2.6	2.6	5.1	3.8
3	2.1	2.1	2.5	2.9	2.8	2.9	3.0	4.3	2.6	2.6	4.9	3.8
4	2.1	2.1	2.5	2.9	2.8	3.5	3.0	3.5	2.6	2.6	4.7	3.8
5	2.1	2.0	2.5	2.9	2.8	2.8	3.0	3.2	2.6	2.6	4.6	3.7
6	2.1	2.1	2.5	2.9	2.8	2.8	3.0	3.0	2.6	2.6	4.6	3.7
7	2.0	7.6	2.5	2.9	2.8	2.8	3.0	3.3	2.6	2.6	4.5	3.7
8	2.0	11	2.6	2.9	2.8	2.8	3.0	2.9	2.6	2.6	4.4	3.7
9	2.0	6.7	3.7	7.1	2.8	2.8	3.0	2.7	2.6	2.6	4.4	3.7
10	2.0	11	2.9	13	2.8	2.8	3.0	2.9	2.6	2.6	4.3	3.7
11	2.0	5.7	2.8	3.3	2.8	2.8	3.3	2.8	2.6	2.6	4.3	3.6
12	2.0	3.8	13	3.2	2.9	2.8	4.6	2.8	2.6	4.4	4.2	3.5
13	2.0	3.4	33	3.0	2.9	3.6	3.0	2.8	2.6	5.4	4.2	3.4
14	2.0	2.9	24	3.0	2.9	12	3.0	2.7	2.6	5.2	4.1	3.4
15	2.0	2.7	36	2.9	3.0	3.0	3.0	2.7	2.6	5.2	4.1	3.4
16	2.0	2.9	3.3	2.9	3.0	3.0	3.0	2.6	2.6	5.2	4.0	3.4
17	2.0	2.8	2.9	2.9	2.9	3.0	2.9	2.6	4.6	5.2	4.0	3.4
18	2.0	2.8	2.9	2.9	2.9	2.9	2.9	2.6	7.5	4.9	4.0	3.3
19	2.1	2.7	6.1	2.9	2.9	3.0	2.9	2.6	7.2	4.6	3.9	3.3
20	2.1	2.6	9.1	6.6	2.9	3.0	2.9	2.5	5.1	4.3	3.9	3.3
21	2.1	2.6	7.4	17	2.9	3.0	6.1	3.5	2.6	4.1	4.0	3.3
22	2.0	2.6	6.4	25	2.9	3.0	11	2.9	2.6	3.8	7.1	3.2
23	2.1	2.6	5.8	16	2.9	3.0	4.5	2.8	2.6	4.0	4.7	3.2
24	2.1	2.6	5.5	2.9	2.9	2.9	5.0	2.8	2.6	4.3	4.3	3.2
25	2.1	2.6	4.6	2.9	2.9	7.3	3.9	2.7	2.6	4.7	4.2	3.2
26	2.1	2.5	10	2.9	2.9	2.8	3.2	2.7	2.6	4.7	4.1	3.1
27	2.1	2.5	19	2.9	2.9	2.9	3.8	2.7	2.6	4.7	4.1	3.1
28	2.1	2.5	3.6	2.9	2.9	2.9	4.1	2.6	2.6	4.6	4.0	3.1
29	2.1	2.5	2.9	2.9	---	2.9	3.7	2.6	2.6	4.6	4.0	3.1
30	2.1	2.5	3.2	2.9	---	2.9	3.3	2.6	2.6	4.5	3.9	3.1
31	2.1	---	3.0	2.9	---	3.0	---	2.6	---	4.5	4.0	---
TOTAL	63.8	106.6	231.2	158.1	80.5	104.7	110.1	92.5	92.0	121.5	135.3	103.1
MEAN	2.06	3.55	7.46	5.10	2.88	3.38	3.67	2.98	3.07	3.92	4.36	3.44
MAX	2.1	11	36	25	3.0	12	11	6.2	7.5	5.4	7.1	3.9
MIN	2.0	2.0	2.5	2.9	2.8	2.8	2.9	2.5	2.6	2.6	3.9	3.1
AC-FT	127	211	459	314	160	208	218	183	182	241	268	204
a	0.00	0.00	584	1550	917	983	1260	1690	545	117	0.00	0.00

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

	1995	1996	1997	1998	1999	2000	2001	2002	2003	1995	1996	1997
MEAN	3.51	3.79	5.65	10.5	9.17	6.16	3.94	3.85	3.08	3.22	3.29	3.29
MAX	4.75	4.73	17.7	42.4	20.3	22.8	10.7	10.7	3.61	4.16	4.36	4.35
(WY)	1999	1997	1997	1997	1998	1995	1995	1995	2001	1997	2003	1996
MIN	2.04	3.09	2.75	3.34	2.82	2.78	2.69	2.60	2.54	2.57	2.17	1.96
(WY)	1995	1995	1998	2000	2002	2001	2001	2002	1999	1999	2001	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1995 - 2003	
ANNUAL TOTAL	1204.1		1399.4			
ANNUAL MEAN	3.30		3.83		4.94	
HIGHEST ANNUAL MEAN					8.23 1997	
LOWEST ANNUAL MEAN					2.95 2002	
HIGHEST DAILY MEAN	36	Dec 15	36	Dec 15	400	Jan 1 1997
LOWEST DAILY MEAN	2.0	Sep 20	2.0	Oct 7	1.7	Feb 24 1997
ANNUAL SEVEN-DAY MINIMUM	2.0	Sep 20	2.0	Oct 7	1.7	Feb 23 1997
ANNUAL RUNOFF (AC-FT)	2390		2780		3580	
TOTAL DIVERSION (AC-FT) a	4670		7640		8200	
10 PERCENT EXCEEDS	3.9		5.1		5.6	
50 PERCENT EXCEEDS	2.8		2.9		2.9	
90 PERCENT EXCEEDS	2.1		2.1		2.5	

a Diversion, in acre-feet, to Deadwood Creek Powerplant (station 11413326), provided by Yuba County Water Agency.

11413323 OWL GULCH NEAR STRAWBERRY VALLEY, CA

LOCATION.—Lat 39°32'44", long 121°05'39", in SW 1/4 SW 1/4 sec.33, T.20 N., R.8 E., [Yuba County](#), Hydrologic Unit 18020125, Plumas National Forest, on left bank, 250 ft upstream from Deadwood Creek, and 1.3 mi southeast of Strawberry Valley.

DRAINAGE AREA.—2.07 mi².

PERIOD OF RECORD.—October 1994 to current year.

GAGE.—Water-stage recorder and 120° V-notch weir. Elevation of gage is 3,050 ft above NGVD of 1929, from topographic map.

REMARKS.—Water from creek is diverted at gage to Deadwood Creek Powerplant (station 11413326). See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 6780.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 346 ft³/s, Jan. 1, 1997; minimum daily, 0.58 ft³/s, Sept. 17–22, 1997.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.90	0.86	1.0	2.1	1.8	1.4	1.8	4.8	1.9	1.8	2.1	1.7
2	0.88	0.84	1.0	2.0	1.8	1.5	1.8	9.2	1.8	1.8	2.3	1.6
3	0.87	0.86	1.0	1.9	1.8	1.5	1.8	6.8	1.8	1.8	2.2	1.6
4	0.87	0.84	1.0	1.8	1.8	2.8	1.8	5.1	1.8	1.8	2.1	1.6
5	0.87	0.87	1.0	1.8	1.8	2.1	1.8	4.1	1.8	1.8	2.1	1.6
6	0.85	0.89	1.1	1.8	1.8	1.9	1.8	3.7	1.8	1.8	2.1	1.6
7	0.83	2.6	1.1	1.8	1.8	1.7	1.8	4.3	1.8	1.8	2.0	1.6
8	0.82	3.8	1.2	1.9	1.8	1.7	1.8	3.6	1.8	1.8	2.0	1.6
9	0.82	2.5	1.6	6.6	1.8	1.7	1.8	3.4	1.8	1.8	1.9	1.6
10	0.83	4.3	1.3	11	1.7	1.7	1.8	3.2	1.9	1.8	1.9	1.5
11	0.83	2.4	1.2	6.5	1.8	1.7	2.9	2.9	1.8	1.8	1.8	1.5
12	0.83	1.6	6.5	5.6	1.9	1.8	3.7	2.9	1.9	2.3	1.8	1.5
13	0.83	1.4	13	3.2	1.8	3.2	2.2	2.8	1.9	2.5	1.8	1.4
14	0.83	1.3	12	2.1	1.8	6.4	2.1	2.6	2.0	2.5	1.7	1.4
15	0.82	1.2	14	1.8	2.2	2.0	2.1	2.5	2.1	2.5	1.7	1.4
16	0.82	1.2	2.4	1.7	1.8	1.8	2.1	2.4	2.1	2.4	1.7	1.4
17	0.82	1.1	1.8	1.7	1.8	1.8	2.1	2.4	2.7	2.4	1.7	1.4
18	0.84	1.1	1.8	1.7	1.8	1.8	2.1	2.3	3.9	2.4	1.7	1.4
19	0.84	1.1	3.7	1.7	1.8	1.8	2.1	2.3	4.0	2.3	1.6	1.4
20	0.84	1.1	5.5	4.7	1.8	1.8	2.2	2.3	3.1	2.3	1.6	1.4
21	0.84	1.1	4.5	11	1.8	1.8	4.7	2.8	1.7	2.2	1.7	1.3
22	0.85	1.1	3.9	14	1.8	1.9	7.8	1.9	1.7	2.2	2.7	1.3
23	0.84	1.1	3.5	11	1.8	1.8	4.6	1.9	1.7	2.2	1.9	1.3
24	0.86	1.1	3.3	2.9	1.8	1.8	5.5	1.9	1.7	2.2	1.8	1.3
25	0.86	1.0	2.9	2.2	1.7	4.6	4.6	1.9	1.7	2.2	1.8	1.3
26	0.86	1.0	4.1	2.7	1.7	1.9	3.4	1.9	1.8	2.2	1.8	1.3
27	0.86	1.0	4.4	2.6	1.7	1.8	4.9	2.0	1.8	2.1	1.7	1.3
28	0.87	1.0	3.6	2.0	1.7	1.8	6.0	2.0	1.8	2.1	1.7	1.3
29	0.89	1.0	2.2	1.9	---	1.8	4.9	2.0	1.8	2.1	1.7	1.3
30	0.89	1.0	3.9	1.9	---	1.8	4.4	1.9	1.8	2.1	1.7	1.3
31	0.90	---	2.7	1.9	---	1.8	---	1.9	---	2.1	1.7	---
TOTAL	26.36	42.26	112.2	117.5	50.4	64.9	92.4	95.7	61.2	65.1	58.0	43.2
MEAN	0.85	1.41	3.62	3.79	1.80	2.09	3.08	3.09	2.04	2.10	1.87	1.44
MAX	0.90	4.3	14	14	2.2	6.4	7.8	9.2	4.0	2.5	2.7	1.7
MIN	0.82	0.84	1.0	1.7	1.7	1.4	1.8	1.9	1.7	1.8	1.6	1.3
AC-FT	52	84	223	233	100	129	183	190	121	129	115	86

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

	1995	1996	1997	1998	1999	2000	2001	2002	2003			
MEAN	1.50	1.72	3.48	8.64	7.90	5.46	3.22	3.30	2.06	1.82	1.49	1.37
MAX	2.85	2.17	14.2	35.3	23.7	16.3	8.74	10.6	2.87	2.10	1.90	2.09
(WY)	1999	1999	1997	1997	1998	1995	1995	1998	2003	1998	1998	1998
MIN	0.82	1.41	1.70	1.77	1.78	1.90	1.80	1.80	1.75	1.29	0.77	0.78
(WY)	2002	2003	2000	2001	2002	2001	2002	2002	2001	2001	1997	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1995 - 2003
ANNUAL TOTAL	660.07	829.22	
ANNUAL MEAN	1.81	2.27	3.48
HIGHEST ANNUAL MEAN			6.02
LOWEST ANNUAL MEAN			1.61
HIGHEST DAILY MEAN	14	14	346
LOWEST DAILY MEAN	0.73	0.82	0.58
ANNUAL SEVEN-DAY MINIMUM	0.83	0.83	0.58
ANNUAL RUNOFF (AC-FT)	1310	1640	2520
10 PERCENT EXCEEDS	2.4	3.9	5.5
50 PERCENT EXCEEDS	1.7	1.8	1.8
90 PERCENT EXCEEDS	0.87	0.90	1.2

11413510 NEW COLGATE POWERPLANT NEAR FRENCH CORRAL, CA

LOCATION.—Lat 39°19'51", long 121°11'23", in NE 1/4 SE 1/4 sec.16, T.17 N., R.7 E., [Yuba County](#), Hydrologic Unit 18020125, at powerplant, on right bank of Yuba River, 0.3 mi upstream from Dobbins Creek, and 2.3 mi northwest of French Corral.

PERIOD OF RECORD.—October 1966 to current year. Prior to October 1969, published as "Colgate Powerplant."

GAGE.—Recorded output from powerplant turbines.

REMARKS.—Water is diverted from North Yuba River at New Bullards Bar Reservoir (station 11413515). Colgate Powerplant was rebuilt during the 1970 water year with an increased capacity. Prior to Oct. 31, 1973, Browns Valley Ditch diverted up to 10 ft³/s at times from the head of the penstock for use in irrigation. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2246.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	546	866	692	1280	2310	1490	1380	2140	3290	2150	2690	1160
2	525	756	675	761	2240	1460	1120	2060	3310	2120	2140	977
3	665	712	667	625	2500	1890	1200	2120	3150	2220	2460	759
4	626	817	632	604	2480	1900	1350	2490	3170	2030	2570	747
5	555	775	630	737	2500	1720	1250	2460	3170	2050	2880	709
6	556	549	618	708	1910	1750	1110	2760	3160	1970	2770	588
7	583	416	598	629	1930	1920	1790	3010	3070	2230	2890	400
8	451	418	567	589	1210	1430	1400	3030	3150	2250	2920	604
9	603	404	626	636	1530	1590	1580	3060	3060	1990	2640	670
10	632	446	593	636	1810	1620	1540	3080	2120	2500	2580	744
11	672	433	629	695	1690	2030	1670	3050	1880	2480	2840	823
12	732	411	593	498	1730	2450	893	3100	1990	2320	2920	873
13	715	436	536	782	1530	2380	978	3070	2260	2150	2900	536
14	705	438	4.5	1190	1090	2170	1260	3010	2120	2400	2840	763
15	706	404	0.00	1130	1190	1470	1180	3170	2290	2320	2970	766
16	742	418	298	1240	1180	1500	1200	3250	2450	2380	2820	651
17	682	454	312	1180	1450	1710	783	3030	2550	2550	2790	711
18	745	641	492	1490	1490	1380	567	2980	2800	2630	2920	659
19	765	654	520	1640	1320	1300	566	3020	2490	2280	2750	645
20	754	600	935	1370	1160	1260	464	2940	2440	2280	2540	535
21	780	598	1370	1590	1380	1310	735	3120	2210	2460	2570	704
22	716	635	832	1420	1200	1080	984	3140	2180	2610	1680	755
23	856	671	522	1490	1190	1280	1260	3160	2500	2600	1670	726
24	893	639	494	1490	1360	1320	1170	3120	2300	2510	1530	584
25	895	710	5.0	1390	1440	980	1420	3200	2300	2170	1550	587
26	810	662	539	1780	1560	686	1250	3210	2750	2560	1660	645
27	899	696	531	1940	1560	930	1210	3160	2780	2490	972	657
28	839	610	193	2280	1900	1670	1200	3200	2130	2600	990	621
29	800	659	193	2600	---	997	1190	3290	2330	2630	1000	641
30	859	714	365	2390	---	1050	1630	3280	2560	2670	904	649
31	826	---	518	2440	---	1320	---	3290	---	2620	1150	---
TOTAL	22133	17642	16179.50	39230	45840	47043	35330	92000	77960	73220	70506	20889
MEAN	714	588	522	1265	1637	1518	1178	2968	2599	2362	2274	696
MAX	899	866	1370	2600	2500	2450	1790	3290	3310	2670	2970	1160
MIN	451	404	0.00	498	1090	686	464	2060	1880	1970	904	400
AC-FT	43900	34990	32090	77810	90920	93310	70080	182500	154600	145200	139800	41430

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

MEAN	1169	1094	1313	1493	1669	1694	1697	1560	1680	1798	1937	1306
MAX	2497	2433	3262	3496	3525	3519	3508	3565	3629	3057	3130	2995
(WY)	1976	1976	1975	1984	1998	1980	1993	1982	1983	1983	1984	1980
MIN	0.000	302	96.6	152	54.6	39.3	103	206	404	386	319	0.000
(WY)	1975	1978	1978	1977	1977	1977	1979	1977	1977	1977	1977	1974

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1971 - 2003	
ANNUAL TOTAL	446815.50		557972.50			
ANNUAL MEAN	1224		1529		1534	
HIGHEST ANNUAL MEAN					2686 1983	
LOWEST ANNUAL MEAN					316 1977	
HIGHEST DAILY MEAN	2750	Mar 11	3310	Jun 2	4200	Jun 2 1971
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Dec 15	0.00	Mar 14 1971
ANNUAL SEVEN-DAY MINIMUM	284	Jan 1	309	Dec 13	0.00	Feb 29 1972
ANNUAL RUNOFF (AC-FT)	886300		1107000		1111000	
10 PERCENT EXCEEDS	2340		2920		3360	
50 PERCENT EXCEEDS	1030		1320		1270	
90 PERCENT EXCEEDS	459		553		157	

11413515 NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN, CA

LOCATION.—Lat 39°23'34", long 121°08'25", in SE 1/4 NW 1/4 sec.25, T.18 N., R.7 E., [Yuba County](#), Hydrologic Unit 18020125, Plumas National Forest, in center of dam on North Yuba River, 2.2 mi upstream from Middle Yuba River, and 2.4 mi northwest of North San Juan.

DRAINAGE AREA.—489 mi².

PERIOD OF RECORD.—January 1969 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Yuba County Water Agency).

REMARKS.—Reservoir is formed by concrete-arch dam with a concrete-sidehill spillway. Spill controlled by three 30-ft by 53-ft radial gates. Storage began in January 1969. Usable capacity, 727,380 acre-ft, between elevations 1,732.0 ft, minimum power pool and 1,955.0 ft, normal gross pool. Dead storage, 233,920 acre-ft. Total capacity at normal gross pool, 961,300 acre-ft, elevation, 1,955.0 ft. Water is released to New Colgate Powerplant (station 11413510) 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 (stations 11408870 and 11409350). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2246. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 972,224 acre-ft, June 27, 1995, elevation, 1,957.27 ft; minimum since reservoir first filled, 178,230 acre-ft, Dec. 29, 1980, elevation, 1,700.00 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 964,661 acre-ft, June 4, elevation, 1,955.70 ft; minimum, 483,702 acre-ft, Dec. 11, elevation, 1,832.44 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Yuba County Water Agency in 1969)

1,600	64,900	1,690	162,983	1,800	389,977	1,900	721,130
1,630	90,570	1,720	211,768	1,850	539,748	1,960	985,471
1,660	122,993	1,750	270,110				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	531303	493445	491139	619483	730804	731884	786464	898496	962740	909659	785835	665843
2	530192	492260	490175	622548	730524	730204	788646	904962	963652	906342	781652	664789
3	529279	490828	489366	625332	729805	728408	790916	913263	964421	903400	777149	663735
4	528431	489552	488497	627760	728767	726932	792601	917851	964661	900373	772001	662834
5	527584	488621	487659	630340	728328	725419	794203	918455	964613	897445	767040	662008
6	526673	489087	486854	632892	727809	723392	794329	917294	964276	893931	761729	661633
7	526023	492821	486111	635302	728328	722360	795554	917015	963604	890380	756442	660845
8	525081	496134	485462	638012	728168	720932	796695	915022	962596	887337	751626	659908
9	524011	500153	485091	643452	727211	719664	798133	912338	963124	883169	746953	658785
10	522910	502486	484475	654343	726454	717448	799572	909982	963700	879059	741652	657552
11	521681	503149	483702	661107	725499	714567	805008	908922	963796	875277	736255	656207
12	520486	503464	487721	666371	726255	712204	811449	910120	963124	871774	730964	655536
13	519325	503559	506631	670752	727929	713700	816334	912939	962501	867743	725698	654306
14	518166	503591	517554	673937	728926	727211	820292	916412	961254	863904	720179	653413
15	516911	503559	533333	676483	731564	733927	823527	920175	959194	859898	715001	652408
16	515787	503338	542063	678350	732725	736818	827377	923620	956708	855550	709807	651405
17	514505	502675	546013	679724	733326	737864	831630	926655	953654	850950	704363	650403
18	513225	501885	548645	680793	734408	740361	835680	929040	950796	847115	699297	649513
19	512010	501287	550683	682170	735372	742258	839962	931380	947993	843248	694602	648772
20	510702	500626	552926	683702	735613	743632	844565	933918	945527	838999	689928	647698
21	509459	499870	554403	686695	736095	745454	848260	937258	942970	834416	687772	646626
22	507996	499116	555747	697510	736456	748252	850774	941315	939710	829892	685351	645444
23	506409	498424	556800	706553	736456	750934	856967	945621	936976	825558	682821	644632
24	504857	497419	558645	712991	736175	753583	863057	949370	933965	821800	681634	643747
25	503464	496604	559692	717329	735572	761646	869668	952510	929930	817322	681290	642862
26	501950	495634	568792	721011	734890	768236	875052	955180	925813	812947	675533	641868
27	500531	494882	585978	725340	733446	771339	881316	957712	922967	808203	674050	641206
28	499116	494039	597802	727211	732725	774822	887745	959626	919570	803604	672494	639993
29	497670	493039	604869	728248	---	777773	892656	960822	915671	798768	671131	639112
30	496260	492073	612023	728847	---	780399	895619	961350	911922	794076	669239	638488
31	494695	---	615746	729845	---	783240	---	961925	---	789276	667426	---
MAX	531303	503591	615746	729845	736456	783240	895619	961925	964661	909659	785835	665843
MIN	494695	488621	483702	619483	725499	712204	786464	898496	911922	789276	667426	638488
a	1835.98	1835.14	1872.07	1902.19	1902.91	1915.25	1940.96	1955.13	1944.51	1916.69	1886.12	1878.34
b	-37393	-2622	+123673	+114099	+2880	+50515	+112379	+66306	-50003	-122646	-121850	-28938

CAL YR 2002 b +17768

WTR YR 2003 b +106400

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA

LOCATION.—Lat 39°23'26", long 121°08'36", in SE 1/4 NW 1/4 sec.25, T.18 N., R.7 E., [Yuba County](#), Hydrologic Unit 18020125, Plumas National Forest, on right bank, at old Colgate Dam, 0.2 mi downstream from New Bullards Bar Dam, and 2.5 mi northwest of North San Juan.

DRAINAGE AREA.—490 mi².

PERIOD OF RECORD.—August 1966 to current year.

WATER TEMPERATURE: Water years 1971–74.

GAGE.—Water-stage recorder, and sharp-crested low-water control since Oct. 1, 1986. Elevation of gage is 1,350 ft above NGVD of 1929, from topographic map. Auxiliary water-stage recorder for high flow 0.9 mi downstream at different datum.

REMARKS.—Records good. Flow regulated by New Bullards Bar Reservoir (station 11413515) since 1969. Prior to 1969, flow regulated by Bullards Bar Reservoir (usable capacity, 31,500 acre-ft). New Colgate Powerplant (station 11413510) diverts at New Bullards Bar Dam 0.2 mi upstream. Water is diverted to Feather River Basin through Slate Creek Tunnel (station 11413250). Camptonville Tunnel (station 11409350) diverts water from Middle Yuba River to New Bullards Bar Reservoir. Records include flow over New Bullards Bar Reservoir spillway. See schematic diagram of [North and Middle Yuba River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 56,200 ft³/s, Jan. 22, 1970, gage height, 35.29 ft, at auxiliary gage, from rating curve extended above 40,000 ft³/s, on basis of computation of flow over old Colgate Dam; minimum daily, 0.42 ft³/s, Nov. 5, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 22, 1964, reached a stage of 49.8 ft, from floodmarks, discharge, 91,600 ft³/s, at auxiliary gage, from computation of flow over old Colgate Dam.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	6.2	6.0	6.1	6.1	6.0	6.4	7.8	206	7.4	e7.7	e6.7
2	6.4	6.2	6.1	6.0	6.1	6.0	6.4	7.7	8.4	7.4	e7.5	e6.7
3	6.4	6.2	6.2	5.9	6.0	6.0	6.4	8.9	8.6	7.4	e8.2	e6.7
4	6.4	6.2	6.0	5.8	6.0	6.0	6.9	8.6	8.3	7.4	e7.6	e6.8
5	6.4	6.2	6.0	5.8	6.0	6.0	6.4	644	8.1	7.4	7.2	e6.8
6	6.4	6.1	6.0	5.8	6.0	6.0	6.4	1940	8.2	7.4	7.2	6.8
7	6.4	6.6	6.0	5.8	6.0	6.0	6.4	1930	8.2	7.3	7.2	6.8
8	6.4	6.9	6.0	5.8	6.0	6.0	6.4	1930	8.2	7.2	7.2	6.8
9	6.3	6.5	6.1	5.9	6.0	6.0	6.4	1920	8.2	7.2	7.3	6.8
10	6.3	7.4	6.3	6.5	6.1	6.0	6.4	1920	8.2	7.2	7.1	6.8
11	6.2	6.4	6.6	6.5	6.0	6.0	6.4	1620	8.2	7.2	e7.0	6.8
12	6.2	6.2	6.0	6.2	6.0	6.0	7.1	930	8.2	7.2	7.0	6.8
13	6.2	6.2	8.7	6.1	6.6	6.0	7.4	193	8.4	7.1	7.0	6.8
14	6.2	6.2	7.8	6.0	6.2	6.7	7.0	8.0	8.2	7.0	7.0	6.8
15	6.2	6.2	6.7	6.0	6.2	7.5	6.8	7.8	8.1	7.1	7.0	6.8
16	6.2	6.2	8.2	6.0	6.7	6.7	6.8	7.8	7.8	7.0	7.0	6.8
17	6.2	6.2	6.4	5.7	6.3	6.6	6.8	7.8	7.8	7.7	7.0	6.8
18	6.2	6.2	6.0	5.8	6.2	6.5	6.8	8.0	8.5	9.4	e7.0	6.8
19	6.2	6.2	6.1	5.8	6.4	6.4	6.8	8.0	7.8	10	e6.9	6.8
20	6.2	6.1	6.3	5.8	6.2	6.5	6.8	8.0	7.7	11	e6.9	6.8
21	6.2	6.0	8.2	6.1	6.2	6.4	6.9	8.0	7.6	9.3	e7.0	6.8
22	6.2	6.0	6.4	6.3	6.2	6.4	6.8	8.0	7.6	9.3	e7.8	6.8
23	6.2	6.0	6.0	6.8	6.1	6.4	6.8	8.0	7.6	8.9	e8.0	6.8
24	6.2	6.1	5.9	6.4	6.1	6.2	7.9	8.0	7.6	7.5	e7.4	6.8
25	6.2	6.0	5.8	6.2	6.0	6.2	7.8	8.0	7.6	7.4	e6.9	6.8
26	6.2	6.0	6.0	6.1	6.0	6.5	7.7	8.1	7.6	7.7	e6.9	6.8
27	6.2	6.0	6.7	6.2	6.0	6.4	7.5	8.2	8.3	8.0	e6.9	6.8
28	6.2	6.0	7.7	6.2	6.0	6.4	8.0	8.2	11	e8.5	e6.8	6.8
29	6.2	6.0	8.0	6.2	---	6.4	8.0	277	9.4	e8.7	e6.8	6.8
30	6.2	6.0	6.5	6.2	---	6.4	7.9	492	7.4	e7.4	e6.7	6.8
31	6.2	---	6.5	6.1	---	6.4	---	492	---	e8.0	e6.7	---
TOTAL	194.0	186.7	203.2	188.1	171.7	195.0	208.5	14440.9	442.8	244.7	221.9	203.7
MEAN	6.26	6.22	6.55	6.07	6.13	6.29	6.95	466	14.8	7.89	7.16	6.79
MAX	6.4	7.4	8.7	6.8	6.7	7.5	8.0	1940	206	11	8.2	6.8
MIN	6.2	6.0	5.8	5.7	6.0	6.0	6.4	7.7	7.4	7.0	6.7	6.7
AC-FT	385	370	403	373	341	387	414	28640	878	485	440	404

e Estimated.

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.2	33.1	261	735	805	634	352	475	240	34.4	7.53	7.93
MAX	381	404	3570	8990	7457	4648	4144	4289	3759	759	25.4	45.9
(WY)	1975	1967	1984	1970	1986	1995	1982	1967	1967	1967	1967	1969
MIN	2.60	3.41	4.97	4.65	2.10	5.32	3.09	4.12	1.92	3.48	3.21	2.89
(WY)	1971	1971	1978	1981	1971	1976	1970	1970	1970	1977	1977	1966

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	2308.1		16901.2			
ANNUAL MEAN	6.32		46.3		298	
HIGHEST ANNUAL MEAN					1560	
LOWEST ANNUAL MEAN					4.62	
HIGHEST DAILY MEAN	8.7	Dec 13	1940	May 6	48200	Feb 19 1986
LOWEST DAILY MEAN	5.5	Jul 25	5.7	Jan 17	0.42	Nov 5 1966
ANNUAL SEVEN-DAY MINIMUM	5.6	Jul 19	5.8	Jan 3	0.68	Nov 1 1966
MAXIMUM PEAK FLOW			2030	May 6	56200	Jan 22 1970
MAXIMUM PEAK STAGE			9.99	May 6	35.29	Jan 22 1970
ANNUAL RUNOFF (AC-FT)	4580		33520		215900	
10 PERCENT EXCEEDS	7.0		8.2		30	
50 PERCENT EXCEEDS	6.3		6.7		6.7	
90 PERCENT EXCEEDS	5.8		6.0		5.0	

11413940 KIDD LAKE NEAR SODA SPRINGS, CA

LOCATION.—Lat 39°18'41", long 120°25'54", in SW 1/4 NW 1/4 sec.29, T.17 N., R.14 E., Placer County, Hydrologic Unit 18020125, on outlet structure, on Kidd Lake Dam, and 3.0 mi west of Soda Springs.

DRAINAGE AREA.—1.00 mi².

PERIOD OF RECORD.—July 1991 to September 2000, October 2001 to current year. Unpublished records for water years 1966–91 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 6,600.3 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to July 1991, nonrecording gage at same site and datum.

REMARKS.—Records not collected during winter months. Reservoir is formed on natural lake by rock-fill dam completed in 1855. Usable capacity, 1,505 acre-ft, between gage heights 0.0 ft, invert of outlet, and 27.3 ft, crest of spillway. Water is used for power development downstream. Records represent usable contents at 2400 hours.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated April 1965)

0	0	8	259	20	918	28	1,568
4	117	16	654				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	426	213	---	---	---	---	---	---	---	1020	945	886
2	419	---	---	---	---	---	---	---	---	1020	943	884
3	415	---	---	---	---	---	---	---	---	1020	941	870
4	410	---	---	---	---	---	---	---	---	1010	941	850
5	405	---	---	---	---	---	---	---	---	1010	938	842
6	400	---	---	---	---	---	---	---	---	1010	935	823
7	395	---	---	---	---	---	---	---	---	1010	933	806
8	391	---	---	---	---	---	---	---	---	1010	930	790
9	387	---	---	---	---	---	---	---	---	1000	928	775
10	383	---	---	---	---	---	---	---	---	1000	926	760
11	379	---	---	---	---	---	---	---	---	999	925	746
12	373	---	---	---	---	---	---	---	---	997	923	731
13	370	---	---	---	---	---	---	---	---	995	920	716
14	366	---	---	---	---	---	---	---	---	993	918	702
15	362	---	---	---	---	---	---	---	---	992	918	685
16	358	---	---	---	---	---	---	---	1030	990	916	669
17	355	---	---	---	---	---	---	---	1030	986	912	656
18	351	---	---	---	---	---	---	---	1040	983	911	642
19	347	---	---	---	---	---	---	---	1040	980	910	631
20	343	---	---	---	---	---	---	---	1040	977	908	615
21	339	---	---	---	---	---	---	---	1040	973	907	596
22	328	---	---	---	---	---	---	---	1040	970	909	577
23	312	---	---	---	---	---	---	---	1030	965	907	558
24	300	---	---	---	---	---	---	---	1030	961	904	540
25	289	---	---	---	---	---	---	---	1030	958	899	522
26	278	---	---	---	---	---	---	---	1030	956	896	505
27	266	---	---	---	---	---	---	---	1030	953	894	488
28	255	---	---	---	---	---	---	---	1030	951	893	472
29	245	---	---	---	---	---	---	---	1020	948	891	455
30	234	---	---	---	---	---	---	---	1020	946	889	439
31	223	---	---	---	---	---	---	---	---	945	887	---
MAX	426	---	---	---	---	---	---	---	---	1020	945	886
MIN	223	---	---	---	---	---	---	---	---	945	887	439
a	7.07								21.42	20.36	19.56	12.18
b	-210									-75	-58	-448

WTR YR 2003 b +6

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11413945 LOWER CASCADE LAKE NEAR SODA SPRINGS, CA

LOCATION.—Lat 39°18'12", long 120°26'19", in SE 1/4 SE 1/4 sec.30, T.17 N., R.14 E., Placer County, Hydrologic Unit 18020125, Tahoe National Forest, on outlet structure, on Lower Cascade Lake Dam, and 3.6 mi southwest of Soda Springs.

DRAINAGE AREA.—1.02 mi².

PERIOD OF RECORD.—July 1991 to current year. Unpublished records for water years 1966–90 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 6,560.4 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to July 1991, nonrecording gage at same site and datum.

REMARKS.—No records computed during the winter months. Reservoir is formed on natural lake by rock-fill dam completed in 1860. Usable capacity, 484 acre-ft, between gage heights 0.0 ft, invert of outlet, and 21.5 ft, crest of spillway. Water is used for power development downstream.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated April 1965)

0	0	8	133	16	318	22	500
4	62	12	218	20	435	23	530

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	355	6	---	---	---	---	---	---	---	483	404	355
2	347	---	---	---	---	---	---	---	---	482	395	355
3	345	---	---	---	---	---	---	---	---	482	386	352
4	343	---	---	---	---	---	---	---	---	481	377	347
5	341	---	---	---	---	---	---	---	---	481	369	341
6	338	---	---	---	---	---	---	---	---	481	359	335
7	334	---	---	---	---	---	---	---	---	480	351	330
8	327	---	---	---	---	---	---	---	---	480	343	330
9	319	---	---	---	---	---	---	---	---	480	335	341
10	311	---	---	---	---	---	---	---	---	479	330	350
11	301	---	---	---	---	---	---	---	---	479	327	358
12	291	---	---	---	---	---	---	---	---	478	326	365
13	280	---	---	---	---	---	---	---	---	478	324	371
14	268	---	---	---	---	---	---	---	---	477	325	375
15	255	---	---	---	---	---	---	---	---	476	332	373
16	241	---	---	---	---	---	---	---	482	476	337	368
17	224	---	---	---	---	---	---	---	483	475	340	364
18	205	---	---	---	---	---	---	---	484	474	344	359
19	175	---	---	---	---	---	---	---	484	474	346	355
20	143	---	---	---	---	---	---	---	484	473	347	349
21	110	---	---	---	---	---	---	---	484	472	350	343
22	90	---	---	---	---	---	---	---	484	471	354	338
23	52	---	---	---	---	---	---	---	485	467	356	332
24	15	---	---	---	---	---	---	---	485	459	356	326
25	7	---	---	---	---	---	---	---	484	451	356	320
26	7	---	---	---	---	---	---	---	484	444	356	315
27	7	---	---	---	---	---	---	---	484	438	356	309
28	7	---	---	---	---	---	---	---	484	431	356	304
29	7	---	---	---	---	---	---	---	484	425	356	298
30	7	---	---	---	---	---	---	---	483	418	356	292
31	7	---	---	---	---	---	---	---	---	411	356	---
MAX	355	---	---	---	---	---	---	---	---	483	404	375
MIN	7	---	---	---	---	---	---	---	---	411	324	292
a	.44	---	---	---	---	---	---	---	21.47	19.20	17.33	15.02
b	-356	---	---	---	---	---	---	---	---	-72	-55	-64

WTR YR 2003 b -71

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

b Change in contents, in acre-feet.

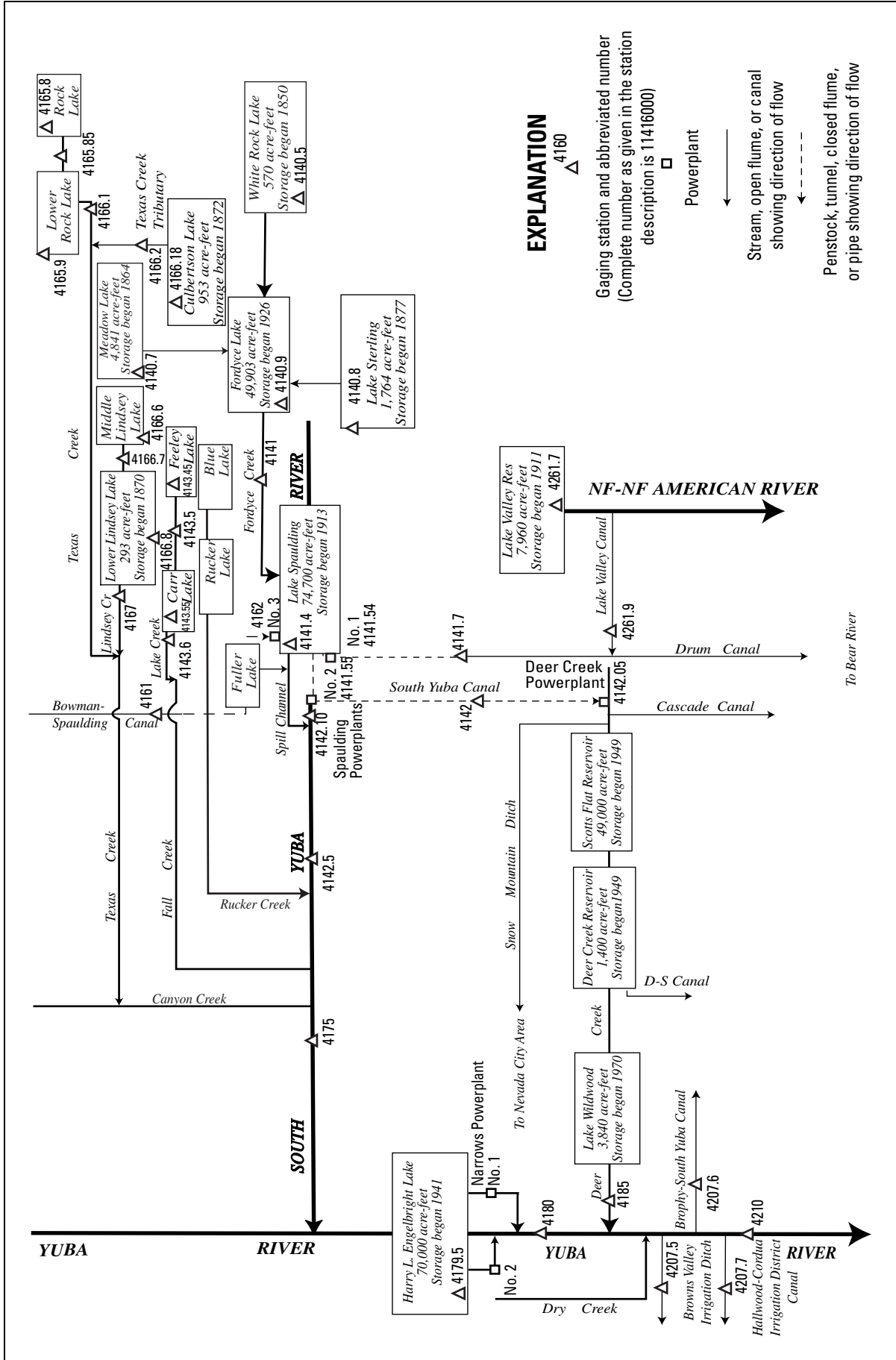


Figure 32. Diversions and storage in South Yuba River Basin.

11414090 FORDYCE LAKE NEAR CISCO, CA

LOCATION.—Lat 39°22'44", long 120°29'40", in NE 1/4 SE 1/4 sec.34, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near left abutment of Fordyce Dam, on Fordyce Creek, and 5.3 mi northeast of Cisco.

DRAINAGE AREA.—31.7 mi².

PERIOD OF RECORD.—October 1977 to current year. Periodic gage heights only for October 1965 to September 1976 and daily contents for water year 1977 are in the files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 6,290.5 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to Nov. 29, 1976, nonrecording gage on upstream side of dam at same datum.

REMARKS.—Lake is formed by a rockfill dam; storage began in 1926. In 1980 the capacity of Fordyce Lake was increased by the addition of 3 ft of flashboards. Capacity, 49,903 acre-ft, between gage heights 0.85 ft, bottom of outlet valve, and 114.6 ft, top of flashboards in spillway. Released water flows down Fordyce Creek (station 11414100) to Lake Spaulding (station 11414140) for use in a power and irrigation system. Missing data is due to equipment malfunction. See schematic diagram of [South Yuba River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 50,100 acre-ft, June 4, 2000, June 7, 2002, maximum gage height, 114.88 ft, June 4, 2000; minimum, 250 acre-ft, Oct. 31 to Nov. 7, 1979.

EXTREMES FOR CURRENT YEAR.—Maximum contents recorded, 49,900 acre-ft, June 17, gage height, 114.63 ft; minimum recorded, 10,100 acre-ft, Oct. 11, gage height, 42.45 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated October 1992)

4	219	20	2,608	40	8,185	80	26,770
5	278	25	3,827	50	11,797	90	32,820
10	774	30	5,170	60	16,174	100	39,342
15	1,572	35	6,628	70	21,196	114.6	49,903

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11800	9320	10500	---	---	10900	16800	21700	48200	46300	---	23100
2	11500	9320	10500	---	---	10800	17200	21800	49200	46000	---	22800
3	11200	9310	10400	---	---	10800	17400	22000	49400	45800	---	22600
4	10900	9310	10400	---	---	10700	17600	22200	49300	45500	---	22400
5	10600	9300	10400	---	---	10600	17700	22300	49200	45100	33600	22200
6	10300	9280	10400	---	---	10500	17800	22500	49200	44800	33400	22100
7	10000	9400	10300	---	---	10400	18000	22700	49300	44500	33300	21900
8	9740	10100	10300	---	---	10300	18100	22900	49300	44200	33300	21800
9	9450	10200	10200	---	---	10300	18400	22900	49100	43800	33200	21600
10	9160	10300	10100	---	---	10300	18700	23000	49200	43500	33100	21400
11	9000	10300	9960	---	---	10300	19200	23200	49200	43100	32800	21300
12	9010	10300	9810	---	---	10400	19700	23500	49200	42800	32300	21100
13	9020	10400	10000	---	---	10600	20000	24000	49100	42400	31800	21000
14	9040	10400	11100	---	---	10900	20200	24800	49100	42100	31300	20800
15	9050	10400	11200	---	---	11200	20300	25700	49300	41700	30800	20600
16	9060	10400	11300	---	---	11300	20400	26500	49700	41300	30300	20500
17	9070	10500	11300	---	---	11400	20500	27300	49900	41100	29800	20400
18	9090	10500	11200	---	---	11400	20600	28000	49800	41100	29300	20300
19	9110	10500	---	---	---	11500	20600	28800	49600	41000	28800	20200
20	9130	10500	---	---	---	11600	20700	29700	49500	40900	28300	20100
21	9160	10600	---	---	---	11600	20900	30900	49400	40700	27800	20000
22	9180	10600	---	---	---	11800	21000	32400	49300	40200	27400	19900
23	9200	10700	---	---	---	12300	21000	34000	49000	39700	26900	19800
24	9210	10700	---	---	---	12600	21200	35700	48300	39200	26400	19700
25	9230	10700	---	---	---	12900	21300	37000	47600	38700	25900	19600
26	9250	10700	---	---	11200	14100	21400	38300	47200	---	25500	19600
27	9260	10600	---	---	11100	14700	21500	40100	47100	---	25000	19500
28	9280	10600	---	---	11000	15100	21600	41900	47000	---	24600	19400
29	9290	10600	---	---	---	15300	21600	43800	46800	---	24100	19300
30	9300	10500	---	---	---	15800	21700	45500	46600	---	23700	19200
31	9310	---	---	---	---	16300	---	46900	---	---	23300	---
MAX	11800	10700	---	---	---	16300	21700	46900	49900	---	---	23100
MIN	9000	9280	---	---	---	10300	16800	21700	46600	---	---	19200
a	43.35	46.75	---	---	47.97	60.27	70.86	110.63	110.19	---	73.94	66.17
b	-2790	+1190	---	---	---	+5300	+5400	+25200	-300	---	---	-4100

WTR YR 2003 b +7100

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

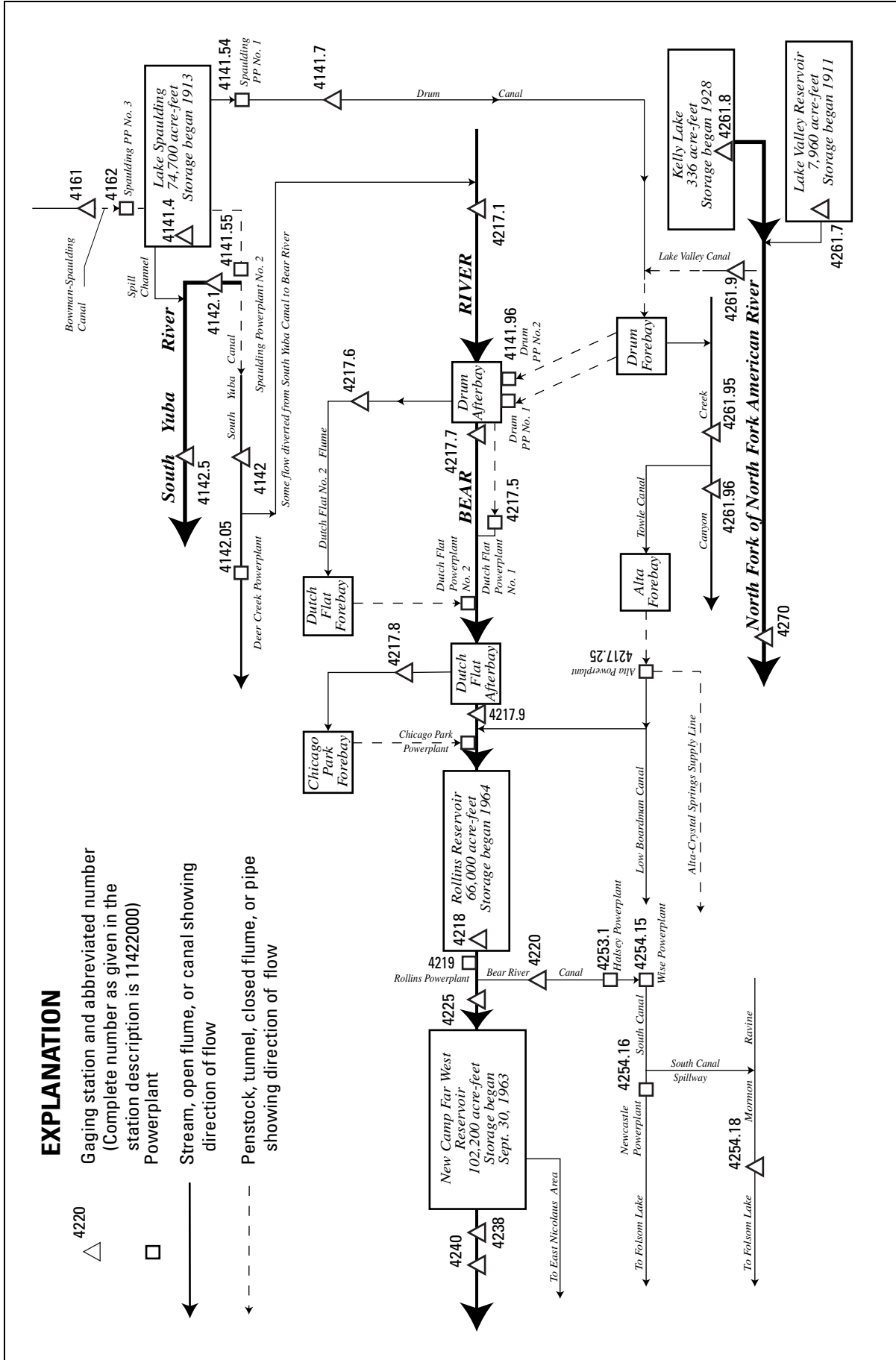


Figure 33. Diversions and storage in Bear River Basin.

11414140 LAKE SPAULDING NEAR EMIGRANT GAP, CA

LOCATION.—Lat 39°19'35", long 120°38'32", in SE 1/4 NE 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near center of Spaulding Dam, on South Yuba River, and 2.5 mi northeast of Emigrant Gap.

DRAINAGE AREA.—118 mi².

PERIOD OF RECORD.—October 1964 to current year.

GAGE.—Water-stage recorder. Datum of gage is 4,809.6 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to July 1968, nonrecording gage at same site and datum.

REMARKS.—Lake is formed by three concrete-arch dams with spillway on the middle arch. Storage began in 1913. Capacity, 74,700 acre-ft, between gage heights 0.6 ft, bottom of outlet, and 205.0 ft, top of radial gates. Released water flows through Spaulding Powerplants Nos. 1 and 2 (stations 11414154 and 11414155). Flow through Powerplant No. 1 is transported out of Yuba River Basin by Drum Canal to Bear River Basin. See schematic diagrams of [South Yuba River](#) and [Bear River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 75,100 acre-ft, July 13, 1967, gage height, 205.5 ft; minimum, 914 acre-ft, Feb. 28, 1976, gage height, 25.5 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 74,600 acre-ft, June 4, gage height, 204.81 ft; minimum, 18,500 acre-ft, Mar. 12, gage height, 97.24 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated Apr. 23, 1965)

20	566	40	2,741	100	19,541	200	71,328
25	874	50	4,578	150	41,545	206	75,473
30	1,352	70	9,631				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39800	29000	24600	33500	39200	26400	40700	50800	73300	67400	57700	53400
2	40000	29000	24000	33400	39100	25700	41500	50800	73700	67100	58300	53000
3	39700	28900	23400	33400	38700	25100	42000	51600	74500	66700	58800	52700
4	39300	28500	22800	33400	38200	24400	42300	52500	74600	67000	58300	52200
5	39000	27900	22300	33500	37700	23700	42600	52700	74400	67200	57500	51600
6	38600	27300	21800	33500	37100	23000	42700	53000	74400	67300	56500	51800
7	38300	26900	21900	33400	36400	22100	42800	53100	74500	66800	55500	51900
8	38000	28600	21900	33400	35700	21200	43400	53300	74400	66300	54700	51200
9	37600	29400	21700	33400	35000	20400	44200	53100	74200	65900	54800	50600
10	37300	30000	21500	33600	34300	19700	45100	52700	73400	65400	54900	50000
11	36900	30300	21300	33800	34100	19000	46500	52600	73200	65000	54300	49300
12	36900	30100	21100	33600	33400	18500	48000	53100	73600	65100	53900	48800
13	36800	29900	22600	33600	33400	18600	49000	54300	73900	65200	53600	48900
14	36700	29600	27700	33300	33300	20100	49500	56100	74200	64600	53300	49400
15	36600	29200	29000	32900	33000	22700	49700	58000	74100	64100	53100	49900
16	36500	29100	30100	32500	32800	23500	49800	59500	73700	63600	53600	50200
17	35900	29000	30700	32100	32300	23800	49600	60800	73400	63000	54000	50500
18	35300	28600	30900	32000	31800	23800	49300	61900	73500	62300	53700	51100
19	35300	28000	30800	31800	31500	23900	49200	62900	73200	62100	53400	51600
20	35200	27900	30600	31500	31200	24000	49200	64100	72600	61900	53100	52200
21	34800	27500	30400	31500	30800	24100	49400	65700	71900	61200	52800	52700
22	34200	27100	30100	31900	30200	24400	49300	67200	71200	60800	52600	53300
23	33600	27100	29800	35300	29700	27000	49300	68800	70600	60300	53100	53800
24	32900	26900	29600	37100	29200	28500	49900	70300	70400	59900	53600	54400
25	32300	26400	29400	37800	28700	29400	50300	71000	70300	59500	53200	54900
26	32300	25900	29200	38200	28200	33400	50500	71500	69800	59700	52900	55500
27	32200	25400	30400	38700	27600	35300	50700	72500	69100	59800	52600	55800
28	31500	25200	32400	39500	27000	36200	51100	73300	68700	59400	52300	56200
29	30900	25000	33200	39500	---	36900	51300	73700	68200	59000	52000	56500
30	30300	24800	33400	39300	---	37900	51100	74000	67800	58500	52500	56900
31	29600	---	33500	39100	---	39300	---	73700	---	58100	52900	---
MAX	40000	30300	33500	39500	39200	39300	51300	74000	74600	67400	58800	56900
MIN	29600	24800	21100	31500	27000	18500	40700	50800	67800	58100	52000	48800
a	125.10	113.68	133.64	145.30	119.08	145.51	167.48	203.42	194.74	179.45	170.76	177.37
b	-10300	-4800	+8700	+5600	-12100	+12300	+11800	+22600	-5900	-9700	-5200	+4000
c	24200	18090	21730	30390	26430	24060	29070	34970	34690	36000	30830	12670
d	4490	2890	2520	4070	6710	3660	567	9450	7000	5140	4880	1900

CAL YR 2002 MAX 74500 MIN 11100 b +7700 c 306800 d 45810

WTR YR 2003 MAX 74600 MIN 18500 b +17000 c 323100 d 53250

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

b Change in contents, in acre-feet.

c Diversion, in acre-feet, to Spaulding No. 1 Powerplant (station 11414154), provided by Pacific Gas & Electric Co.

d Diversion, in acre-feet, to Spaulding No. 2 Powerplant (station 11414155), provided by Pacific Gas & Electric Co.

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA

LOCATION.—Lat 39°19'03", long 120°39'08", in SE 1/4 SW 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, 100 ft downstream from tunnel outlet, 1.0 mi downstream from Spaulding No. 1 Powerplant, and 1.7 mi northeast of Emigrant Gap.

PERIOD OF RECORD.—October 1964 to current year. Prior to October 1972, published as "Drum Canal at intake."

GAGE.—Water-stage recorder. Elevation of gage is 4,880 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 1968, in powerplant 0.7 mi upstream at different datum.

REMARKS.—Canal diverts from Spaulding No. 1 Powerplant (station 11414154) at Lake Spaulding Dam. Most of the water from Drum Canal enters the Bear River via Drum No. 1 and 2 Powerplants (station 11414196) at Drum Afterbay. Some of the water is diverted out of Drum Forebay to Alta Powerplant (station 11421725). See schematic diagrams of [South Yuba River Basin](#) and [Bear River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 864 ft³/s, May 1, 1998; no flow for several days in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	374	487	214	507	793	793	495	781	853	700	685	266
2	239	203	399	507	792	788	488	763	852	699	238	664
3	514	221	396	507	791	788	485	747	805	667	278	662
4	527	409	400	507	797	791	483	730	610	368	724	660
5	516	406	404	506	794	791	485	752	845	369	722	620
6	514	407	392	563	799	785	486	762	854	403	718	224
7	513	404	207	599	804	803	486	746	854	720	713	274
8	505	381	194	599	801	788	488	740	854	716	669	650
9	511	207	374	600	796	774	491	770	854	657	237	646
10	512	209	393	708	791	699	482	767	851	713	266	648
11	487	221	398	747	553	697	485	770	849	695	682	648
12	204	395	404	756	796	687	477	772	851	384	675	613
13	233	399	390	686	795	669	446	806	853	401	667	212
14	254	402	169	787	796	482	492	847	851	722	659	73
15	209	388	249	784	791	457	571	855	818	727	618	0.00
16	235	215	246	780	790	490	616	853	802	712	238	0.00
17	503	210	246	782	792	494	743	861	805	707	262	0.00
18	494	401	419	786	789	479	784	853	811	686	673	0.00
19	200	422	510	788	624	478	782	838	811	361	666	0.00
20	230	289	514	786	583	484	775	840	810	393	664	0.00
21	373	387	514	789	738	484	758	845	807	718	662	0.00
22	504	378	512	720	798	487	747	851	799	717	630	0.00
23	501	202	510	576	798	499	747	845	702	716	227	0.00
24	501	213	508	593	796	485	627	848	684	716	273	0.00
25	473	403	506	780	792	491	564	851	573	691	665	0.00
26	219	400	501	782	789	486	571	851	704	376	663	0.00
27	229	389	510	784	792	489	575	850	698	398	664	99
28	513	204	449	792	790	489	576	848	700	725	663	119
29	516	198	491	795	---	481	577	853	704	724	631	129
30	515	194	504	794	---	485	689	856	702	723	228	84
31	511	---	507	793	---	487	---	855	---	722	221	---
TOTAL	12629	9644	12430	21483	21560	18580	17471	25206	23566	19026	16581	7291.00
MEAN	407	321	401	693	770	599	582	813	786	614	535	243
MAX	527	487	514	795	804	803	784	861	854	727	724	664
MIN	200	194	169	506	553	457	446	730	573	361	221	0.00
AC-FT	25050	19130	24650	42610	42760	36850	34650	50000	46740	37740	32890	14460
a	21710	18530	24790	43190	42380	37890	36140	48400	43820	35140	30130	12810
b	1370	1190	937	757	92	221	611	624	931	1270	1310	1200

a Discharge, in acre-feet, to Drum No. 1 and 2 Powerplants (station 11414196), provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Alta Powerplant (station 11421725), provided by Pacific Gas & Electric Co.

SACRAMENTO RIVER BASIN

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	397	411	450	451	472	527	609	659	645	615	578	359
MAX	817	824	835	837	833	838	839	855	851	820	820	661
(WY)	1983	1984	1984	1984	1984	1984	1996	1998	1999	1983	1998	1986
MIN	0.000	29.5	31.1	30.2	0.000	22.6	22.9	5.77	166	178	0.000	0.000
(WY)	1966	1987	1977	1997	1991	1988	1988	1976	1977	1977	1965	1965

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL TOTAL	193996.80		205467.00			
ANNUAL MEAN	531		563		515	
HIGHEST ANNUAL MEAN					796	
LOWEST ANNUAL MEAN					101	
HIGHEST DAILY MEAN	855	Jun 1	861	May 17	864	May 1 1998
LOWEST DAILY MEAN	0.00	Sep 16	0.00	Sep 15	0.00	Jul 31 1965
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 16	0.00	Sep 15	0.00	Jul 31 1965
ANNUAL RUNOFF (AC-FT)	384800		407500		372900	
ANNUAL DISCHARGE (AC-FT) a	372900		394900			
ANNUAL DISCHARGE (AC-FT) b	10980		10500			
10 PERCENT EXCEEDS	782		805		827	
50 PERCENT EXCEEDS	542		599		568	
90 PERCENT EXCEEDS	226		220		48	

a Discharge, in acre-feet, to Drum No. 1 and 2 Powerplants (station 11414196), provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Alta Powerplant (station 11421725), provided by Pacific Gas & Electric Co.

11414200 SOUTH YUBA CANAL NEAR EMIGRANT GAP, CA

LOCATION.—Lat 39°18'49", long 120°39'43", in SE 1/4 NE 1/4 sec.30, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank of concrete flume, 400 ft downstream from Bowman Lake Road, and 2.5 mi northeast of Emigrant Gap.

PERIOD OF RECORD.—October 1964 to current year.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 4,590 ft above NGVD of 1929, from topographic map.

REMARKS.—Canal diverts from Spaulding No. 2 Powerplant (station 11414155) at Lake Spaulding Dam. Downstream from the gage, some flow is diverted to Bear River. The remainder of the water enters Deer Creek at Deer Creek Powerplant (station 11414205). See schematic diagrams of South Yuba River Basin and Bear River Basin.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 165 ft³/s, Aug. 3, 1965; no flow at times in some years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	56	44	40	133	85	4.6	144	143	72	65	61
2	73	56	44	39	133	86	4.5	145	142	72	66	54
3	72	56	44	39	133	85	4.4	145	143	71	65	49
4	72	56	43	36	132	85	4.4	144	144	71	65	59
5	72	56	42	35	132	84	4.0	143	142	71	65	60
6	72	55	44	35	130	84	4.0	140	142	71	64	59
7	72	50	45	35	129	83	4.0	140	143	69	64	59
8	72	43	44	35	128	86	4.1	141	133	69	63	62
9	72	45	44	44	128	92	4.2	141	141	71	63	62
10	71	45	42	53	127	92	3.9	141	141	71	64	62
11	71	51	43	54	128	91	3.8	141	141	71	66	62
12	72	54	43	49	125	80	3.8	140	141	72	66	62
13	73	53	41	48	126	42	4.1	140	142	72	66	63
14	73	46	26	50	126	40	4.7	139	142	70	66	59
15	73	42	36	49	126	31	4.7	140	93	66	66	62
16	73	42	32	51	126	32	4.3	141	65	65	67	65
17	72	42	36	53	125	46	4.2	141	70	65	67	65
18	72	42	39	53	124	79	4.2	141	71	65	66	65
19	73	40	40	52	125	84	4.3	142	70	70	66	65
20	73	41	40	52	125	84	4.2	142	70	72	66	65
21	73	43	41	52	105	83	4.2	143	69	74	66	66
22	73	43	40	47	83	86	4.2	143	69	73	60	66
23	72	43	40	31	68	88	4.0	143	69	72	66	66
24	72	44	40	61	34	25	17	143	69	72	66	66
25	64	42	40	125	36	2.9	32	143	64	71	65	66
26	57	41	42	132	56	24	32	143	70	71	65	66
27	57	43	38	133	78	38	32	143	70	71	65	66
28	57	44	33	133	84	36	32	144	69	70	59	66
29	57	44	32	134	---	36	31	145	71	70	59	69
30	57	44	36	134	---	16	107	145	71	66	60	74
31	56	---	36	133	---	5.1	---	145	---	65	60	---
TOTAL	2141	1402	1230	2017	3105	1911.0	379.8	4411	3110	2171	1997	1891
MEAN	69.1	46.7	39.7	65.1	111	61.6	12.7	142	104	70.0	64.4	63.0
MAX	73	56	45	134	133	92	107	145	144	74	67	74
MIN	56	40	26	31	34	2.9	3.8	139	64	65	59	49
AC-FT	4250	2780	2440	4000	6160	3790	753	8750	6170	4310	3960	3750
a	3660	2290	2220	2680	3510	3640	0	3710	4350	3750	3540	3250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)
MEAN	77.6	65.6	68.8	71.5	76.4	82.2	74.4	108	107	95.2	90.2	86.8
MAX	158	157	157	155	151	147	146	156	163	160	155	152
(WY)	1966	1966	1966	1984	1984	1980	1967	1980	1965	1965	1965	1965
MIN	35.9	14.7	33.4	18.2	11.4	15.6	11.3	27.2	7.92	46.1	41.7	38.0
(WY)	1978	1995	1978	1997	1997	1997	1979	1977	2001	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1965 - 2003
ANNUAL TOTAL	21992.00	25765.8	
ANNUAL MEAN	60.3	70.6	83.7
HIGHEST ANNUAL MEAN			124
LOWEST ANNUAL MEAN			47.2
HIGHEST DAILY MEAN	137	145	165
LOWEST DAILY MEAN	0.00	2.9	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	4.0	0.00
ANNUAL RUNOFF (AC-FT)	43620	51110	60650
ANNUAL DISCHARGE (AC-FT) a	35200	36610	
10 PERCENT EXCEEDS	83	141	141
50 PERCENT EXCEEDS	58	66	75
90 PERCENT EXCEEDS	35	32	38

a Discharge, in acre-feet, to Deer Creek Powerplant (station 11414205), provided by Pacific Gas & Electric Co.

11414210 SOUTH YUBA RIVER CONTROLLED RELEASE AT LAKE SPAULDING, NEAR EMIGRANT GAP, CA

LOCATION.—Lat 39°19'28", long 120°38'42", in NE 1/4 SE 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank, 200 ft downstream from Spaulding No. 2 Powerplant, 0.2 mi downstream from Spaulding Dam, and 2.3 mi northeast of Emigrant Gap.

DRAINAGE AREA.—118 mi².

PERIOD OF RECORD.—October 1985 to current year. Unpublished records for water years 1965–85 in files of the U.S. Geological Survey. Prior to October 2000, published as "South Yuba River below Spaulding No. 2 Powerplant, near Emigrant Gap."

GAGE.—Water-stage recorder, V-notch sharp-crested weir and steel-lipped rectangular weir. Elevation of gage is 4,670 ft above NGVD of 1929, from topographic map. Prior to June 1988, at same site, different datum.

REMARKS.—Flow regulated by Lake Spaulding (station 11414140) 0.2 mi upstream. Water is released at the intake to South Yuba Canal (station 11414200) 100 ft upstream. Flow over Lake Spaulding spillway bypasses this station. See schematic diagrams of [South Yuba River and Bear River Basins](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 194 ft³/s, Apr. 14, June 8, 1986, gage height, 3.37 ft, from rating curve extended above 45 ft³/s, on basis of weir formula; minimum daily, 0.09 ft³/s, Nov. 5–7, 1985.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	5.8	5.0	1.9	22	2.2	3.5	27	31	3.8	6.4	5.9
2	5.5	5.2	5.0	2.3	22	2.2	3.4	27	31	3.8	6.2	5.9
3	5.3	5.0	5.0	2.1	22	2.2	3.1	27	31	3.8	6.2	5.9
4	5.3	5.4	5.0	2.2	22	2.2	3.0	28	31	3.8	6.2	6.0
5	5.3	5.6	4.8	2.3	22	2.1	2.9	28	31	3.8	6.2	5.9
6	5.3	5.6	4.8	2.1	22	2.1	2.8	28	31	4.3	6.2	5.9
7	5.6	5.7	4.8	2.0	21	1.9	3.1	28	31	4.8	6.2	5.9
8	5.6	7.0	4.8	2.0	21	1.8	3.2	29	28	4.8	6.2	6.0
9	5.6	4.8	4.8	2.3	21	1.8	3.0	28	29	4.8	6.2	6.2
10	5.6	4.4	4.8	3.5	21	2.0	2.9	28	29	4.8	6.2	6.2
11	5.6	2.2	4.8	2.9	21	2.9	2.8	28	29	4.8	6.2	6.2
12	5.6	3.2	4.8	2.3	21	3.2	4.0	28	29	4.8	6.2	6.2
13	5.6	3.2	7.0	2.5	22	3.0	2.8	28	29	4.8	6.2	6.2
14	5.6	3.2	6.2	2.2	21	4.5	3.5	29	29	5.5	6.2	5.9
15	5.6	2.9	4.4	2.1	21	5.3	1.8	29	13	6.2	6.2	6.2
16	5.6	2.7	3.4	2.0	21	2.2	1.3	29	2.0	6.2	6.2	6.2
17	6.3	3.3	2.3	2.1	21	1.5	2.2	29	2.0	6.2	6.2	6.2
18	6.2	4.3	2.1	2.3	21	1.2	2.6	29	2.2	6.2	6.2	6.2
19	5.5	7.2	2.1	2.1	21	1.0	2.4	29	2.3	6.2	6.2	6.2
20	5.3	3.8	2.0	2.0	21	1.2	2.3	29	2.3	6.2	6.2	6.2
21	5.6	4.3	2.0	2.6	11	1.1	2.6	29	2.3	6.2	6.2	5.8
22	5.9	4.5	2.0	2.7	2.3	1.0	1.2	30	2.5	6.2	5.6	5.3
23	5.9	5.0	2.0	3.4	2.2	2.0	1.1	30	2.6	6.2	6.2	5.3
24	5.9	4.9	1.9	1.3	2.1	2.3	9.5	30	2.6	6.5	6.1	5.3
25	5.8	4.2	1.9	2.7	2.1	3.0	3.1	30	2.7	6.5	5.9	5.2
26	5.3	5.0	2.2	2.2	2.1	3.8	2.8	30	2.1	6.5	5.9	5.0
27	5.3	5.0	4.9	2.2	2.2	2.0	2.9	30	2.0	6.5	5.9	4.9
28	5.7	5.0	3.4	2.3	2.3	1.8	2.9	31	3.0	6.5	5.9	5.0
29	5.9	5.0	2.2	2.2	---	2.4	2.7	31	3.8	6.5	5.9	5.7
30	5.9	5.0	2.0	2.2	---	3.2	1.8	31	3.8	6.5	5.9	5.9
31	5.9	---	1.9	2.2	---	3.1	---	31	---	6.5	5.9	---
TOTAL	174.7	138.4	114.3	226.9	453.3	72.2	124.1	898	470.2	170.2	189.6	174.9
MEAN	5.64	4.61	3.69	7.32	16.2	2.33	4.14	29.0	15.7	5.49	6.12	5.83
MAX	6.3	7.2	7.0	27	22	5.3	18	31	31	6.5	6.4	6.2
MIN	5.3	2.2	1.9	1.9	2.1	1.0	1.3	27	2.0	3.8	5.6	4.9
AC-FT	347	275	227	450	899	143	246	1780	933	338	376	347

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

MEAN	4.71	4.43	4.26	4.21	9.35	13.8	19.6	24.2	22.4	6.56	5.00	5.04
MAX	7.45	6.63	21.2	17.7	61.4	111	118	85.8	111	29.1	8.84	8.22
(WY)	2000	1999	1997	1995	1986	1986	1986	1986	1986	1998	1997	1997
MIN	1.50	1.52	1.72	1.70	1.57	1.88	1.32	1.75	1.71	1.71	1.55	1.58
(WY)	1986	1986	1987	1989	2001	2002	2001	1987	1987	1986	1986	1987

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1986 - 2003
ANNUAL TOTAL	2267.6	3206.8	
ANNUAL MEAN	6.21	8.79	10.3
HIGHEST ANNUAL MEAN			41.3
LOWEST ANNUAL MEAN			2.05
HIGHEST DAILY MEAN	112	May 21	166
LOWEST DAILY MEAN	1.3	Jan 23	0.09
ANNUAL SEVEN-DAY MINIMUM	1.4	Jan 31	0.64
MAXIMUM PEAK FLOW			138
MAXIMUM PEAK STAGE			2.70
ANNUAL RUNOFF (AC-FT)	4500	6360	7450
10 PERCENT EXCEEDS	6.8	28	31
50 PERCENT EXCEEDS	4.3	5.5	4.7
90 PERCENT EXCEEDS	1.5	2.1	1.7

11414265 RUCKER CREEK BELOW BLUE LAKE, NEAR EMIGRANT GAP, CA

LOCATION.—Lat 39°21'32", long 120°38'09", in NE 1/4 NW 1/4 sec.9, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank, 300 ft downstream from outlet structure on Blue Lake Dam, and 4.6 mi northeast of Emigrant Gap.

DRAINAGE AREA.—0.27 mi².

PERIOD OF RECORD.—October 1999 to current year. Unpublished records for water years 1965–99 available in the files of the U.S. Geological Survey.

GAGE.—Nonrecording gage observed intermittently during the summer months. Datum of gage is 5,910 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by Blue Lake (station 11414260) 300 ft upstream. There are no diversions upstream of station.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	0.26	---	---
2	e0.20	---	---	---	---	---	---	---	---	---	0.29	---
3	---	---	---	---	---	---	---	---	---	---	---	0.20
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	e0.20	---	---	---	---	---	---	---	0.26	---	0.20
6	---	---	---	---	---	---	---	---	---	---	0.29	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	e0.20	---	---	---	---	---	---	---	---	---	0.29	---
9	---	---	---	---	---	---	---	---	---	0.26	---	e0.10
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	e0.20
12	---	---	---	---	---	---	---	---	---	0.23	---	---
13	---	---	---	---	---	---	---	---	---	---	0.29	e0.20
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	e0.20	---	---	---	---	---	---	---	---	0.23	0.26	e0.20
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	0.26	e0.20
20	---	---	---	---	---	---	---	---	---	0.26	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	0.26	---
23	e0.20	---	---	---	---	---	---	---	---	0.23	---	e0.26
24	---	---	---	---	---	---	---	---	0.26	---	---	e0.20
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	0.23	---	---
27	---	---	---	---	---	---	---	---	---	---	0.26	---
28	---	---	---	---	---	---	---	---	---	---	---	e0.20
29	e0.20	---	---	---	---	---	---	---	---	---	---	e0.20
30	---	---	---	---	---	---	---	---	---	0.23	0.23	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated.

11414360 LAKE CREEK BELOW CARR LAKE, NEAR GRANITEVILLE, CA

LOCATION.—Lat 39°23'57", long 120°38'31", in SE 1/4 NE 1/4 sec.29, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank, 65 ft downstream from Carr Lake, 2.0 mi upstream from Fall Creek, and 5.8 mi southeast of Graniteville.

DRAINAGE AREA.—0.48 mi².

PERIOD OF RECORD.—October 1995 to current year. Unpublished records for water years 1965–95 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and compound rectangular weir. Elevation of gage is 6,650 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). August 1965 to November 1975, nonrecording gage at site 65 ft upstream at different datum. November 1975 to July 1984, nonrecording gage at same site but different datum. July 1984 to September 1995, nonrecording gage at same site and datum.

REMARKS.—Records not computed for winter months. Flow regulated by Carr Lake. See schematic diagram of [South Yuba River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.4	---	---	---	---	---	---	---	0.28	0.41	0.36
2	2.8	2.4	---	---	---	---	---	---	---	0.50	0.46	0.30
3	2.8	2.4	---	---	---	---	---	---	---	0.64	0.56	2.0
4	2.7	2.2	---	---	---	---	---	---	---	0.52	0.56	3.4
5	2.7	2.2	---	---	---	---	---	---	---	0.56	0.56	3.4
6	2.7	3.1	---	---	---	---	---	---	---	0.54	0.56	3.4
7	2.7	3.3	---	---	---	---	---	---	---	0.52	0.55	3.6
8	2.7	2.6	---	---	---	---	---	---	---	0.49	0.56	3.6
9	e4.0	2.6	---	---	---	---	---	---	---	0.53	0.54	3.7
10	e4.8	2.4	---	---	---	---	---	---	---	0.55	0.51	3.7
11	e4.6	2.3	---	---	---	---	---	---	---	0.56	0.51	3.7
12	e4.5	2.2	---	---	---	---	---	---	---	0.68	0.40	3.7
13	e4.3	1.8	---	---	---	---	---	---	3.5	0.56	0.58	3.7
14	e4.1	---	---	---	---	---	---	---	2.8	0.57	0.71	3.5
15	e4.0	---	---	---	---	---	---	---	2.5	0.57	0.65	3.4
16	e3.8	---	---	---	---	---	---	---	2.3	0.62	0.64	3.4
17	e3.6	---	---	---	---	---	---	---	1.4	0.56	0.64	3.4
18	e3.5	---	---	---	---	---	---	---	1.9	0.56	0.50	3.2
19	e3.4	---	---	---	---	---	---	---	1.9	0.56	0.45	3.1
20	e3.2	---	---	---	---	---	---	---	1.3	0.56	0.42	3.1
21	e3.1	---	---	---	---	---	---	---	1.1	0.56	0.41	3.1
22	e2.9	---	---	---	---	---	---	---	1.1	0.56	0.51	3.1
23	e2.8	---	---	---	---	---	---	---	1.3	0.56	0.64	3.0
24	e2.8	---	---	---	---	---	---	---	1.5	0.56	0.63	2.9
25	e2.8	---	---	---	---	---	---	---	0.71	0.45	0.64	3.1
26	e2.7	---	---	---	---	---	---	---	0.53	0.51	0.64	3.1
27	e2.7	---	---	---	---	---	---	---	0.43	0.48	0.59	3.1
28	e2.7	---	---	---	---	---	---	---	0.40	0.41	0.56	3.1
29	e2.7	---	---	---	---	---	---	---	0.34	0.43	0.56	3.1
30	e2.7	---	---	---	---	---	---	---	0.28	0.47	0.51	3.0
31	e2.6	---	---	---	---	---	---	---	---	0.45	0.41	---
TOTAL	100.2	---	---	---	---	---	---	---	---	16.37	16.87	92.26
MEAN	3.23	---	---	---	---	---	---	---	---	0.53	0.54	3.08
MAX	4.8	---	---	---	---	---	---	---	---	0.68	0.71	3.7
MIN	2.6	---	---	---	---	---	---	---	---	0.28	0.40	0.30
AC-FT	199	---	---	---	---	---	---	---	---	32	33	183

e Estimated.

11414400 FRENCH LAKE NEAR CISCO, CA

LOCATION.—Lat 39°25'16", long 120°32'28", in SE 1/4 SW 1/4 sec.17, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank, near French Lake Dam on Canyon Creek, 0.5 mi upstream from Weil Lake, and 8.2 mi north of Cisco.

DRAINAGE AREA.—4.60 mi².

PERIOD OF RECORD.—October 1986 to current year. Unpublished records for water years 1966–86 available in the files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Nevada Irrigation District).

REMARKS.—Reservoir is formed on natural lake by rock-filled dam completed in 1859. Usable capacity, 13,940 acre-ft, between elevations 6,594.90 ft, invert of outlet gate, and 6,660.28 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 14,300 acre-ft, June 19, 1998, May 8, 23, 24, 2000, May 30, 2002, May 27, 28, June 7, 2003, maximum elevation, 6661.34 ft, May 8, 2000; minimum, 5,640 acre-ft, Nov. 19, 20, 2001, minimum elevation, 6629.80 ft, Nov. 20, 2001.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 14,300 acre-ft, May 27, 28, June 7, maximum elevation, 6661.20 ft, May 27; minimum, 7,230 acre-ft, Sept. 30, elevation, 6636.77 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

6,610	1,805	6,630	5,677	6,650	10,701	6,662	14,542
6,620	3,636	6,640	8,006				

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7830	7430	8090	9390	10400	10500	12100	13100	14200	14000	13500	12200
2	7810	7410	8080	9390	10400	10500	12200	13100	14200	13900	13500	12000
3	7800	7400	8070	9390	10400	10500	12200	13100	14200	13900	13500	11800
4	7790	7380	8060	9400	10400	10500	12300	13200	14200	13900	13400	11600
5	7790	7370	8050	9430	10400	10500	12300	13200	14200	13900	13400	11400
6	7770	7340	8040	9400	10400	10500	12300	13200	14200	13900	13400	11200
7	7760	7420	8040	9410	10400	10500	12300	13300	14300	13900	13400	11000
8	7750	7870	8030	9410	10400	10500	12300	13300	14200	13900	13400	10800
9	7750	7930	8030	9430	10400	10500	12400	13300	14200	13800	13300	10600
10	7740	7970	8040	9470	10400	10500	12400	13300	14200	13800	13300	10400
11	7730	7970	8030	9470	10400	10500	12600	13300	14200	13800	13300	10300
12	7720	7980	8030	9480	10400	10500	12700	13400	14200	13800	13300	10100
13	7710	8000	8280	9480	10500	10600	12800	13500	14100	13800	13300	9900
14	7700	8010	8660	9480	10500	10700	12800	13700	14100	13800	13200	9710
15	7690	8020	8760	9480	10500	10800	12800	13900	14100	13700	13200	9520
16	7680	8020	8840	9470	10500	10800	12800	14000	14100	13700	13200	9340
17	7660	8020	8880	9480	10500	10800	12800	14100	14100	13700	13200	9160
18	7640	8020	8890	9490	10500	10800	12800	14100	14100	13700	13200	8990
19	7620	8030	8900	9500	10500	10800	12800	14100	14100	13700	13100	8820
20	7610	8080	8940	9500	10500	10800	12800	14100	14100	13700	13100	8650
21	7600	8100	8970	9530	10500	10800	12900	14200	14000	13600	13000	8470
22	7580	8120	8970	9610	10500	10900	12900	14200	14000	13600	13000	8300
23	7570	8130	8970	9880	10500	11100	12900	14200	14000	13600	12900	8130
24	7550	8130	8970	9980	10500	11100	12900	14200	14000	13600	12800	7970
25	7540	8140	8970	10000	10500	11200	13000	14200	14000	13600	12700	7810
26	7520	8100	8990	10100	10500	11600	13000	14200	14000	13600	12600	7650
27	7500	8120	9130	10200	10500	11700	13000	14300	14000	13500	12600	7490
28	7490	8110	9250	10300	10500	11800	13000	14300	14000	13500	12500	7330
29	7470	8100	9290	10300	---	11800	13100	14200	14000	13500	12400	7240
30	7460	8090	9320	10300	---	11900	13100	14200	14000	13500	12300	7230
31	7440	---	9300	10300	---	12000	---	14200	---	13500	12200	---
MAX	7830	8140	9320	10300	10500	12000	13100	14300	14300	14000	13500	12200
MIN	7440	7340	8030	9390	10400	10500	12100	13100	14000	13500	12200	7230
a	6637.66	6640.34	6644.98	6648.68	6649.35	6654.39	6657.61	6661.04	6660.41	6658.90	6655.12	6636.77
b	-400	+650	+1210	+1000	+200	+1500	+1100	+1100	-200	-500	-1300	-4970

CAL YR 2002 MAX 14300 MIN 6820 b +2510
WTR YR 2003 MAX 14300 MIN 7230 b -610

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

11414410 CANYON CREEK BELOW FRENCH LAKE, NEAR CISCO, CA

LOCATION.—Lat 39°25'16", long 120°32'30", in SE 1/4 SW 1/4 sec.17, T.18 N., R.13 E., [Nevada County](#), Hydrologic Unit 18020125, Tahoe National Forest, on left bank, 10 ft downstream from outlet at French Lake Dam on Canyon Creek, 0.5 mi upstream from Weil Lake, and 8.2 mi north of Cisco.

DRAINAGE AREA.—4.60 mi².

PERIOD OF RECORD.—January 1989 to current year (low-flow records only). Unpublished records for water years 1967–88 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,590 ft above NGVD of 1929, from topographic map. Prior to January 1989, nonrecording gages at three sites and datums.

REMARKS.—No records computed above 3.2 ft³/s. Flow regulated by French Lake (station 11414400). Flow over the spillway bypasses this station. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR CURRENT YEAR.—No flow below 3.2 ft³/s this water year.

11414440 FAUCHERIE LAKE NEAR CISCO, CA

LOCATION.—Lat 39°25'45", long 120°34'04", in SE 1/4 NE 1/4 sec.13, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, near right bank end of Faucherie Dam, on Canyon Creek, and 8.5 mi north of Cisco.

DRAINAGE AREA.—8.97 mi².

PERIOD OF RECORD.—October 1986 to current year. Unpublished records for water years 1965–86 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder installed Dec. 8, 1999. Records prior to Dec. 8, 1999, are instantaneous values. Datum of gage is NGVD of 1929 (levels by Nevada Irrigation District).

REMARKS.—Reservoir is formed on natural lake by earth-filled dam initially constructed prior to 1880 and enlarged in 1964. Usable capacity, 3,740 acre-ft, between elevations 6,090.00 ft, invert of outlet gate, and 6,123.00 ft, crest of spillway. Dead storage, below elevation 6,090 ft, 240 acre-ft. Figures given represent total contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of [North Yuba and Middle River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents recorded, 4,160 acre-ft, Dec. 13, 2002, elevation, 6,124.18 ft; minimum recorded, 1,850 acre-ft, Nov. 20, 2001, elevation, 6106.96 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 4,160 acre-ft, Dec. 13, elevation, 6,124.18 ft; minimum, 3,960 acre-ft, several days, minimum elevation, 6,122.86 ft, Oct. 15, 16.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

6,090	240	6,100	1,095	6,110	2,216	6,120	3,540
6,095	628	6,105	1,629	6,115	2,854	6,125	4,280

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3970	3990	3990	3990	4010	3990	4010	4000	4080	3990	3970	4000
2	3970	3990	3990	3990	4000	3990	4010	4010	4070	3990	3980	4020
3	3970	3990	3990	3990	4000	3990	4000	4020	4080	3990	3970	4030
4	3970	3990	3980	3990	4000	3990	4000	4010	4070	3990	3970	4030
5	3970	3990	3980	3990	4000	3990	3990	4010	4070	3990	3970	4030
6	3970	3990	3980	3990	3990	3990	3990	4010	4070	3980	3970	4030
7	3960	4080	3980	3990	3990	3990	4000	4010	4070	3980	3970	4030
8	3960	4090	3980	3990	3990	3990	4010	4000	4070	3980	3970	4030
9	3960	4010	3990	4000	3990	3990	4010	4000	4060	3980	3970	4030
10	3960	4010	3990	4000	3990	3990	4020	4000	4050	3980	3970	4030
11	3960	4010	3990	3990	3990	4000	4020	4010	4040	3980	3970	4030
12	3960	4010	3990	3990	3990	4000	4020	4030	4040	3980	3970	4030
13	3960	4010	4160	3990	4010	4010	4000	4040	4030	3980	3970	4030
14	3960	4010	4030	3990	4000	4020	4000	4050	4030	3980	3970	4030
15	3960	4000	4020	3990	4000	4010	3990	4050	4020	3980	3970	4030
16	3960	4000	4010	3990	3990	4000	3990	4030	4030	3980	3970	4030
17	3970	4000	4000	3990	3990	3990	3990	4040	4030	3980	3970	4030
18	3990	3990	3990	4000	3990	3990	3990	4050	4030	3980	3970	4030
19	3990	4000	4000	4000	3990	3990	4000	4050	4020	3980	3970	4030
20	3990	4010	4000	3990	3990	3990	4000	4060	4010	3980	3990	4020
21	3990	4010	3990	4000	3990	4000	4000	4080	4010	3980	4000	4020
22	3990	4000	3990	4030	3990	4020	4000	4090	4000	3980	4000	4020
23	3990	4000	3990	4050	3990	4030	4000	4100	4000	3970	4000	4020
24	3990	3990	3990	4010	3990	4010	4000	4090	4000	3970	4000	4020
25	3990	3990	3990	4010	3990	4010	4000	4080	4000	3970	4000	4020
26	3990	3990	4000	4010	3990	4040	3990	4090	4000	3970	4000	4020
27	3990	3990	4050	4040	3990	4010	3990	4100	4000	3970	4000	4020
28	3990	3990	4020	4010	3990	4000	4000	4100	4000	3970	4000	4020
29	3990	3990	4000	4000	---	4010	3990	4090	3990	3970	4000	3990
30	3990	3990	4000	4000	---	4020	4000	4090	3990	3970	4000	3960
31	3990	---	4000	4000	---	4030	---	4080	---	3970	4000	---
MAX	3990	4090	4160	4050	4010	4040	4020	4100	4080	3990	4000	4030
MIN	3960	3990	3980	3990	3990	3990	3990	4000	3990	3970	3970	3960
a	6123.06	6123.05	6123.12	6123.16	6123.05	6123.33	6123.11	6123.66	6123.07	6122.94	6123.13	6122.87
b	+10	0	+10	0	-10	+40	-30	+80	-90	-20	+30	-40
CAL YR 2002	MAX 4160	MIN 3960	b -10									
WTR YR 2003	MAX 4160	MIN 3960	b -20									

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11414450 CANYON CREEK BELOW FAUCHERIE LAKE, NEAR CISCO, CA

LOCATION.—Lat 39°25'46", long 120°34'06", in SE 1/4 NE 1/4 sec.13, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank, 80 ft downstream from Faucherie Dam, on Canyon Creek, and 8.5 mi north of Cisco.

DRAINAGE AREA.—8.97 mi².

PERIOD OF RECORD.—January 1989 to current year (low-flow records only). Unpublished records for water years 1965–88 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,080 ft above NGVD of 1929, from topographic map. October 1964 to July 1988, nonrecording gage at site 10 ft downstream at different datum. July 1988 to January 1989, nonrecording gage at same site and datum.

REMARKS.—No records computed above 3.4 ft³/s. Flow regulated by Faucherie Lake (station 11414440). Flow over the spillway bypasses this station. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2
2	3.3	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2
3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.2	3.2
4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
5	3.3	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2
6	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
7	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
8	3.2	3.4	3.3	3.3	---	3.3	3.3	3.3	3.3	3.2	3.2	3.2
9	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
10	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
11	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
12	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
13	3.2	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
14	3.2	3.3	3.4	3.1	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
15	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
16	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.2	3.2	3.2
17	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2	3.2
18	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2	3.2
19	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2	3.2
20	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2	3.2
21	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2	3.2
22	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2	3.2
23	3.2	3.3	3.3	3.4	3.3	3.3	3.3	3.3	2.9	3.2	3.2	3.2
24	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.2	3.2	3.2
25	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.4	2.9	3.2	3.2	3.2
26	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.4	2.9	3.2	3.2	3.2
27	3.2	3.2	3.4	3.3	3.3	3.3	3.3	3.4	2.9	3.2	3.2	3.0
28	3.3	3.3	3.4	3.3	3.3	3.3	3.3	3.4	2.9	3.2	3.2	3.1
29	3.2	3.3	3.3	3.3	---	3.3	3.3	3.3	2.9	3.2	3.2	---
30	3.2	3.3	3.3	3.3	---	3.3	3.3	3.4	2.9	3.2	3.2	---
31	3.2	---	3.3	3.3	---	3.3	---	3.4	---	3.2	3.2	---
TOTAL	100.0	98.4	102.7	102.2	---	102.3	99.0	102.9	93.2	98.6	99.2	---
MEAN	3.23	3.28	3.31	3.30	---	3.30	3.30	3.32	3.11	3.18	3.20	---
MAX	3.3	3.4	3.4	3.4	---	3.3	3.3	3.4	3.3	3.3	3.2	---
MIN	3.2	3.2	3.3	3.1	---	3.3	3.3	3.3	2.9	2.9	3.2	---
AC-FT	198	195	204	203	---	203	196	204	185	196	197	---

11414465 SAWMILL LAKE NEAR GRANITEVILLE, CA

LOCATION.—Lat 39°26'44", long 120°36'02", in NW 1/4 NW 1/4 sec.11, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, near right bank end of Sawmill Lake Dam, on Canyon Creek, 0.8 mi upstream from Bowman Lake, and 7.2 mi east of Graniteville.

DRAINAGE AREA.—16.4 mi².

PERIOD OF RECORD.—October 1986 to current year. Unpublished records for water years 1966–86 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder, installed Nov. 22, 1999. Records prior to Nov. 22, 1999, are instantaneous values. Datum of gage is NGVD of 1929 (levels by Nevada Irrigation District).

REMARKS.—Reservoir is formed by a rock-filled dam initially constructed prior to 1880 and enlarged in 1941. Usable capacity, 3,030 acre-ft, between elevations 5,805 ft, base of dam, and 5,860 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum storage recorded, 3,270 acre-ft, Dec. 13, 2002, elevation, 5,862.05 ft; minimum recorded, 1,400 acre-ft, Nov. 22, 1999, elevation, 5,843.15 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 3,270 acre-ft, Dec. 13, elevation, 5,862.05 ft; minimum, 3,040 acre-ft, Oct. 14–22, minimum elevation, 5,860.07 ft, Oct. 18.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

5,805	0	5,830	430	5,850	2,000	5,863	3,375
5,820	110	5,840	1,130	5,860	3,030		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3060	3060	3070	3080	3100	3070	3100	3090	3160	3070	3060	3070
2	3060	3060	3070	3080	3090	3070	3090	3090	3160	3070	3060	3080
3	3060	3060	3070	3080	3080	3070	3090	3110	3160	3070	3060	3090
4	3050	3060	3070	3080	3080	3070	3090	3100	3150	3070	3060	3090
5	3050	3060	3070	3080	3080	3070	3080	3100	3150	3070	3060	3090
6	3050	3060	3070	3080	3080	3070	3080	3090	3150	3070	3060	3090
7	3050	3110	3070	3080	3080	3070	3080	3100	3150	3070	3060	3090
8	3050	3190	3070	3080	3070	3070	3090	3090	3140	3070	3060	3090
9	3050	3090	3070	3080	3070	3070	3100	3080	3130	3060	3060	3090
10	3050	3090	3070	3080	3070	3070	3100	3080	3120	3060	3050	3090
11	3050	3080	3070	3080	3070	3080	3110	3090	3120	3060	3050	3090
12	3050	3090	3070	3080	3070	3080	3110	3110	3110	3060	3050	3090
13	3050	3090	3270	3080	3100	3110	3090	3130	3110	3060	3050	3090
14	3040	3080	3130	3080	3080	3110	3090	3140	3100	3060	3050	3090
15	3040	3080	3100	3070	3080	3100	3080	3140	3100	3060	3060	3090
16	3040	3080	3090	3070	3080	3090	3080	3130	3100	3060	3060	3090
17	3040	3080	3090	3080	3080	3080	3080	3130	3100	3060	3060	3090
18	3040	3070	3080	3080	3080	3080	3080	3130	3100	3060	3060	3090
19	3040	3080	3080	3080	3080	3080	3080	3140	3090	3060	3060	3090
20	3040	3100	3080	3080	3080	3080	3090	3150	3090	3060	3060	3090
21	3040	3090	3080	3090	3070	3080	3090	3170	3080	3060	3070	3090
22	3040	3080	3080	3110	3070	3100	3080	3180	3080	3060	3070	3090
23	3050	3080	3070	3150	3070	3130	3090	3180	3080	3060	3070	3090
24	3050	3080	3070	3100	3070	3100	3090	3180	3080	3060	3070	3090
25	3050	3070	3070	3100	3070	3100	3090	3160	3080	3060	3070	3090
26	3060	3070	3080	3090	3080	3150	3080	3170	3080	3060	3070	3090
27	3060	3070	3140	3130	3070	3100	3080	3190	3080	3060	3070	3090
28	3060	3070	3120	3100	3070	3090	3080	3180	3070	3060	3070	3090
29	3060	3070	3090	3090	---	3100	3080	3170	3070	3060	3070	3080
30	3060	3070	3090	3090	---	3110	3080	3170	3070	3060	3070	3070
31	3060	---	3080	3090	---	3110	---	3160	---	3060	3070	---
MAX	3060	3190	3270	3150	3100	3150	3110	3190	3160	3070	3070	3090
MIN	3040	3060	3070	3070	3070	3070	3080	3080	3070	3060	3050	3070
a	5860.29	5860.35	5860.46	5860.51	5860.37	5860.73	5860.45	5861.12	5860.36	5860.23	5860.36	5860.32
b	0	+10	+10	+10	-20	+40	-30	+80	-90	-10	+10	0
CAL YR 2002	MAX 3270	MIN 3040	b -20									
WTR YR 2003	MAX 3270	MIN 3040	b +10									

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11414470 CANYON CREEK BELOW SAWMILL LAKE, NEAR GRANITEVILLE, CA

LOCATION.—Lat 39°26'44", long 120°36'05", in NW 1/4 NW 1/4 sec.11, T.18 N., R.12 E., [Nevada County](#), Hydrologic Unit 18020125, Tahoe National Forest, on right bank, 130 ft downstream from outlet at Sawmill Lake Dam, on Canyon Creek, 0.8 mi upstream from Bowman Lake, and 7.2 mi east of Graniteville.

DRAINAGE AREA.—16.4 mi².

PERIOD OF RECORD.—October 1989 to current year. Unpublished records for water years 1965–89 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and V-notch sharp-crested weir in concrete control. Elevation of gage is 5,790 ft above NGVD of 1929, from topographic map. September 1964 to July 6, 1988, nonrecording gage at two sites 470 ft downstream at different datum. July 7, 1988, to January 1989, nonrecording gage at same site and datum.

REMARKS.—No records computed above 2.6 ft³/s. Flow completely regulated by Sawmill Lake (station 11414465). Flow over the spillway bypasses this station. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR CURRENT YEAR.—No flow below 2.6 ft³/s this water year.

11414690 JACKSON LAKE NEAR SIERRA CITY, CA

LOCATION.—Lat 39°27'52", long 120°33'44", in SW 1/4 SW 1/4 sec.31, T.19 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on outlet structure on Jackson Lake Dam, on Jackson Creek, 3.0 mi upstream from Bowman Lake, and 8.0 mi southeast of Sierra City.

DRAINAGE AREA.—0.65 mi².

PERIOD OF RECORD.—October 1986 to current year. Unpublished records for water years 1965–86 available in files of U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 6,570 ft above NGVD of 1929 (levels by Nevada Irrigation District).

REMARKS.—Reservoir is formed on natural lake by earth-filled dam completed in 1859. Usable capacity, 974 acre-ft, between gage height 0.0 ft, invert of outlet, and 22.67 ft, crest of spillway. Dead storage below gage height 0.0 ft, 360 acre-ft. Figures given represent total contents.

Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents recorded, 1,370 acre-ft, May 21–25, 2000, maximum elevation, 6,593.33 ft, May 24, 2000; minimum recorded, 428 acre-ft, Nov. 21, 22, 1998, elevation, 6571.80 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,360 acre-ft, May 21 through June 9, maximum elevation, 6,593.19 ft, May 27; minimum, 918 acre-ft, Nov. 6, elevation, 6584.12 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

0	360	10	730	20	1,185	24	1,407
5	545	15	958				

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	934	981	1090	1160	e1160	1280	1340	1360	1330	1240	1160
2	1010	931	979	1090	1160	e1160	1290	1340	1360	1330	1250	1150
3	1010	929	978	1090	1160	e1160	1300	1350	1360	1330	1240	1150
4	1010	926	977	1090	1160	e1150	1300	1340	1360	1330	1240	1150
5	1000	924	975	1090	1160	e1150	1300	1340	1360	1320	1240	1150
6	1000	918	973	1090	1160	1150	1310	1340	1360	1320	1230	1140
7	997	941	971	1090	1160	1150	1310	1340	1360	1320	1230	1140
8	995	977	968	1090	1160	1150	1310	1340	1360	1320	1220	1140
9	992	988	968	1090	e1160	1150	1310	1340	1360	1310	1220	1130
10	989	996	968	1090	e1160	1150	1310	1340	1350	1310	1220	1130
11	986	995	967	1090	e1160	1140	1320	1340	1350	1310	1210	1130
12	983	996	961	1090	e1160	1140	1340	1340	1350	1300	1210	1120
13	981	997	982	1090	e1160	1150	1350	1350	1350	1300	1210	1120
14	978	996	1020	1090	e1170	1160	1350	1350	1350	1300	1200	1120
15	975	995	1030	1090	e1170	1170	1340	1350	1350	1290	1200	1110
16	973	993	1050	1090	e1170	1170	1340	e1350	1350	1290	1200	1110
17	970	993	1050	1090	1170	1170	1340	e1350	1350	1290	1190	1110
18	968	991	1050	1090	1170	1170	1340	e1350	1350	1290	1190	1100
19	965	990	1050	1090	1170	1170	1340	e1350	1350	1280	1190	1100
20	963	991	1050	1090	e1170	1170	1340	1350	1340	1280	1180	1100
21	961	992	1060	1090	e1170	1170	1340	1360	1340	1280	1180	1100
22	958	993	1060	1090	e1160	1180	1340	1360	1340	1270	1180	1090
23	956	993	1050	1110	e1160	1190	1340	1360	1340	1270	1180	1090
24	953	993	1050	1120	e1160	1200	1350	1360	1340	1270	1180	1090
25	951	993	1050	1130	e1160	1200	1350	1360	1340	1270	1180	1090
26	948	990	1050	1130	1160	1240	1340	1360	1340	1260	1170	1080
27	946	987	1060	1140	1160	1250	1340	1360	1340	1260	1170	1080
28	943	986	1080	1150	e1160	1250	1340	1360	1340	1260	1170	1080
29	941	984	1080	1150	---	1250	1340	1360	1340	1250	1160	1070
30	939	982	1090	1150	---	1260	1340	1360	1330	1250	1160	1070
31	936	---	1090	1150	---	1270	---	1360	---	1250	1160	---
MAX	1020	997	1090	1150	1170	1270	1350	1360	1360	1330	1250	1160
MIN	936	918	961	1090	1160	1140	1280	1340	1330	1250	1160	1070
a	6584.53	6585.54	6587.93	6589.33		6590.52	6592.80	6593.12	6592.67	6591.11	6589.41	6587.51
b	-84	+46	+108	+60	+10	+110	+70	+20	-30	-80	-90	-90
CAL YR 2002	MAX 1350	MIN 918	b +70									
WTR YR 2003	MAX 1360	MIN 918	b +50									

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11414700 JACKSON CREEK BELOW JACKSON LAKE, NEAR SIERRA CITY, CA

LOCATION.—Lat 39°27'53", long 120°33'46", in SW 1/4 SW 1/4 sec.31, T.19 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank, 75 ft downstream from Jackson Lake Dam, on Jackson Creek, 3.0 mi upstream from Bowman Lake, and 8.0 mi southeast of Sierra City.

DRAINAGE AREA.—0.65 mi².

PERIOD OF RECORD.—January 1989 to September 1992, April 1993 to current year (low-flow records only). Unpublished records for water years 1965–88 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,570 ft above NGVD of 1929, from topographic map. October 1964 to October 1986, nonrecording gage at site 25 ft downstream at different datum. October 1986 to January 1989, nonrecording gage at same site and datum.

REMARKS.—No records computed above 2.9 ft³/s. Flow regulated by Jackson Lake (station 11414690). Flow over the spillway bypasses this station. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.1	1.0	1.0	1.1	1.3	1.3	1.3	1.0	0.88	1.0	1.2
2	1.3	1.1	1.0	0.99	1.1	1.3	1.3	1.3	1.0	0.89	1.1	1.2
3	1.3	1.1	1.0	0.99	1.1	1.2	1.3	1.3	1.1	0.89	1.1	1.2
4	1.3	1.1	0.92	0.99	1.1	1.3	1.3	1.3	1.1	0.89	1.1	1.2
5	1.3	1.1	---	0.92	1.1	1.3	1.3	1.3	1.1	0.89	1.1	1.2
6	1.3	1.1	1.1	0.87	1.2	1.3	1.3	1.3	1.1	0.89	1.1	1.2
7	1.3	1.1	1.2	0.89	1.3	1.3	1.3	1.3	1.1	0.87	1.1	1.2
8	1.3	1.1	1.2	0.92	1.3	1.3	1.4	1.3	1.1	0.86	1.1	1.2
9	1.3	1.1	1.2	0.86	1.3	1.3	1.4	1.3	1.2	0.84	1.1	1.2
10	1.3	1.1	1.2	0.86	1.3	1.3	1.4	1.3	1.2	---	1.1	1.3
11	1.3	1.1	1.2	0.86	1.3	1.3	1.4	1.3	1.1	1.2	1.1	1.3
12	1.3	1.0	1.2	0.89	1.3	1.3	1.4	1.3	1.1	1.1	1.1	1.3
13	1.3	0.94	1.2	0.89	1.3	1.3	1.4	1.3	1.1	1.1	1.1	1.3
14	1.3	1.0	1.3	0.89	1.3	1.3	1.4	1.3	1.1	1.1	1.2	1.3
15	---	1.0	1.1	0.89	1.3	1.3	1.4	1.3	1.1	1.1	1.1	1.3
16	1.1	1.0	1.0	0.89	1.3	1.3	1.4	e1.3	1.2	1.1	1.1	1.3
17	1.1	1.0	1.1	0.92	1.3	1.3	1.2	e1.3	1.1	e1.1	1.1	1.3
18	1.1	1.0	1.1	0.92	1.3	1.3	1.2	e1.3	0.91	e1.1	1.1	1.3
19	1.1	1.0	1.1	0.92	1.3	1.2	1.2	e1.3	0.94	e1.1	1.1	1.3
20	1.1	1.0	1.1	0.92	1.3	1.3	1.3	1.2	0.94	e1.1	1.1	1.3
21	1.1	1.0	1.1	0.94	1.3	1.3	1.3	1.2	0.94	e1.1	1.1	1.3
22	1.1	1.0	1.1	0.96	1.3	1.3	1.3	1.3	0.94	e1.1	1.1	1.3
23	1.1	1.0	1.1	0.99	1.3	1.3	1.3	1.3	0.93	e1.1	1.1	1.3
24	1.1	1.0	1.1	0.99	1.3	1.3	1.3	1.3	0.93	e1.1	1.1	1.2
25	1.1	1.0	1.1	0.99	1.3	1.3	1.3	1.3	0.94	e1.0	1.1	1.1
26	1.1	0.97	1.1	1.0	1.3	1.3	1.3	1.4	0.94	e1.0	1.1	1.1
27	1.1	1.0	1.0	1.0	1.3	1.3	1.3	1.5	0.93	e1.1	1.1	1.1
28	1.1	1.0	1.0	1.0	1.3	1.3	1.3	1.3	0.90	1.1	---	1.1
29	1.1	1.0	1.0	1.0	---	1.3	1.3	1.0	0.89	1.0	1.2	1.1
30	1.1	1.0	1.0	1.1	---	1.3	1.3	1.0	0.88	1.0	1.2	1.1
31	1.1	---	1.0	1.1	---	1.3	---	1.0	---	1.0	1.2	---
TOTAL	---	31.01	---	29.35	35.3	40.1	39.6	39.5	30.81	---	---	36.8
MEAN	---	1.03	---	0.95	1.26	1.29	1.32	1.27	1.03	---	---	1.23
MAX	---	1.1	---	1.1	1.3	1.3	1.4	1.5	1.2	---	---	1.3
MIN	---	0.94	---	0.86	1.1	1.2	1.2	1.0	0.88	---	---	1.1
AC-FT	---	62	---	58	70	80	79	78	61	---	---	73

e Estimated.

11415500 BOWMAN LAKE NEAR GRANITEVILLE, CA

LOCATION.—Lat 39°27'01", long 120°39'09", in SE 1/4 SW 1/4 sec.5, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank, near rockfill portion of Bowman Dam on Canyon Creek, 4.6 mi east of Graniteville, and 8 mi south of Sierra City.

DRAINAGE AREA.—27.1 mi².

PERIOD OF RECORD.—December 1926 to current year.

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Nevada Irrigation District). Prior to Oct. 8, 1964, nonrecording gage at same site and datum.

REMARKS.—Lake is formed by one rockfill and one concrete-arch dam; storage began in November 1926. Total capacity, 68,700 acre-ft, between elevations 5,400 ft, bottom of outlet tunnel, and 5,563.6 ft, top of radial spillway gates and crest of concrete-arch dam. Flashboards are occasionally added, increasing elevation to 5,565.8 ft and capacity to 70,400 acre-ft, all of which is available for release. Lake receives water from "Middle Yuba River via Milton-Bowman Tunnel" (station 11408000), and releases it through "Bowman-Spaulding Canal" (station 11416000) which conveys it to reservoirs of Pacific Gas & Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. Records, including extremes, represent total contents. See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 71,000 acre-ft, May 30, 1965, elevation, 5,566.5 ft; lake completely drained for inspection and repair Nov. 25 to Dec. 9, 1949, Oct. 1–20, 1966, Oct. 4–29, 1972, and Sept. 21–30, 1981.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 68,800 acre-ft, May 29–31, maximum elevation, 5,563.96 ft, May 29; minimum, 32,800 acre-ft, Mar. 12, 13, minimum elevation, 5,514.90 ft, Mar. 13.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated Nov. 24, 1926)

5,419.6	0	5,450	4,100	5,480	14,200	5,540	49,800
5,430	900	5,460	6,900	5,510	30,000	5,570	73,800
5,440	2,100	5,470	10,200				

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51300	46000	45700	46700	43300	35600	42200	49400	68700	66400	56100	48400
2	51200	45700	45600	46500	43300	35200	43100	49400	68700	66000	55800	48200
3	51000	45300	45500	46300	43100	34800	43800	49700	68700	65700	55500	48200
4	50900	45000	45400	46000	42800	34500	44400	50100	68700	65400	55200	48200
5	50800	44700	45200	45800	42600	34100	44900	50300	68700	65100	55200	48300
6	50600	44600	45000	45500	42300	33800	45200	50500	68600	64700	55400	48300
7	50500	44700	44600	45200	42000	33700	45500	50800	68600	64400	55300	48300
8	50300	45900	44200	44900	41700	33500	45900	51400	68600	64100	54900	48300
9	50200	46400	43800	44500	41400	33300	46300	51700	68500	63800	54600	48400
10	50000	46800	43500	44400	41000	33100	46600	52000	68300	63400	54200	48400
11	49900	46800	43100	44200	40700	33000	47000	52300	68100	63100	53900	48400
12	49800	46800	42700	43900	40300	32800	47800	52700	67800	62800	53500	48400
13	49600	46900	43400	43600	40200	32800	48200	53400	67500	62500	53200	48400
14	49500	46900	45900	43400	40100	33300	48500	54300	67100	62100	52900	48400
15	49400	46800	46300	43100	39900	34000	48600	55200	67200	61800	52500	48400
16	49200	46800	46500	42800	39800	34100	48700	56000	67500	61400	52200	48700
17	49100	46700	46500	42400	39600	34100	48800	56700	68000	61100	51800	48900
18	49000	46600	46400	42100	39300	34000	48900	57400	68300	60800	51500	48900
19	48800	46500	46300	41900	39000	34000	48900	58200	68500	60500	51200	48900
20	48700	46500	46300	41600	38700	33900	49100	59000	68500	60100	50900	48900
21	48600	46500	46300	41400	38400	33800	49200	60100	68600	59800	50700	49000
22	48400	46500	46100	41300	38100	33900	49200	61300	68600	59500	50600	49000
23	48300	46500	45900	42100	37700	34600	49200	62700	68500	59200	50400	49000
24	48200	46400	45600	42500	37400	35000	49400	63900	68400	58800	50100	49000
25	48000	46300	45400	42700	37100	35200	49500	65100	68400	58500	49900	48900
26	47900	46200	45200	42700	36700	37000	49500	66400	68300	58200	49700	48900
27	47800	46100	45700	43000	36300	38200	49500	67800	68000	57800	49500	48900
28	47500	46000	46500	43300	36000	39000	49500	68700	67600	57500	49300	48900
29	47100	45900	46700	43400	---	39700	49500	68800	67300	57100	49100	48900
30	46800	45800	46700	43300	---	40400	49400	68800	66800	56800	48900	48700
31	46400	---	46800	43200	---	41200	---	68800	---	56400	48600	---
MAX	51300	46900	46800	46700	43300	41200	49500	68800	68700	66400	56100	49000
MIN	46400	44600	42700	41300	36000	32800	42200	49400	66800	56400	48600	48200
a	5535.07	5534.22	5535.58	5530.67	5519.79	5527.77	5539.21	5563.87	5561.61	5548.59	5538.10	5538.27
b	-5100	-600	+1000	-3600	-7200	+5200	+8200	+19400	-2000	-10400	-7800	+100
CAL YR 2002	MAX 59000	MIN 23200	b +18400									
WTR YR 2003	MAX 68800	MIN 32800	b -2800									

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

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA

LOCATION.—Lat 39°20'32", long 120°38'26", in SW 1/4 NW 1/4 sec.16, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, at outlet of Jordan Creek Siphon, 0.6 mi downstream from Fuller Lake, and 3.5 mi northeast of Emigrant Gap.

PERIOD OF RECORD.—October 1964 to current year.

GAGE.—Water-stage recorder and Venturi section. Elevation of gage is 5,340 ft above NGVD of 1929, from topographic map.

REMARKS.—Records show water diverted from Bowman Lake (station 11415500) plus numerous small tributaries before it enters Lake Spaulding (station 11414140). Most of the water at this gage flows downstream through Spaulding No. 3 Powerplant (station 11416200). See schematic diagrams of [South Yuba River Basin](#) and [Bear River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 335 ft³/s, Dec. 25, 1983; no flow at times in most years.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	192	91	206	303	302	259	310	320	303	305	289
2	200	191	91	209	312	296	250	317	321	310	308	289
3	198	190	91	225	295	298	231	330	327	313	308	283
4	199	189	92	239	303	290	219	334	328	306	303	249
5	198	149	94	254	312	285	208	333	330	301	109	242
6	198	104	164	258	311	266	197	332	324	302	57	243
7	197	100	224	251	306	198	189	331	314	303	146	246
8	196	141	209	278	301	183	195	333	307	303	281	251
9	197	155	206	296	302	182	202	328	311	310	292	253
10	198	132	227	311	306	183	210	316	312	311	304	253
11	198	122	232	326	306	192	222	313	306	311	305	252
12	198	116	230	302	304	197	256	320	304	309	297	252
13	197	111	235	297	319	208	265	329	306	307	293	252
14	197	108	277	291	331	249	227	332	302	305	292	254
15	198	105	207	283	323	324	244	333	190	305	289	252
16	196	103	206	278	326	324	235	333	0.00	305	289	103
17	195	97	194	290	317	275	229	332	0.00	304	303	134
18	194	94	204	307	305	256	229	331	0.00	304	298	255
19	196	96	209	311	299	240	228	332	0.00	303	292	251
20	195	99	174	309	297	240	229	330	0.00	301	300	254
21	195	90	133	312	304	240	248	314	0.00	301	300	246
22	195	85	158	325	303	238	279	326	0.00	300	284	254
23	195	87	191	332	301	292	294	331	0.00	299	283	245
24	195	88	197	334	299	316	311	333	0.00	298	297	254
25	194	89	227	332	297	260	323	333	0.00	297	299	256
26	194	91	200	325	297	284	316	328	0.00	297	296	259
27	194	92	225	316	307	315	308	325	65	302	289	256
28	193	92	261	328	307	280	307	331	245	305	285	254
29	193	91	247	317	---	252	305	334	210	305	281	254
30	191	91	210	300	---	247	298	333	259	304	282	255
31	192	---	201	293	---	251	---	329	---	303	287	---
TOTAL	6074	3490	5907	9035	8593	7963	7513	10166	5381.00	9427	8554	7390
MEAN	196	116	191	291	307	257	250	328	179	304	276	246
MAX	200	192	277	334	331	324	323	334	330	313	308	289
MIN	191	85	91	206	295	182	189	310	0.00	297	57	103
AC-FT	12050	6920	11720	17920	17040	15790	14900	20160	10670	18700	16970	14660
a	0	0	10030	17050	17070	11960	14950	20500	9170	17630	16720	14100

a Discharge, in acre-feet, through Spaulding No. 3 Powerplant (station 11416200), provided by Pacific Gas & Electric Co.

SACRAMENTO RIVER BASIN

11416100 BOWMAN-SPALDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	195	195	199	197	190	212	226	238	234	203	252	255
MAX	306	308	312	313	311	311	311	328	315	305	316	311
(WY)	1983	1984	1984	1984	1995	1983	1980	2003	1983	1983	1993	1983
MIN	29.5	0.000	41.9	37.8	21.4	26.3	19.3	33.9	0.000	45.6	40.2	143
(WY)	1973	1965	1978	1977	1991	1977	1977	1965	1965	1991	1988	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1965 - 2003
ANNUAL TOTAL	70424.00	89493.00	
ANNUAL MEAN	193	245	216
HIGHEST ANNUAL MEAN			304 1983
LOWEST ANNUAL MEAN			77.9 1977
HIGHEST DAILY MEAN	324 Apr 26	334 Jan 24	335 Dec 25 1983
LOWEST DAILY MEAN	0.00 Jul 1	0.00 Jun 16	0.00 Oct 29 1964
ANNUAL SEVEN-DAY MINIMUM	0.00 Jul 1	0.00 Jun 16	0.00 Oct 29 1964
ANNUAL RUNOFF (AC-FT)	139700	177500	156800
ANNUAL DISCHARGE (AC-FT) a	90280	149200	
10 PERCENT EXCEEDS	297	325	306
50 PERCENT EXCEEDS	198	266	250
90 PERCENT EXCEEDS	95	105	69

a Discharge, in acre-feet, through Spaulding No. 3 Powerplant (station 11416200), provided by Pacific Gas & Electric Co.

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA

LOCATION.—Lat 39°26'23", long 120°39'37", in NE 1/4 SE 1/4 sec.7, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank, 1 mi downstream from Bowman Dam, 3.5 mi upstream from Texas Creek, and 8.8 mi south of Sierra City.

DRAINAGE AREA.—28.3 mi².

PERIOD OF RECORD.—January 1927 to current year.

REVISED RECORDS.—WSP 1315-A: 1930(M). WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 5,300 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by Bowman Lake (station 11415500), several smaller reservoirs, and diversion into Bowman–Spaulding Canal (station 11416000). See schematic diagram of [North and Middle Yuba River Basins](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, about 5,500 ft³/s, Jan. 2, 1997, gage height, 13.01 ft, from floodmarks (backwater from debris), from rating curve extended above 1,500 ft³/s, on basis of computation of flow over Bowman Dam; no flow at times in some years.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	3.9	3.5	4.8	6.0	e4.3	4.3	6.2	402	11	4.5	6.5
2	4.2	4.0	3.5	4.6	6.3	e4.3	4.4	7.7	349	11	4.7	6.5
3	4.0	4.0	3.5	4.5	4.9	e4.1	3.8	13	312	10	4.6	6.3
4	4.0	4.1	3.5	4.6	4.7	4.1	3.8	15	347	10	4.6	6.1
5	4.2	3.9	3.5	4.9	4.5	4.2	3.6	7.6	349	10	7.8	6.1
6	4.2	3.8	3.7	5.0	4.4	4.0	3.5	6.6	299	10	10	6.1
7	4.2	6.0	3.8	4.9	4.3	4.0	3.8	6.1	278	10	8.6	6.2
8	4.2	19	3.8	5.0	4.3	3.8	5.1	62	260	5.9	7.4	6.2
9	4.2	7.9	3.9	4.9	4.3	3.6	5.8	173	222	4.5	7.4	6.2
10	4.3	22	4.5	6.2	4.3	3.6	5.6	174	208	4.5	7.4	6.2
11	4.1	7.5	4.2	6.9	4.3	3.7	5.5	171	206	4.4	7.2	6.0
12	4.1	5.2	4.0	6.1	4.3	3.8	7.6	168	192	4.4	6.7	6.0
13	4.0	4.6	e9.5	6.2	7.9	4.2	5.6	169	186	4.3	6.4	6.2
14	3.7	4.3	e30	5.5	e10	10	4.6	182	185	4.3	6.3	6.1
15	3.7	4.2	e17	5.0	e7.9	21	4.4	210	79	4.1	6.3	6.3
16	3.7	4.1	e16	4.8	e10	5.6	4.2	241	15	4.3	6.4	5.8
17	3.5	4.1	e12	5.1	e6.0	4.3	4.3	255	13	4.3	6.4	5.5
18	3.4	4.1	e11	5.6	e5.2	3.8	4.8	256	50	4.3	6.3	5.4
19	3.6	4.1	e5.4	5.5	e5.1	3.6	5.2	261	94	4.3	6.3	5.4
20	3.6	3.7	e4.9	5.2	e5.1	4.0	6.0	263	95	4.2	6.4	5.3
21	3.6	3.4	4.7	6.8	e4.9	4.0	6.5	236	107	4.2	6.5	5.5
22	3.6	3.4	4.4	8.9	e4.9	4.0	5.3	222	114	4.2	7.0	5.4
23	3.6	3.4	4.2	17	e4.8	9.0	5.3	224	117	4.2	6.7	5.3
24	3.6	3.4	4.1	8.2	e4.7	5.1	9.7	228	129	4.2	6.6	5.1
25	3.6	3.4	4.0	7.4	e4.7	4.1	5.9	195	111	4.2	6.6	5.0
26	3.5	3.5	4.0	6.3	e4.5	12	5.0	163	70	4.2	6.5	5.1
27	3.5	3.5	e16	e9.0	e5.0	5.1	5.0	196	19	4.2	6.5	5.2
28	3.6	3.5	e20	e17	e4.4	4.0	5.5	245	20	4.3	6.4	5.3
29	3.7	3.5	e11	5.4	---	3.6	5.1	520	15	4.3	6.5	5.3
30	3.8	3.5	5.5	5.0	---	3.5	5.4	561	12	4.4	6.4	5.1
31	3.9	---	5.1	5.3	---	3.5	---	505	---	4.5	6.5	---
TOTAL	119.2	159.0	234.2	201.6	151.7	161.9	154.6	5942.2	4855	176.7	203.9	172.7
MEAN	3.85	5.30	7.55	6.50	5.42	5.22	5.15	192	162	5.70	6.58	5.76
MAX	4.3	22	30	17	10	21	9.7	561	402	11	10	6.5
MIN	3.4	3.4	3.5	4.5	4.3	3.5	3.5	6.1	12	4.1	4.5	5.0
AC-FT	236	315	465	400	301	321	307	11790	9630	350	404	343
a	12280	6040	10160	13880	13250	10590	9610	12190	8340	17530	16280	14370

e Estimated.

a Diversion, in acre-feet, to Bowman–Spaulding Canal (station 11416000), provided by Nevada Irrigation District.

SACRAMENTO RIVER BASIN

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.13	6.19	16.7	22.4	17.5	27.1	42.0	123	141	13.7	2.78	2.66
MAX	24.1	195	360	453	198	629	325	773	542	314	37.3	17.0
(WY)	1973	1984	1965	1997	1965	1986	1940	1963	1952	1952	1952	1952
MIN	0.13	0.19	0.20	0.20	0.50	0.58	0.46	0.43	0.30	0.029	0.000	0.000
(WY)	1935	1940	1937	1937	1933	1935	1934	1947	1977	1935	1934	1963

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1927 - 2003	
ANNUAL TOTAL	1887.0		12532.7			
ANNUAL MEAN	5.17		34.3		34.4	
HIGHEST ANNUAL MEAN					165	
LOWEST ANNUAL MEAN					0.81	
HIGHEST DAILY MEAN	30	Dec 14	561	May 30	5520	Jan 2 1997
LOWEST DAILY MEAN	3.2	May 16	3.4	Oct 18	0.00	Apr 16 1934
ANNUAL SEVEN-DAY MINIMUM	3.2	May 13	3.4	Nov 21	0.00	Apr 16 1934
MAXIMUM PEAK FLOW			647	May 30	5500	Jan 2 1997
MAXIMUM PEAK STAGE			6.18	May 30	13.01	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	3740		24860		24950	
ANNUAL DIVERSION (AC-FT) a	111900		144500			
10 PERCENT EXCEEDS	6.6		165		52	
50 PERCENT EXCEEDS	4.2		5.2		3.3	
90 PERCENT EXCEEDS	3.5		3.7		0.30	

a Diversion, in acre-feet, to Bowman-Spaulding Canal (station 11416000), provided by Nevada Irrigation District.

11416610 TEXAS CREEK BELOW LOWER ROCK LAKE, NEAR GRANITEVILLE, CA

LOCATION.—Lat 39°25'42", long 120°37'19", in SW 1/4 NW 1/4 sec.15, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank, 200 ft downstream from outlet structure on Lower Rock Lake Dam, and 6.4 mi east of Graniteville.

DRAINAGE AREA.—0.36 mi².

PERIOD OF RECORD.—October 1995 to current year (low-flow records only). Unpublished records for water years 1974 and 1979–95 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 6,615 ft above NGVD of 1929, from topographic map. August 1965 to August 1995, nonrecording gage at same site and datum.

REMARKS.—Records not computed for winter months or above 1.2 ft³/s. Flow regulated by Lower Rock Lake. See schematic diagram of [South Yuba River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	0.19	0.40	0.40
2	---	---	---	---	---	---	---	---	---	0.25	0.72	0.40
3	---	---	---	---	---	---	---	---	---	0.30	0.48	---
4	---	---	---	---	---	---	---	---	---	0.28	0.37	---
5	---	---	---	---	---	---	---	---	---	0.29	0.30	---
6	---	---	---	---	---	---	---	---	---	0.33	0.28	---
7	---	---	---	---	---	---	---	---	---	0.32	0.22	1.2
8	---	---	---	---	---	---	---	---	---	0.30	0.19	1.2
9	---	---	---	---	---	---	---	---	---	0.28	0.24	1.1
10	---	---	---	---	---	---	---	---	---	0.26	0.23	1.1
11	---	---	---	---	---	---	---	---	---	0.26	0.20	1.2
12	0.24	---	---	---	---	---	---	---	---	0.26	0.18	1.2
13	0.23	---	---	---	---	---	---	---	---	0.23	0.23	1.2
14	0.20	---	---	---	---	---	---	---	---	0.22	0.26	1.1
15	0.18	---	---	---	---	---	---	---	---	0.22	0.23	1.1
16	0.63	---	---	---	---	---	---	---	---	0.25	0.22	1.1
17	1.1	---	---	---	---	---	---	---	---	0.29	0.27	1.2
18	1.1	---	---	---	---	---	---	---	---	0.28	0.31	---
19	1.1	---	---	---	---	---	---	---	0.71	0.28	0.29	---
20	1.0	---	---	---	---	---	---	---	0.53	0.29	0.29	---
21	0.83	---	---	---	---	---	---	---	0.44	0.29	0.29	---
22	0.54	---	---	---	---	---	---	---	0.38	0.28	0.31	---
23	0.32	---	---	---	---	---	---	---	0.34	0.26	0.29	---
24	0.20	---	---	---	---	---	---	---	0.34	0.23	0.29	---
25	0.15	---	---	---	---	---	---	---	0.37	0.23	0.29	---
26	0.08	---	---	---	---	---	---	---	0.32	0.25	0.33	---
27	0.07	---	---	---	---	---	---	---	0.23	0.42	0.30	---
28	0.06	---	---	---	---	---	---	---	0.20	0.61	0.29	---
29	0.06	---	---	---	---	---	---	---	0.18	0.63	0.31	---
30	---	---	---	---	---	---	---	---	0.16	0.61	0.35	---
31	---	---	---	---	---	---	---	---	---	0.42	0.39	---
TOTAL	---	---	---	---	---	---	---	---	---	9.61	9.35	---
MEAN	---	---	---	---	---	---	---	---	---	0.31	0.30	---
MAX	---	---	---	---	---	---	---	---	---	0.63	0.72	---
MIN	---	---	---	---	---	---	---	---	---	0.19	0.18	---
AC-FT	---	---	---	---	---	---	---	---	---	19	19	---

11416620 TEXAS CREEK TRIBUTARY BELOW CULBERTSON LAKE, NEAR GRANITEVILLE, CA

LOCATION.—Lat 39°25'17", long 120°37'21", in SW 1/4 SW 1/4 sec.15, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank, 150 ft downstream from outlet structure, on Culbertson Lake Dam, 0.15 mi upstream from Texas Creek, and 6.4 mi east of Graniteville.

DRAINAGE AREA.—0.44 mi².

PERIOD OF RECORD.—October 1988 to current year (low-flow records only). Unpublished records for water years 1965–88 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,420 ft above NGVD of 1929. October 1965 to August 1988, nonrecording gage at site 10 ft downstream at different datum. August to September 1988, nonrecording gage at same site and datum.

REMARKS.—Records not computed for winter months or above 1.2 ft³/s. Low and medium flow regulated by Culbertson Lake (capacity, 953 acre-ft). See schematic diagram of [South Yuba River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1.2	---	---	---	---	---	---	---	0.68	0.90	0.78
2	---	1.2	---	---	---	---	---	---	---	0.67	0.89	0.76
3	---	1.1	---	---	---	---	---	---	---	0.67	0.85	---
4	---	1.1	---	---	---	---	---	---	---	0.67	0.84	---
5	---	1.1	---	---	---	---	---	---	---	0.67	0.82	---
6	---	---	---	---	---	---	---	---	---	0.67	0.80	---
7	---	---	---	---	---	---	---	---	---	0.65	0.79	---
8	---	---	---	---	---	---	---	---	---	0.64	0.79	---
9	---	---	---	---	---	---	---	---	---	0.72	0.79	---
10	---	---	---	---	---	---	---	---	---	0.76	0.79	---
11	---	---	---	---	---	---	---	---	---	0.74	0.76	---
12	---	---	---	---	---	---	---	---	---	0.73	0.76	---
13	---	---	---	---	---	---	---	---	0.82	0.73	0.76	---
14	---	---	---	---	---	---	---	---	0.79	0.70	0.75	---
15	---	---	---	---	---	---	---	---	0.79	0.67	0.75	---
16	---	---	---	---	---	---	---	---	0.79	0.67	0.76	---
17	---	---	---	---	---	---	---	---	0.84	0.65	0.77	---
18	---	---	---	---	---	---	---	---	0.92	0.62	0.79	---
19	---	---	---	---	---	---	---	---	0.92	0.72	0.79	---
20	---	---	---	---	---	---	---	---	0.92	0.76	0.79	---
21	---	---	---	---	---	---	---	---	0.92	0.76	0.79	---
22	---	---	---	---	---	---	---	---	0.90	0.73	---	---
23	---	---	---	---	---	---	---	---	0.89	0.73	0.80	---
24	---	---	---	---	---	---	---	---	0.81	0.65	0.79	---
25	---	---	---	---	---	---	---	---	0.73	0.71	0.79	---
26	---	---	---	---	---	---	---	---	0.73	0.70	0.79	---
27	---	---	---	---	---	---	---	---	0.64	0.70	0.79	---
28	1.2	---	---	---	---	---	---	---	0.64	0.70	0.79	---
29	1.2	---	---	---	---	---	---	---	0.62	0.69	0.79	---
30	1.2	---	---	---	---	---	---	---	0.60	0.81	0.79	---
31	1.2	---	---	---	---	---	---	---	---	0.95	0.79	---
TOTAL	---	---	---	---	---	---	---	---	---	21.92	---	---
MEAN	---	---	---	---	---	---	---	---	---	0.71	---	---
MAX	---	---	---	---	---	---	---	---	---	0.95	---	---
MIN	---	---	---	---	---	---	---	---	---	0.62	---	---
AC-FT	---	---	---	---	---	---	---	---	---	43	---	---

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA

LOCATION.—Lat 39°17'32", long 121°06'13", in NW 1/4 SE 1/4 sec.32, T.17 N., R.8 E., Nevada County, Hydrologic Unit 18020125, on left bank at Jones Bar, 100 ft upstream from Rush Creek, 0.9 mi downstream from bridge on State Highway 49, and 5 mi northwest of Grass Valley.

DRAINAGE AREA.—308 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1940 to September 1948, April 1959 to current year. Published as "South Fork Yuba River at Jones Bar" 1940–48, and as "South Yuba River at Jones Bar" 1959–63. Yearly discharge for the 1947 water year published in WSP 1315-A.

REVISED RECORDS.—WSP 1315-A: 1942–43(M), drainage area at former site. WSP 1931: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,060 ft above NGVD of 1929, from river-profile map. Oct. 1, 1940, to Sept. 30, 1948, at site 150 ft upstream at datum 2.00 ft higher.

REMARKS.—Records good. Flow regulated by Lake Spaulding, Fordyce Lake, and Bowman Lake (stations 11414140, 11414090, and 11415500) and many smaller reservoirs. Diversions into and out of basin for several powerplants and for irrigation. See schematic diagram of [South Yuba River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 53,600 ft³/s, Dec. 22, 1964, gage height, 25.0 ft, from floodmarks, from rating curve extended above 23,000 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 1.0 ft³/s, Sept. 10–13, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Dec. 23, 1955, reached a stage of 30.7 ft, from floodmarks, present datum, at site 100 ft upstream.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	44	58	708	351	195	357	896	1880	111	68	61
2	42	44	58	537	379	185	432	841	1700	108	74	59
3	42	44	58	484	320	178	402	1180	1380	106	97	58
4	42	43	57	447	293	175	430	1750	2630	104	81	58
5	42	43	57	438	274	169	419	1290	2080	102	76	58
6	42	44	57	425	259	163	388	1100	1800	100	74	57
7	42	64	57	389	244	159	364	964	1630	99	74	55
8	42	345	56	363	232	153	391	1170	1690	97	72	56
9	41	398	57	349	221	148	424	1200	1540	94	66	57
10	41	441	71	539	212	146	428	1070	1490	90	65	58
11	42	497	92	990	205	146	415	999	1340	87	63	57
12	42	174	74	662	198	147	719	951	561	86	62	56
13	42	117	221	542	278	151	1540	961	446	84	62	55
14	41	97	1730	483	465	379	1160	1000	421	83	64	54
15	41	85	1550	418	301	2080	828	1020	409	82	63	54
16	42	78	2990	361	564	1040	722	1010	253	82	62	57
17	42	72	1200	329	424	664	662	942	204	81	62	55
18	41	70	584	333	344	509	683	900	193	80	61	55
19	43	67	396	328	330	435	644	836	235	78	60	55
20	43	68	426	307	313	465	607	824	258	76	60	55
21	42	66	827	310	286	428	642	1070	258	75	60	54
22	42	64	501	402	262	378	628	1170	266	74	83	53
23	43	63	324	760	242	464	560	1400	263	74	96	53
24	43	62	260	901	233	519	937	1480	272	72	73	52
25	44	61	221	591	227	416	1120	1500	255	71	67	52
26	44	60	201	520	214	643	1190	1440	234	70	64	51
27	44	58	607	474	216	647	919	1500	173	70	65	51
28	43	58	1410	524	206	475	1080	1790	125	69	62	50
29	42	58	1500	434	---	402	1070	1930	121	68	61	50
30	43	58	836	380	---	365	993	2040	116	68	61	50
31	43	---	1050	355	---	349	---	1990	---	67	61	---
TOTAL	1311	3443	17586	15083	8093	12773	21154	38214	24223	2608	2119	1646
MEAN	42.3	115	567	487	289	412	705	1233	807	84.1	68.4	54.9
MAX	44	497	2990	990	564	2080	1540	2040	2630	111	97	61
MIN	41	43	56	307	198	146	357	824	116	67	60	50
AC-FT	2600	6830	34880	29920	16050	25340	41960	75800	48050	5170	4200	3260

SACRAMENTO RIVER BASIN

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	78.5	196	471	762	784	756	677	883	664	121	40.0	39.7
MAX	1197	1350	3756	4865	4078	3029	2804	3323	3618	996	84.9	132
(WY)	1963	1984	1965	1997	1986	1986	1982	1963	1967	1983	1983	1965
MIN	11.7	24.2	37.4	45.0	64.0	67.2	51.1	68.3	31.8	11.6	3.05	1.42
(WY)	1945	1960	1960	1991	1977	1977	1977	1992	1977	1947	1947	1947

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	94524		148253			
ANNUAL MEAN	259		406		460	
HIGHEST ANNUAL MEAN					1135 1995	
LOWEST ANNUAL MEAN					42.6 1977	
HIGHEST DAILY MEAN	2990	Dec 16	2990	Dec 16	30300	Jan 1 1997
LOWEST DAILY MEAN	36	Aug 19	41	Oct 9	1.0	Sep 10 1944
ANNUAL SEVEN-DAY MINIMUM	37	Aug 15	41	Oct 9	1.0	Sep 9 1944
MAXIMUM PEAK FLOW			4940 Dec 16		53600 Dec 22 1964	
MAXIMUM PEAK STAGE			10.87 Dec 16		25.00 Dec 22 1964	
ANNUAL RUNOFF (AC-FT)	187500		294100		333100	
10 PERCENT EXCEEDS	586		1140		1150	
50 PERCENT EXCEEDS	162		205		126	
90 PERCENT EXCEEDS	42		44		32	

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1965–79, November 2000 to current year.

WATER TEMPERATURE: Water years 1965–79, November 2000 to current year.

SEDIMENT DATA: Water years 1967–74, November 2000 to September 2001 (daily), October 2001 to current year (storm season only).

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Water years 1965–79, November 2000 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 2000 to September 2001 (daily), October 2001 to current year (storm season only).

INSTRUMENTATION.—Water-temperature recorder from February 1965 to April 1979, and since November 2000.

REMARKS.—Water-temperature records rated excellent. Suspended-sediment samples taken at site 100 yards downstream of continuous water-quality monitor.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 28.5°C, Aug. 7, 8, 1978; minimum recorded, 0.0°C, several days in most years.

SEDIMENT CONCENTRATION: Maximum daily mean, 294 mg/L, Mar. 15, 2003; minimum daily mean, 0 mg/L, many days during each year.

SEDIMENT LOAD: Maximum daily, 2,250 tons, Dec. 16, 2002; minimum daily, 0 ton, several days in most years.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 28.0°C, July 22–24, 30; minimum recorded, 2.5°C, Feb. 8, 9.

SEDIMENT CONCENTRATION: Maximum daily mean, 294 mg/L, Mar. 15; minimum daily mean, 0 mg/L, several days in December and February.

SEDIMENT LOAD: Maximum daily, 2,250 tons, Dec. 16; minimum daily, 0.02 ton, Dec. 2.

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

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	14.5	8.5	7.5	5.5	5.0	6.5	6.0	9.0	8.0	8.5	6.5
2	14.5	12.5	7.5	6.5	5.5	5.0	7.0	6.5	8.0	6.5	8.0	6.0
3	14.0	12.0	7.5	6.5	5.0	4.5	7.0	6.5	6.5	5.0	7.0	6.0
4	15.5	13.0	7.5	6.5	5.0	5.0	7.5	6.5	5.5	4.5	7.5	5.5
5	16.0	13.5	7.0	6.0	5.5	5.0	7.5	6.5	4.5	3.5	7.5	5.5
6	16.0	14.0	7.0	6.0	6.0	5.0	6.5	6.0	4.5	3.5	8.5	6.0
7	16.5	14.5	9.5	7.0	5.5	5.0	6.0	5.5	4.5	3.5	8.5	6.5
8	16.5	14.0	10.5	9.5	5.0	4.5	6.0	5.5	4.0	2.5	8.5	6.5
9	16.0	14.5	10.5	10.5	5.5	4.5	7.5	6.0	4.0	2.5	9.0	6.5
10	16.0	14.5	10.5	10.0	6.5	5.5	8.0	7.5	4.5	3.0	9.5	8.0
11	15.0	13.5	10.0	9.5	6.0	5.5	8.5	8.0	5.5	4.0	10.5	8.0
12	14.5	12.5	10.0	9.0	6.0	5.0	8.0	8.0	6.5	5.0	11.5	9.0
13	14.0	12.5	11.0	10.0	8.5	6.0	9.0	8.0	8.5	6.5	11.5	10.5
14	14.0	12.5	10.5	9.0	9.5	8.5	8.5	8.0	8.5	7.5	11.5	10.5
15	14.0	12.0	9.5	8.0	9.0	8.0	8.0	6.5	9.0	8.0	10.5	8.5
16	13.5	12.0	9.0	8.0	8.5	8.0	6.5	5.5	9.0	7.5	8.5	7.5
17	13.5	11.5	8.5	8.0	8.0	7.5	7.0	5.5	8.0	7.0	9.0	7.5
18	13.5	12.0	8.0	7.0	7.5	6.5	7.0	6.0	7.5	6.0	9.5	7.0
19	13.5	12.0	7.5	6.5	6.5	5.5	7.0	6.0	7.0	6.5	9.0	7.0
20	13.5	12.0	8.0	7.0	6.0	5.5	6.5	6.0	7.5	5.5	10.5	8.5
21	13.0	12.0	8.5	7.5	7.0	6.0	7.5	6.0	7.5	5.5	11.0	8.5
22	13.0	11.5	9.0	8.0	6.0	5.0	9.0	7.5	8.0	6.0	11.0	9.0
23	12.5	11.0	9.0	8.5	5.0	4.0	9.5	9.0	8.0	6.0	11.5	10.0
24	11.5	10.5	8.5	8.0	5.0	4.0	9.0	8.0	8.0	7.0	11.0	9.0
25	12.0	11.0	8.0	6.5	5.0	4.0	9.0	8.0	9.0	7.5	11.0	9.0
26	12.0	11.0	6.5	6.0	6.0	5.0	9.0	8.5	8.0	6.5	12.0	10.5
27	12.0	10.5	6.5	5.5	7.0	6.0	9.5	8.5	7.5	7.0	11.0	9.0
28	11.5	10.5	6.0	5.5	7.5	6.5	9.0	8.0	7.5	6.0	11.0	8.5
29	11.0	9.5	5.5	5.0	6.5	6.0	8.5	7.5	---	---	11.5	8.5
30	10.0	9.0	5.0	4.5	6.5	6.5	8.5	7.5	---	---	12.5	9.5
31	9.5	8.0	---	---	7.5	6.5	9.0	8.0	---	---	13.5	11.0
MONTH	16.5	8.0	11.0	4.5	9.5	4.0	9.5	5.5	9.0	2.5	13.5	5.5

SACRAMENTO RIVER BASIN

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA—Continued

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	10.5	11.0	9.0	16.5	13.0	22.5	19.5	26.0	24.5	23.0	20.0
2	10.5	8.5	11.0	10.0	17.0	14.0	22.5	19.5	25.0	24.0	23.5	21.0
3	8.5	7.0	10.5	9.5	17.5	15.5	22.5	19.0	25.5	22.5	23.0	21.5
4	8.5	7.0	10.0	9.0	17.5	14.0	23.0	19.5	25.5	23.0	24.0	21.5
5	8.0	5.5	11.0	8.0	17.5	14.0	23.5	20.0	24.5	22.5	24.5	22.0
6	8.5	7.5	11.0	9.5	18.0	15.0	23.5	20.5	24.0	21.5	23.0	21.5
7	10.0	6.5	10.5	9.5	18.0	15.5	23.5	20.5	23.5	21.0	22.0	20.0
8	12.0	8.5	9.5	7.5	18.5	15.5	23.0	20.0	23.5	20.5	21.5	19.5
9	12.5	9.5	9.0	7.0	18.5	15.5	24.0	20.5	23.5	20.5	20.0	19.0
10	12.0	10.0	10.5	8.0	18.0	14.5	24.5	21.0	24.0	21.0	20.0	17.5
11	11.5	10.5	12.0	9.0	17.5	14.5	24.5	21.5	23.5	21.0	20.5	18.0
12	11.0	8.5	13.0	10.5	18.5	16.0	25.0	21.5	23.0	20.0	21.5	18.5
13	8.5	6.5	13.5	11.5	19.0	16.5	25.0	22.0	23.0	20.0	21.5	19.0
14	9.0	6.5	14.0	12.0	19.0	16.5	25.0	21.5	23.5	20.5	21.5	19.0
15	8.5	7.0	14.0	12.0	19.5	16.0	25.0	22.0	23.5	20.5	20.5	18.5
16	9.0	8.0	13.0	11.5	21.0	17.0	25.0	22.0	23.0	20.5	19.5	18.0
17	9.5	8.5	13.5	11.5	23.0	19.0	25.5	22.0	23.5	20.5	19.0	17.0
18	10.5	8.5	13.0	11.0	23.0	20.5	26.0	23.0	24.0	21.0	19.0	16.5
19	11.0	8.0	14.0	11.0	22.0	19.5	27.0	24.0	24.0	21.5	19.0	16.5
20	11.0	9.5	14.5	12.0	22.0	19.5	27.5	24.5	24.0	21.5	19.5	16.5
21	10.5	9.5	15.0	12.5	20.5	18.0	27.5	25.0	23.0	22.0	19.5	17.0
22	9.5	8.5	15.5	13.5	20.5	17.5	28.0	25.0	22.5	21.0	20.0	17.5
23	10.0	8.5	15.5	13.5	20.0	17.0	28.0	26.0	23.0	20.0	20.0	17.5
24	10.0	8.0	15.5	14.0	20.0	16.5	28.0	26.0	23.5	21.0	20.0	18.0
25	8.0	7.5	15.5	13.0	20.5	16.5	27.0	25.0	24.0	21.0	20.5	18.0
26	9.5	7.5	15.0	13.0	21.5	17.5	27.0	24.0	24.5	22.0	20.0	18.0
27	10.5	8.5	16.0	13.0	22.5	19.0	27.0	24.0	24.0	21.5	20.0	18.0
28	10.0	9.0	16.0	14.0	23.5	20.5	27.5	24.0	23.0	20.5	19.5	17.5
29	9.0	8.5	16.0	13.5	23.0	20.5	27.5	24.5	22.5	20.0	19.5	17.5
30	10.5	7.5	15.5	13.0	23.0	20.0	28.0	25.5	22.5	20.0	19.0	17.0
31	---	---	16.0	12.5	---	---	27.0	25.0	22.5	20.5	---	---
MONTH	12.5	5.5	16.0	7.0	23.5	13.0	28.0	19.0	26.0	20.0	24.5	16.5

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	Instan- taneous dis- charge, cfs (00061)	Temper- ature, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
NOV					
06...	1230	44	6.5	<.5	<.01
09...	1245	361	10.5	32	31
DEC					
12...	1515	73	5.5	2	.39
31...	1045	1190	7.0	72	231
JAN					
29...	1545	424	8.5	1	1.1
APR					
04...	1045	424	7.5	2	2.3
29...	1240	1050	9.0	9	26
MAY					
30...	1230	2090	13.5	24	135

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

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	CONCEN-	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	43	---	---	44	1	0.12	58	0	0.05
2	42	---	---	44	1	0.12	58	0	0.02
3	42	---	---	44	1	0.12	58	1	0.09
4	42	---	---	43	1	0.12	57	1	0.15
5	42	---	---	43	1	0.10	57	1	0.15
6	42	---	---	44	1	0.07	57	1	0.14
7	42	---	---	64	5	1.2	57	1	0.10
8	42	---	---	345	77	73	56	0	0.04
9	41	---	---	398	36	41	57	0	0.04
10	41	---	---	441	51	85	71	1	0.22
11	42	---	---	497	42	69	92	2	0.48
12	42	---	---	174	12	6.0	74	2	0.47
13	42	---	---	117	5	1.6	221	29	35
14	41	---	---	97	4	1.0	1730	112	528
15	41	---	---	85	3	0.69	1550	112	548
16	42	---	---	78	3	0.55	2990	242	2250
17	42	---	---	72	2	0.45	1200	37	139
18	41	---	---	70	2	0.36	584	12	19
19	43	---	---	67	1	0.26	396	7	7.3
20	43	---	---	68	1	0.19	426	4	4.8
21	42	---	---	66	1	0.18	827	6	14
22	42	---	---	64	1	0.17	501	7	8.9
23	43	---	---	63	1	0.17	324	7	5.9
24	43	---	---	62	1	0.17	260	6	4.1
25	44	---	---	61	1	0.18	221	5	2.9
26	44	---	---	60	2	0.25	201	4	2.1
27	44	---	---	58	2	0.30	607	17	43
28	43	---	---	58	2	0.24	1410	39	153
29	42	---	---	58	1	0.18	1500	51	213
30	43	---	---	58	1	0.12	836	18	42
31	43	---	---	---	---	---	1050	56	163
TOTAL	1311	---	---	3443	---	282.91	17586	---	4184.95
	JANUARY			FEBRUARY			MARCH		
1	708	17	36	351	2	1.5	195	3	1.5
2	537	5	7.7	379	1	1.3	185	3	1.3
3	484	2	3.0	320	1	0.89	178	2	1.1
4	447	2	2.4	293	1	0.79	175	2	1.0
5	438	2	2.4	274	1	0.68	169	2	0.92
6	425	2	2.2	259	0	0.32	163	2	0.88
7	389	1	1.5	244	0	0.06	159	2	0.89
8	363	1	1.0	232	0	0.22	153	2	0.98
9	349	1	1.1	221	1	0.41	148	3	1.1
10	539	5	7.0	212	1	0.51	146	3	1.1
11	990	6	15	205	0	0.27	146	2	0.97
12	662	6	11	198	0	0.12	147	2	0.76
13	542	7	9.5	278	4	3.7	151	2	0.72
14	483	4	5.6	465	13	17	379	63	117
15	418	2	2.4	301	3	2.6	2080	294	1660
16	361	1	1.4	564	52	90	1040	34	111
17	329	1	0.93	424	3	3.8	664	8	14
18	333	1	0.90	344	2	1.5	509	5	7.2
19	328	1	0.88	330	2	2.1	435	3	3.7
20	307	1	0.83	313	2	1.9	465	3	3.8
21	310	1	1.3	286	2	1.6	428	3	3.5
22	402	3	3.3	262	2	1.7	378	3	3.4
23	760	15	34	242	3	1.8	464	4	4.7
24	901	16	41	233	3	1.9	519	4	5.4
25	591	8	13	227	3	1.8	416	3	3.9
26	520	5	6.8	214	3	1.7	643	4	7.8
27	474	2	2.8	216	3	1.8	647	4	6.4
28	524	2	2.1	206	3	1.6	475	1	1.7
29	434	1	1.3	---	---	---	402	2	1.6
30	380	1	1.5	---	---	---	365	2	2.0
31	355	2	1.8	---	---	---	349	2	2.3
TOTAL	15083	---	221.64	8093	---	143.57	12773	---	1972.62

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	357	4	3.7	896	8	18	1880	---	---
2	432	8	9.3	841	5	10	1700	---	---
3	402	7	7.7	1180	7	21	1380	---	---
4	430	3	2.9	1750	11	54	2630	---	---
5	419	2	2.3	1290	10	35	2080	---	---
6	388	2	2.1	1100	5	16	1800	---	---
7	364	2	2.0	964	5	14	1630	---	---
8	391	2	2.1	1170	11	36	1690	---	---
9	424	2	2.2	1200	14	47	1540	---	---
10	428	1	1.7	1070	9	25	1490	---	---
11	415	1	1.2	999	6	15	1340	---	---
12	719	6	19	951	5	13	561	---	---
13	1540	19	78	961	5	12	446	---	---
14	1160	18	56	1000	4	10	421	---	---
15	828	7	15	1020	3	8.0	409	---	---
16	722	4	8.0	1010	2	5.6	253	---	---
17	662	3	6.1	942	2	5.1	204	---	---
18	683	3	5.6	900	2	4.9	193	---	---
19	644	3	5.2	836	2	4.5	235	---	---
20	607	3	4.9	824	2	4.8	258	---	---
21	642	3	5.0	1070	4	13	258	---	---
22	628	2	4.2	1170	6	21	266	---	---
23	560	2	3.4	1400	10	39	263	---	---
24	937	9	26	1480	9	37	272	---	---
25	1120	12	38	1500	8	32	255	---	---
26	1190	13	43	1440	6	25	234	---	---
27	919	9	23	1500	7	29	173	---	---
28	1080	13	40	1790	14	69	125	---	---
29	1070	10	29	1930	21	109	121	---	---
30	993	11	29	2040	26	142	116	---	---
31	---	---	---	1990	26	142	---	---	---
TOTAL	21154	---	475.6	38214	---	1016.9	24223	---	---
	JULY			AUGUST			SEPTEMBER		
1	111	---	---	68	---	---	61	---	---
2	108	---	---	74	---	---	59	---	---
3	106	---	---	97	---	---	58	---	---
4	104	---	---	81	---	---	58	---	---
5	102	---	---	76	---	---	58	---	---
6	100	---	---	74	---	---	57	---	---
7	99	---	---	74	---	---	55	---	---
8	97	---	---	72	---	---	56	---	---
9	94	---	---	66	---	---	57	---	---
10	90	---	---	65	---	---	58	---	---
11	87	---	---	63	---	---	57	---	---
12	86	---	---	62	---	---	56	---	---
13	84	---	---	62	---	---	55	---	---
14	83	---	---	64	---	---	54	---	---
15	82	---	---	63	---	---	54	---	---
16	82	---	---	62	---	---	57	---	---
17	81	---	---	62	---	---	55	---	---
18	80	---	---	61	---	---	55	---	---
19	78	---	---	60	---	---	55	---	---
20	76	---	---	60	---	---	55	---	---
21	75	---	---	60	---	---	54	---	---
22	74	---	---	83	---	---	53	---	---
23	74	---	---	96	---	---	53	---	---
24	72	---	---	73	---	---	52	---	---
25	71	---	---	67	---	---	52	---	---
26	70	---	---	64	---	---	51	---	---
27	70	---	---	65	---	---	51	---	---
28	69	---	---	62	---	---	50	---	---
29	68	---	---	61	---	---	50	---	---
30	68	---	---	61	---	---	50	---	---
31	67	---	---	61	---	---	---	---	---
TOTAL	2608	---	---	2119	---	---	1646	---	---

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA—Continued

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

DATE	TIME	Depth at sample loca- tion, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
MAY				
19...*	1523	4.20	13.2	6.00
19...*	1522	4.00	13.2	18.0
19...*	1521	7.00	13.2	30.0
19...*	1519	7.30	13.2	42.0
19...*	1517	8.00	13.2	54.0
19...*	1515	5.00	13.2	66.0
19...*	1514	4.50	13.2	78.0
19...*	1512	3.00	13.2	90.0
19...*	1510	1.30	13.2	102
19...*	1509	.50	13.2	114
AUG				
11...*	1514	7.00	23.1	2.00
11...*	1515	7.00	23.1	7.00
11...*	1516	8.00	23.1	12.0
11...*	1517	9.00	23.1	17.0
11...*	1518	12.0	23.1	22.0
11...*	1520	13.0	23.1	27.0
11...*	1521	13.0	23.1	32.0
11...*	1522	14.0	23.1	37.0
11...*	1524	11.0	23.2	42.0
11...*	1525	1.00	23.6	47.0

* Instantaneous discharge at time of cross-sectional measurement: May 19, 830 ft³/s; Aug. 11, 64.0 ft³/s.

11417950 HARRY L. ENGLEBRIGHT LAKE NEAR SMARTVILLE, CA

LOCATION.—Lat 39°14'23", long 121°16'07", in SE 1/4 SW 1/4 sec.14, T.16 N., R.6E., [Yuba County](#), Hydrologic Unit 18020125, in intake tower on right bank of reservoir, 0.9 mi upstream from Deer Creek and 2.7 mi northeast of Smartville.

DRAINAGE AREA.—1,108 mi².

PERIOD OF RECORD.—October 2001 to current year. Records of daily storage, 1973–2001, available in files of the U.S. Geological Survey.

REVISED RECORDS.—WDR CA-03-4: 2002, Monthend and annual maximum and minimum elevations.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (Army Corps of Engineers).

REMARKS.—Reservoir is formed by a concrete arch dam, 1,142 ft long and 260 ft tall, completed in 1941 by the Army Corps of Engineers, water storage began the same year. Gross pool is 70,000 acre-ft, usable storage, 45,000 acre-ft between elevation of spill lip, 527 ft and elevation of intake to Narrows Powerplant No. 1 (station 11417970), 450 ft. Reservoir receives inflow from North, Middle and South Forks of Yuba River which are regulated releases except during spill conditions. Dam has no low-level outlet except water that is released through Narrows Powerplant Nos. 1 and 2 (station 11417980). Site is used by Pacific Gas & Electric Co. to compute mid-night storage contents for Reservoir. Records, including extremes for current year, represent contents at 2400 hours. See schematic diagram of [South Yuba River Basin](#).

COOPERATION.—Records collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 1403.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 46,200 acre-ft, May 8, 9, 2003, elevation, 528.52 ft, May 8, 2003; minimum contents, 34,900 acre-ft, Dec. 19, 2002, elevation, 513.82 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 46,200 acre-ft, May 8, 9, elevation, 528.52 ft, May 8; minimum, 34,900 acre-ft, Dec. 19, elevation, 513.82 ft.

REVISIONS.—The elevations corresponding to the annual maximum and minimum contents for water year 2002 have been revised to 526.88 ft and 514.67 ft, respectively. The monthend elevations for water year 2002 have been revised to:

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
523.23	521.79	521.28	516.84	519.05	519.38	520.01	522.25	518.76	520.65	523.77	525.57

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated 1942)

450.00	0	479.00	13,000	507.00	29,900	536.00	52,400
464.00	5,800	493.00	20,800	522.00	41,000	544.00	59,700

11417950 HARRY L. ENGLEBRIGHT LAKE NEAR SMARTVILLE, CA—Continued

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43700	43200	39900	42300	39200	39100	38900	38200	45800	40900	40400	42600
2	43600	43000	40000	41400	39100	38900	38400	37000	45700	40600	39200	43000
3	43900	42800	40000	41200	39300	39400	38100	38000	45500	40600	38500	43000
4	44000	42700	40000	41200	39800	40000	38100	41700	45800	40400	38000	43200
5	44100	42600	40000	41400	40800	40200	38100	43800	45600	40200	38200	43200
6	44100	42100	40000	41500	41000	40400	37600	46000	45600	39900	38200	43000
7	44100	41500	39800	41300	41400	40800	38400	46000	45600	40100	38400	42500
8	43800	41400	39600	41000	40500	40500	38400	46200	45600	40300	38600	42300
9	43500	41700	39500	40700	40200	40400	38800	46200	45400	40100	38300	42300
10	43100	41900	39500	40900	40600	40300	39100	46100	44700	40700	37800	42500
11	42800	42600	39500	42100	40800	41000	39700	45900	43300	41200	37900	42800
12	42800	42300	39400	42400	41000	42500	39600	45600	41200	41400	38200	43200
13	42800	41900	39800	42700	41200	44100	42700	45400	40300	41200	38300	42900
14	42700	41400	43300	42000	40800	45100	41600	45200	39800	41400	38500	43100
15	42800	40800	41300	41400	40200	46000	39700	45300	39700	41200	38800	43000
16	43000	40300	44400	40500	40700	45200	40500	45300	39600	41000	38800	42900
17	43000	39800	40900	40100	41100	42800	40300	45200	39700	41200	38800	43000
18	43200	39800	36000	40200	41300	41300	39800	45100	40000	41600	39200	43000
19	43400	39800	34900	40600	41200	41300	39200	44900	40100	41200	39600	43000
20	43400	39700	36300	40500	40700	41500	38100	44600	40200	40900	39900	42900
21	43200	39600	41400	40600	40600	41700	37600	45000	40400	40800	40700	43100
22	42900	39500	43300	39700	40000	41100	37600	45300	40700	40700	40400	43400
23	42900	39600	43500	40600	39300	41100	38100	45500	41500	40800	40300	43700
24	43000	39600	43100	41700	38900	41400	39900	45500	41300	40700	40300	43600
25	43100	39700	41600	40800	38800	40700	42600	45500	41000	39900	40600	43600
26	43100	39800	41100	39500	38700	39800	42700	45500	41700	39900	41500	43700
27	43200	39800	41400	38700	38700	39900	41600	45600	42200	39800	41100	43800
28	43300	39800	43100	38700	39200	40700	41500	45700	41300	39900	41000	43800
29	43200	39700	43000	39000	---	39900	40500	45900	40700	40000	41100	43900
30	43200	39800	41400	39000	---	39300	38900	46000	41200	40300	41100	44000
31	43200	---	41800	39200	---	39000	---	45900	---	40400	41800	---
MEAN	43294	40940	40606	40739	40182	41142	39537	44616	42373	40623	39468	43133
MAX	44100	43200	44400	42700	41400	46000	42700	46200	45800	41600	41800	44000
MIN	42700	39500	34900	38700	38700	38900	37600	37000	39600	39800	37800	42300
a	524.73	520.45	523.05	519.66	519.62	519.35	519.15	528.15	522.29	521.19	523.06	525.69
b	-700	-3400	+2000	-2600	0	-200	-100	+7000	-4700	-800	+1400	+2200

CAL YR 2002 b +1300

WTR YR 2003 b +100

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA

LOCATION.—Lat 39°14'07", long 121°16'23", in NW 1/4 NW 1/4 sec.23, T.16 N., R.6 E., Yuba County, Hydrologic Unit 18020125, on right bank, 2,000 ft downstream from Englebright Dam, 0.5 mi upstream from Deer Creek, and 2.3 mi northeast of Smartville.

DRAINAGE AREA.—1,108 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1941 to current year. Prior to October 1953, published as "at Narrows Dam". October 1953 to September 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. WDR CA-97-4: 1999(M).

GAGE.—Water-stage recorder. Datum of gage is 278.68 ft above NGVD of 1929 (levels by International Engineering Co.). Prior to Sept. 19, 1958, at site 2,000 ft upstream at datum 248.31 ft higher, and Sept. 19, 1958, to Sept. 30, 1969, at datum 278.68 ft lower. Supplementary gage 2,000 ft upstream since Oct. 1, 1969, at Englebright Dam at datum 248.31 ft higher.

REMARKS.—Record rated good except for estimated daily mean values, which are rated fair. Diversions up to 1,800 ft³/s (see stations 11413250, 11414190, and 11414200) out of basin for power and irrigation upstream from station. Flow regulation by Lake Spaulding (station 11414140), Jackson Meadows and New Bullards Bar Reservoirs (stations 11407800 and 11413515), Englebright Reservoir beginning in 1941, capacity, 70,000 acre-ft, Bowman and Fordyce Lakes (stations 11415500 and 11414090), and many smaller reservoirs. See schematic diagram of South Yuba River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 171,000 ft³/s, Dec. 22, 1964, gage height, 546.14 ft, site and datum then in use, from rating curve extended above 25,000 ft³/s, on basis of computation of peak flow over spillway of dam at gage heights 544.72 and 546.14 ft; no flow at times in 1942, 1949, 1956, 1958–61, 1968–69.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	690	949	e811	2230	e2910	2020	2000	e3870	6110	2560	2930	964
2	661	949	e810	1950	e2900	2010	2000	e3860	5630	2560	3010	953
3	630	948	e810	1460	e2900	2020	2000	3860	5040	2500	3060	880
4	629	948	e822	1280	2760	2020	2010	3890	6280	2420	3050	840
5	643	946	e822	1280	2410	2020	2010	4110	5850	2410	3050	841
6	649	942	e833	1280	2420	2020	2000	4990	5390	2410	3050	828
7	666	937	e836	1270	2170	2030	2010	e6510	5130	2410	3060	817
8	686	e935	e822	1290	2130	2020	2010	6860	5200	2410	3060	817
9	796	e912	e821	1290	2090	2010	2020	6940	5070	2410	3050	816
10	e919	e898	e829	1290	2050	2010	2020	e6680	4230	2470	3050	816
11	e891	e901	e835	1290	2010	2010	2020	6400	4180	2500	3050	816
12	e849	e898	e832	1290	2010	2020	2020	5710	3880	2510	3050	817
13	e841	e895	e837	1510	2000	2030	2060	4840	3270	2510	3050	817
14	e832	e894	e932	1820	2000	2330	3670	4410	2970	2570	3050	816
15	e785	e893	e3270	1920	2000	4610	3430	4440	2970	2670	3050	816
16	e754	e884	e3630	1920	2000	3780	1910	4520	2990	2710	3060	815
17	e762	e854	4170	1920	2000	3990	1810	4350	2930	2710	3060	815
18	e764	e844	3760	1920	2000	2890	1810	4230	2910	2720	2970	806
19	784	e834	1640	1920	2010	2000	1810	4220	2910	2720	2780	773
20	845	e822	1040	1920	2010	2010	1800	4220	2800	2720	2600	736
21	950	e809	1050	2040	2010	2020	1800	4230	2570	2750	2400	727
22	935	e802	1070	e2320	2000	2000	1800	4420	2420	2810	2220	727
23	926	e803	1090	e2280	2010	1990	1800	4840	2530	2810	2010	728
24	926	e801	1210	e2640	2010	2000	1810	4940	2760	2810	1800	728
25	926	e794	1210	e2900	e2010	2010	1840	5050	2900	2800	1600	728
26	923	e797	1200	e2900	2010	2010	3040	5000	2900	2800	1450	730
27	920	e806	1250	e2880	2010	2010	3090	4960	2900	2800	1350	731
28	927	e809	2290	e2940	2010	2010	3080	5350	2900	2790	1230	731
29	938	e809	4130	3050	---	2020	3380	5830	2890	2780	1140	731
30	939	e808	2650	3030	---	2010	e3990	6450	2730	2760	1050	731
31	946	---	2230	e2970	---	2000	---	6380	---	2820	977	---
TOTAL	25332	26121	48542	62000	60850	69930	68050	156360	113240	81630	77317	23891
MEAN	817	871	1566	2000	2173	2256	2268	5044	3775	2633	2494	796
MAX	950	949	4170	3050	2910	4610	3990	6940	6280	2820	3060	964
MIN	629	794	810	1270	2000	1990	1800	3860	2420	2410	977	727
AC-FT	50250	51810	96280	123000	120700	138700	135000	310100	224600	161900	153400	47390
a	25030	24570	13700	9120	997	496	1730	27910	43330	57990	49820	15530

e Estimated.

a Combined flow, in acre-feet, from Browns Valley Irrigation Ditch (station 11420750), Brophy-South Canal (station 11420760), and Hallwood-Cordua Irrigation District Canal (station 11420770), provided by Pacific Gas & Electric Co.

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	964	1216	2605	3480	3864	3552	3652	3928	2674	1419	1327	994
MAX	5206	8964	18100	22350	17330	13060	11950	13330	9017	4034	3140	3144
(WY)	1963	1951	1965	1997	1986	1995	1982	1952	1983	1983	1980	1980
MIN	207	41.3	175	283	211	199	437	367	501	430	326	202
(WY)	1960	1942	1960	1977	1977	1977	1976	1977	1977	1977	1944	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1942 - 2003	
ANNUAL TOTAL	595943		813263			
ANNUAL MEAN	1633		2228		2466	
HIGHEST ANNUAL MEAN					5251	
LOWEST ANNUAL MEAN					414	
HIGHEST DAILY MEAN	4170	Mar 10	6940	May 9	134000	Jan 2 1997
LOWEST DAILY MEAN	613	Sep 9	629	Oct 4	0.00	Nov 8 1941
ANNUAL SEVEN-DAY MINIMUM	618	Sep 14	652	Oct 2	0.00	Nov 8 1941
MAXIMUM PEAK FLOW			7170	May 8	171000	Dec 22 1964
MAXIMUM PEAK STAGE			13.02	May 8	546.14	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	1182000		1613000		1787000	
ANNUAL DISCHARGE (AC-FT) a	247300		270200			
10 PERCENT EXCEEDS	2170		4220		5100	
50 PERCENT EXCEEDS	1960		2010		1310	
90 PERCENT EXCEEDS	745		809		455	

a Combined flow, in acre-feet, from Browns Valley Irrigation Ditch (station 11420750), Brophy-South Canal (station 11420760), and Hallwood-Cordua Irrigation District Canal (station 11420770), provided by Pacific Gas & Electric Co.

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1973–78, January 2001 to current year.

WATER TEMPERATURE: Water years 1973–78, March 2001 to current year.

SEDIMENT DATA: January 2001 to September 2001 (daily), October 2001 to current year (storm season only).

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Water years 1973–78, March 2001 to current year.

SUSPENDED-SEDIMENT DISCHARGE: January 2001 to September 2001 (daily), October 2001 to current year (storm season only).

INSTRUMENTATION.—Water-temperature recorder October 1972–78 and since Mar. 23, 2001.

REMARKS.—Water-temperature records rated excellent. Interruptions in record due to malfunction of the recording instrument. Water temperatures can be affected by releases from Englebright Reservoir.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 20.0°C, Oct. 1, 3, 5, 7, 11, 1974; minimum recorded, 3.0°C, Dec. 19, 20, 1973.

SEDIMENT CONCENTRATION: Maximum daily mean, 38 mg/L, Dec. 28, 2002; minimum daily mean, 1 mg/L, many days during each year.

SEDIMENT LOAD: Maximum daily, 367 tons, Dec. 29, 2002; minimum daily, 1.6 tons, Oct. 2, 2001.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 14.0°C, Oct. 3, 8; minimum recorded, 8.0°C, many days in January, February, and March.

SEDIMENT CONCENTRATION: Maximum daily mean, 38 mg/L, Dec. 28; minimum daily mean, 1 mg/L, many days during water year.

SEDIMENT LOAD: Maximum daily, 367 tons, Dec. 29; minimum daily, 2.3 tons, Dec. 4.

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

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

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA—Continued

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.5	9.5	10.5	10.0	13.0	12.0	11.5	11.5	11.5	11.5	12.5	11.5
2	10.0	9.5	10.5	10.0	13.0	12.5	12.0	11.5	11.5	11.5	12.5	11.5
3	10.5	9.5	10.0	9.5	13.0	12.5	12.0	11.5	11.5	11.5	12.0	11.5
4	10.0	9.5	10.0	9.5	13.0	12.0	11.5	11.5	12.0	11.5	12.0	11.5
5	10.5	9.5	10.5	10.0	13.5	13.0	12.0	11.5	12.0	11.5	12.5	11.5
6	10.0	9.5	11.0	10.0	13.5	13.0	11.5	11.5	12.0	11.5	12.0	11.5
7	10.5	9.5	11.0	10.0	13.5	13.0	11.5	11.5	12.0	11.5	12.0	11.5
8	---	---	10.5	10.0	13.5	13.0	12.0	11.5	11.5	11.5	12.5	11.5
9	---	---	10.5	10.0	13.5	13.0	12.0	11.5	11.5	11.0	12.0	11.5
10	10.5	9.5	10.0	10.0	13.0	12.5	12.0	11.5	11.5	11.0	12.5	11.5
11	10.5	9.5	10.5	10.0	13.5	12.5	11.5	11.5	11.5	11.0	12.5	11.5
12	10.0	9.5	11.0	10.0	13.5	13.0	11.5	11.5	11.5	11.0	12.5	12.0
13	10.5	9.5	11.0	10.5	13.0	13.0	11.5	11.5	11.5	11.0	12.5	11.5
14	10.0	9.5	11.0	10.5	13.0	12.5	11.5	11.5	11.5	11.0	12.5	12.0
15	10.0	9.5	11.0	10.5	13.0	12.5	11.5	11.5	11.5	11.0	12.5	12.0
16	10.0	9.5	11.0	10.5	13.0	12.5	11.5	11.5	11.5	11.0	12.5	12.0
17	10.0	9.5	11.0	10.5	12.5	12.0	11.5	11.5	11.5	11.0	12.5	12.0
18	10.0	9.5	11.0	10.5	12.5	12.0	11.5	11.5	11.5	11.0	13.0	12.0
19	10.0	9.5	11.0	10.5	12.5	12.0	11.5	11.5	11.5	11.0	12.5	12.0
20	10.5	9.5	11.0	10.5	12.0	12.0	11.5	11.5	11.5	11.0	12.5	12.0
21	10.5	9.5	11.0	10.5	12.0	12.0	11.5	11.5	11.0	11.0	12.5	12.0
22	10.5	10.0	11.5	10.5	12.0	11.5	11.5	11.5	---	---	13.0	12.0
23	10.5	10.0	12.0	11.5	12.0	12.0	11.5	11.5	---	---	13.0	12.0
24	10.0	9.5	12.0	11.5	12.0	11.5	11.5	11.5	---	---	13.0	12.0
25	10.5	9.5	12.5	11.5	12.0	11.5	11.5	11.5	---	---	13.0	12.0
26	10.5	9.5	12.0	11.5	12.0	11.5	12.0	11.5	12.0	11.0	13.0	12.0
27	10.0	9.5	12.5	12.0	12.0	11.5	11.5	11.5	12.0	11.0	13.0	12.5
28	10.0	9.5	13.0	12.0	11.5	11.5	11.5	11.5	12.0	11.0	13.0	12.5
29	10.5	10.0	13.0	12.0	12.0	11.5	11.5	11.5	12.0	11.0	13.0	12.5
30	10.5	10.0	12.0	11.5	12.0	11.5	11.5	11.5	12.0	11.0	13.0	12.5
31	---	---	13.0	12.0	---	---	11.5	11.5	12.0	11.5	---	---
MONTH	---	---	13.0	9.5	13.5	11.5	12.0	11.5	---	---	13.0	11.5

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
NOV					
01...	1345	951	11.5	1	2.6
DEC					
18...	1445	3890	9.5	21	221
JAN					
30...	1015	3010	9.0	3	24
APR					
01...	1330	2020	10.0	2	11
MAY					
09...	1545	6920	10.0	4	75

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	690	---	---	949	1	2.5	e811	1	e2.9
2	661	---	---	949	1	2.6	e810	1	e2.7
3	630	---	---	948	1	2.6	e810	1	e2.4
4	629	---	---	948	1	2.6	e822	1	e2.3
5	643	---	---	946	1	2.6	e822	1	e2.5
6	649	---	---	942	1	2.5	e833	1	e2.9
7	666	---	---	937	1	2.5	e836	1	e3.2
8	686	---	---	e935	1	e2.5	e822	2	e3.5
9	796	---	---	e912	1	e2.5	e821	2	e3.8
10	e919	---	---	e898	1	e2.4	e829	2	e4.1
11	e891	---	---	e901	1	e2.4	e835	2	e4.5
12	e849	---	---	e898	1	e2.4	e832	2	e4.5
13	e841	---	---	e895	1	e2.6	e837	2	e4.5
14	e832	---	---	e894	1	e2.8	e932	6	e15
15	e785	---	---	e893	1	e3.0	e3270	16	e140
16	e754	---	---	e884	1	e3.1	e3630	18	e175
17	e762	---	---	e854	1	e3.2	4170	20	223
18	e764	---	---	e844	1	e3.3	3760	22	219
19	784	---	---	e834	2	e3.5	1640	26	113
20	845	---	---	e822	2	e3.6	1040	31	88
21	950	---	---	e809	2	e3.7	1050	32	92
22	935	---	---	e802	2	e3.8	1070	33	94
23	926	---	---	e803	2	e4.0	1090	33	97
24	926	---	---	e801	2	e4.2	1210	33	108
25	926	---	---	e794	2	e4.2	1210	33	108
26	923	---	---	e797	2	e4.1	1200	33	107
27	920	---	---	e806	2	e3.9	1250	33	111
28	927	---	---	e809	2	e3.6	2290	38	240
29	938	---	---	e809	2	e3.4	4130	33	367
30	939	---	---	e808	1	e3.2	2650	14	107
31	946	---	---	---	---	---	2230	11	64
TOTAL	25332	---	---	26121	---	93.3	48542	---	2511.8
	JANUARY			FEBRUARY			MARCH		
1	2230	10	62	e2910	3	e24	2020	3	18
2	1950	10	53	e2900	3	e23	2010	3	19
3	1460	10	38	e2900	3	e23	2020	4	19
4	1280	9	32	2760	3	22	2020	4	20
5	1280	9	31	2410	3	20	2020	4	21
6	1280	9	30	2420	3	20	2020	4	21
7	1270	8	29	2170	3	18	2030	4	22
8	1290	8	28	2130	3	17	2020	4	20
9	1290	7	26	2090	3	17	2010	3	17
10	1290	7	24	2050	3	17	2010	3	15
11	1290	7	23	2010	3	16	2010	2	13
12	1290	6	21	2010	3	16	2020	2	11
13	1510	6	22	2000	3	16	2030	2	9.1
14	1820	5	25	2000	3	16	2330	1	8.3
15	1920	5	23	2000	3	14	4610	2	26
16	1920	4	21	2000	2	13	3780	4	37
17	1920	4	20	2000	2	11	3990	14	151
18	1920	4	19	2000	2	11	2890	14	111
19	1920	4	18	2010	2	12	2000	12	67
20	1920	3	18	2010	2	13	2010	11	58
21	2040	3	18	2010	2	13	2020	9	49
22	e2320	3	e20	2000	3	14	2000	8	45
23	e2280	3	e19	2010	3	14	1990	8	42
24	e2640	3	e21	2010	3	15	2000	7	38
25	e2900	3	e23	e2010	3	e16	2010	6	35
26	e2900	3	e23	2010	3	16	2010	6	32
27	e2880	3	e23	2010	3	17	2010	5	28
28	e2940	3	e24	2010	3	17	2010	5	25
29	3050	3	25	---	---	---	2020	4	21
30	3030	3	25	---	---	---	2010	3	18
31	e2970	3	e24	---	---	---	2000	3	14
TOTAL	62000	---	808	60850	---	461	69930	---	1030.4

e Estimated.

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	2000	2	11	e3870	6	e61	6110	---	---
2	2000	2	10	e3860	6	e62	5630	---	---
3	2000	2	9.3	3860	6	63	5040	---	---
4	2010	2	8.6	3890	6	63	6280	---	---
5	2010	1	7.8	4110	6	66	5850	---	---
6	2000	1	7.0	4990	5	71	5390	---	---
7	2010	1	6.3	e6510	5	e80	5130	---	---
8	2010	1	5.6	6860	4	71	5200	---	---
9	2020	1	5.5	6940	3	59	5070	---	---
10	2020	1	5.4	e6680	3	e52	4230	---	---
11	2020	1	5.5	6400	3	47	4180	---	---
12	2020	1	5.4	5710	3	40	3880	---	---
13	2060	1	6.8	4840	2	32	3270	---	---
14	3670	3	35	4410	2	27	2970	---	---
15	3430	6	53	4440	2	26	2970	---	---
16	1910	6	29	4520	2	24	2990	---	---
17	1810	5	26	4350	2	22	2930	---	---
18	1810	5	25	4230	2	19	2910	---	---
19	1810	5	24	4220	1	17	2910	---	---
20	1800	5	22	4220	1	15	2800	---	---
21	1800	4	21	4230	1	13	2570	---	---
22	1800	4	20	4420	1	13	2420	---	---
23	1800	4	21	4840	1	16	2530	---	---
24	1810	4	22	4940	1	19	2760	---	---
25	1840	5	23	5050	2	22	2900	---	---
26	3040	5	39	5000	2	24	2900	---	---
27	3090	5	42	4960	2	26	2900	---	---
28	3080	5	43	5350	2	22	2900	---	---
29	3380	5	49	5830	1	17	2890	---	---
30	e3990	6	e60	6450	1	17	2730	---	---
31	---	---	---	6380	1	17	---	---	---
TOTAL	68050	---	648.2	156360	---	1123	113240	---	---
	JULY			AUGUST			SEPTEMBER		
1	2560	---	---	2930	---	---	964	---	---
2	2560	---	---	3010	---	---	953	---	---
3	2500	---	---	3060	---	---	880	---	---
4	2420	---	---	3050	---	---	840	---	---
5	2410	---	---	3050	---	---	841	---	---
6	2410	---	---	3050	---	---	828	---	---
7	2410	---	---	3060	---	---	817	---	---
8	2410	---	---	3060	---	---	817	---	---
9	2410	---	---	3050	---	---	816	---	---
10	2470	---	---	3050	---	---	816	---	---
11	2500	---	---	3050	---	---	816	---	---
12	2510	---	---	3050	---	---	817	---	---
13	2510	---	---	3050	---	---	817	---	---
14	2570	---	---	3050	---	---	816	---	---
15	2670	---	---	3050	---	---	816	---	---
16	2710	---	---	3060	---	---	815	---	---
17	2710	---	---	3060	---	---	815	---	---
18	2720	---	---	2970	---	---	806	---	---
19	2720	---	---	2780	---	---	773	---	---
20	2720	---	---	2600	---	---	736	---	---
21	2750	---	---	2400	---	---	727	---	---
22	2810	---	---	2220	---	---	727	---	---
23	2810	---	---	2010	---	---	728	---	---
24	2810	---	---	1800	---	---	728	---	---
25	2800	---	---	1600	---	---	728	---	---
26	2800	---	---	1450	---	---	730	---	---
27	2800	---	---	1350	---	---	731	---	---
28	2790	---	---	1230	---	---	731	---	---
29	2780	---	---	1140	---	---	731	---	---
30	2760	---	---	1050	---	---	731	---	---
31	2820	---	---	977	---	---	---	---	---
TOTAL	81630	---	---	77317	---	---	23891	---	---

e Estimated.

SACRAMENTO RIVER BASIN

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA—Continued

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

DATE	TIME	Depth at sample locat- tion, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
MAY				
19...*	0949	2.50	10.3	109
19...*	0952	9.70	10.3	127
19...*	0955	9.20	10.3	145
19...*	0957	10.3	10.4	163
19...*	1000	10.5	10.4	181
19...*	1002	10.5	10.5	199
19...*	1005	12.0	10.5	217
19...*	1008	11.5	10.5	235
19...*	1010	8.00	10.5	253
19...*	1013	4.50	10.6	271
AUG				
11...*	0938	6.00	11.4	8.00
11...*	0942	8.50	11.4	24.0
11...*	0945	9.00	11.4	40.0
11...*	0946	9.00	11.4	56.0
11...*	0948	9.50	11.4	72.0
11...*	0951	9.80	11.4	88.0
11...*	0953	11.0	11.4	104
11...*	0954	11.0	11.4	120
11...*	0956	10.5	11.4	136
11...*	0959	2.00	11.6	152

* Instantaneous discharge at time of cross-sectional measurement: May 19, 4,220 ft³/s; Aug. 11, 3,060 ft³/s.

11418500 DEER CREEK NEAR SMARTVILLE, CA

LOCATION.—Lat 39°13'28", long 121°16'03", in SW 1/4 SE 1/4 sec.23, T.16 N., R.6 E., Nevada County, Hydrologic Unit 18020125, on left bank, 400 ft upstream from county road bridge, 0.9 mi upstream from mouth, and 2 mi northeast of Smartville.

DRAINAGE AREA.—84.6 mi².

PERIOD OF RECORD.—June 1935 to current year.

WATER TEMPERATURE: Water years 1974–79.

SEDIMENT DATA: Water years 1974–79.

REVISED RECORDS.—WSP 1395: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 630 ft above NGVD of 1929, from river-profile map. June 21, 1935, to Nov. 30, 1938, nonrecording gage at same site and datum.

REMARKS.—Records fair. Natural flow of stream is affected by Scotts Flat Reservoir beginning in 1949, usable capacity, 26,300 acre-ft, increased to 49,000 acre-ft in July 1964; Deer Creek Reservoir, capacity, 1,400 acre-ft beginning 1949; Lake Wildwood, capacity, 3,840 acre-ft beginning in 1970, power developments, and diversion for irrigation. At times water from South Yuba River is diverted to Deer Creek and water from Deer Creek is diverted to Bear River. See schematic diagram of [South Yuba River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,100 ft³/s, Feb. 17, 1986, gage height, 14.05 ft, from rating curve extended above 5,200 ft³/s; minimum daily, 0.06 ft³/s, Aug. 5, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of March 1928 reached a stage of 14.5 ft from floodmarks, discharge, 14,000 ft³/s.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	6.8	5.6	195	44	35	61	274	35	5.1	1.9	5.6
2	4.8	5.7	5.8	112	43	35	70	242	26	6.1	4.3	4.0
3	3.7	5.8	5.3	86	40	33	81	617	22	6.0	9.3	3.0
4	3.4	5.8	3.5	73	39	32	128	443	23	7.3	5.2	3.0
5	4.2	5.6	3.4	62	34	31	149	320	20	7.3	4.0	3.1
6	4.6	5.9	3.4	55	35	30	86	277	18	6.4	3.3	3.8
7	4.0	14	3.5	49	33	30	43	265	18	4.6	2.9	4.5
8	4.3	61	3.7	44	31	28	50	323	17	3.9	2.6	4.0
9	4.6	52	4.2	43	31	28	49	310	14	4.0	3.1	3.7
10	4.4	68	6.9	112	31	27	37	256	15	3.8	3.0	4.1
11	4.5	38	6.5	163	31	28	35	229	14	3.9	2.4	4.1
12	4.2	e8.6	5.0	97	30	27	242	206	14	4.3	2.0	4.3
13	4.0	e7.2	80	102	63	28	974	189	15	4.1	2.2	6.2
14	34	e5.8	426	74	73	114	452	193	14	3.4	1.9	5.2
15	129	e4.3	388	61	46	1070	258	184	14	3.3	1.9	4.4
16	189	e4.2	1450	53	322	230	197	174	11	2.9	2.3	4.1
17	241	e3.6	290	48	104	119	173	156	9.0	2.6	2.4	4.9
18	251	e3.3	102	45	68	149	154	144	8.3	2.7	2.5	4.6
19	226	e5.4	82	42	72	139	133	135	7.9	3.8	2.1	3.9
20	155	e6.0	237	39	74	220	117	125	7.3	3.7	2.1	5.1
21	55	5.4	1070	50	55	154	125	112	7.8	3.4	2.2	5.4
22	26	3.9	292	64	49	134	125	104	7.7	3.2	24	4.6
23	16	3.9	105	274	46	144	112	96	6.4	3.3	24	4.6
24	11	4.2	71	204	45	134	416	82	6.6	3.2	12	4.6
25	8.0	4.5	55	97	44	123	517	75	6.9	2.9	7.8	4.2
26	4.5	3.8	50	75	40	149	482	70	5.2	3.3	5.7	5.1
27	4.6	4.5	107	66	38	121	289	68	5.4	3.6	5.2	6.1
28	6.3	4.6	696	59	37	103	582	62	5.6	13	4.6	6.5
29	8.5	5.0	1320	51	---	82	426	58	5.7	2.4	4.1	5.0
30	8.2	5.7	320	47	---	74	352	54	4.9	1.9	5.4	5.2
31	7.4	---	522	44	---	72	---	46	---	1.9	5.6	---
TOTAL	1436.8	362.5	7719.8	2586	1598	3723	6915	5889	384.7	131.3	162.0	136.9
MEAN	46.3	12.1	249	83.4	57.1	120	230	190	12.8	4.24	5.23	4.56
MAX	251	68	1450	274	322	1070	974	617	35	13	24	6.5
MIN	3.4	3.3	3.4	39	30	27	35	46	4.9	1.9	1.9	3.0
AC-FT	2850	719	15310	5130	3170	7380	13720	11680	763	260	321	272

e Estimated.

SACRAMENTO RIVER BASIN

11418500 DEER CREEK NEAR SMARTVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.8	58.9	165	297	371	319	181	71.8	20.5	6.51	5.02	5.90
MAX	373	388	960	1418	1399	1162	888	301	129	23.2	14.2	19.1
(WY)	1963	1951	1956	1997	1986	1938	1982	1995	1998	1974	1969	1980
MIN	1.07	2.25	2.89	5.25	14.5	10.5	3.91	3.58	0.48	0.36	0.33	0.27
(WY)	1989	1940	1977	1991	1991	1977	1977	1981	1977	1940	1940	1937

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1936 - 2003	
ANNUAL TOTAL	26584.4		31045.0			
ANNUAL MEAN	72.8		85.1		126	
HIGHEST ANNUAL MEAN					327	
LOWEST ANNUAL MEAN					5.48	
HIGHEST DAILY MEAN	1450	Dec 16	1450	Dec 16	10200	Feb 17 1986
LOWEST DAILY MEAN	2.1	Sep 5	1.9	Jul 30	0.06	Aug 5 1977
ANNUAL SEVEN-DAY MINIMUM	2.5	Sep 4	2.2	Aug 11	0.16	Aug 3 1940
MAXIMUM PEAK FLOW			3720		12100	
MAXIMUM PEAK STAGE			8.91		14.05	
ANNUAL RUNOFF (AC-FT)	52730		61580		91460	
10 PERCENT EXCEEDS	172		239		310	
50 PERCENT EXCEEDS	11		27		17	
90 PERCENT EXCEEDS	3.6		3.4		2.8	

11421000 YUBA RIVER NEAR MARYSVILLE, CA

LOCATION.—Lat 39°10'33", long 121°31'26", in New Helvetia Grant, [Yuba County](#), Hydrologic Unit 18020107, on left bank, 4.2 mi northeast of Marysville, and 5 mi downstream from Dry Creek.

DRAINAGE AREA.—1,339 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1940 to current year (prior to October 1943, low-water periods only). Published as "at Marysville" October 1940 to September 1957. Separate records published for two sites August 1954 to September 1955. Yearly discharge for the water year 1945 published in WSP 1315-A.

REVISED RECORDS.—WSP 1715: 1956(M). WSP 1931: Drainage area. WDR CA-99-4: 1997(M).

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 2.95 ft below NGVD of 1929. Prior to August 1954, and Oct. 1, 1956, to Sept. 30, 1957, at Simpson Lane Bridge in Marysville, 4.2 mi downstream, at same datum. Sept. 3, 1963, to Sept. 23, 1968, auxiliary water-stage recorder at Simpson Lane Bridge at same datum.

REMARKS.—Records good. Flow regulated by New Bullards Bar Reservoir since January 1969, and several other reservoirs. Many diversions upstream from station for power and for irrigation. See schematic diagrams of [South Yuba River Basin](#) and [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge (water years 1944, 1947–2003), 180,000 ft³/s, Dec. 22, 1964, gage height, 90.15 ft, from floodmarks, from rating curve extended above 91,000 ft³/s, on basis of U.S. Army Corps of Engineers flood-routing study, maximum gage height, 91.64 ft, from floodmarks, Jan. 2, 1997; minimum recorded, 10 ft³/s, July 2, 1959.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	467	430	430	2530	3040	2010	2100	4600	5490	1680	2010	498
2	453	431	435	2190	3030	1950	2090	4450	5040	1680	2130	575
3	439	435	438	1630	3010	1960	2110	5150	4540	1660	2230	605
4	418	444	439	1330	2940	2020	2160	5670	5510	1550	2220	571
5	414	457	433	1280	2560	2040	2190	5100	5430	1500	2210	564
6	416	447	416	1250	2550	2080	2150	5760	4880	1510	2220	554
7	405	514	496	1220	2350	2070	2080	7320	4650	1510	2210	538
8	413	661	460	1220	2160	2020	2030	7580	4640	1500	2180	537
9	453	610	458	1190	2100	1990	2040	8160	4620	1490	2180	536
10	527	592	465	1380	2050	1980	2050	7730	3990	1520	2180	534
11	500	597	486	1490	2050	2000	2050	7340	3810	1580	2170	539
12	471	550	487	1350	2050	2010	2200	6520	3620	1600	2160	533
13	444	522	556	1520	2150	2070	3300	5470	3020	1610	2170	531
14	445	502	949	1710	2200	2250	4380	4900	2580	1660	2190	529
15	471	502	3300	1810	2050	5520	4300	4700	2510	1770	2220	554
16	459	497	5990	1800	2480	4330	2530	4700	2510	1850	2210	568
17	487	478	4710	1780	2220	4430	2160	4450	2460	1850	2210	577
18	501	461	4110	1760	2110	3500	2090	4230	2370	1860	2210	589
19	483	459	2290	1750	2200	2320	2050	4080	2300	1860	2040	587
20	493	474	1580	1740	2220	2400	2000	3950	2180	1850	1840	559
21	531	467	2430	1780	2180	2330	2000	3810	1970	1870	1650	552
22	500	447	1780	2240	2150	2260	2000	3780	1770	1930	1510	558
23	465	449	1310	2590	2140	2250	1990	4090	1820	1920	1350	562
24	458	454	1240	2660	2140	2230	2340	4210	2000	1920	1150	560
25	458	453	1180	2970	2120	2200	2650	4290	2200	1920	986	552
26	454	433	1150	3030	2110	2210	3740	4230	2160	1910	850	559
27	444	426	1230	3060	2120	2220	3600	4190	2070	1910	790	558
28	439	429	2370	3150	2120	2180	4110	4450	2010	1930	698	558
29	436	430	6580	3150	---	2150	4260	4820	1980	1910	646	553
30	440	430	3550	3140	---	2130	5090	5610	1900	1870	587	546
31	438	---	3080	3090	---	2110	---	5660	---	1900	533	---
TOTAL	14222	14481	54828	62790	64600	75220	79840	161000	96030	54080	53940	16636
MEAN	459	483	1769	2025	2307	2426	2661	5194	3201	1745	1740	555
MAX	531	661	6580	3150	3040	5520	5090	8160	5510	1930	2230	605
MIN	405	426	416	1190	2050	1950	1990	3780	1770	1490	533	498
AC-FT	28210	28720	108800	124500	128100	149200	158400	319300	190500	107300	107000	33000

11421000 YUBA RIVER NEAR MARYSVILLE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1951–52, 1973–80, 1990 to September 2003 (discontinued). Published as "Yuba River at Marysville" (station 11421500) during water years 1966, 1973–76.

CHEMICAL DATA: Water years 1951–52, 1973–80. Published as "Yuba River at Marysville" (station 11421500) water years 1966, 1973–76. WATER TEMPERATURE: Water years 1973–78, 1990 to September 2003 (discontinued).

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: November 1972 to September 1978, October 1989 to September 2003 (discontinued).

INSTRUMENTATION.—Water-temperature recorder November 1972 to September 1978, October 1989 to September 2003 (discontinued).

REMARKS.—Water-temperature records rated excellent. Water temperatures can be affected by releases from Englebright Reservoir located approximately 13 mi upstream from station.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 28.5°C, July 16, 30, 1977, Aug. 11, 1992; minimum recorded, 4.5°C, Dec. 22, 23, 29–31, 1990.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 19.0°C, on several days during October and September; minimum recorded, 7.5°C, Feb. 8.

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

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

11421000 YUBA RIVER NEAR MARYSVILLE, CA—Continued

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

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

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

DATE	TIME	Depth at sample locat- ion, feet (81903)	Temper- ature, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
APR				
24...*	0940	4.00	11.0	7.25
24...*	0942	3.30	11.0	21.8
24...*	0944	4.70	11.0	36.2
24...*	0946	5.70	11.0	50.8
24...*	0948	6.50	11.0	65.2
24...*	0950	6.50	11.0	79.8
24...*	0952	6.80	11.0	94.2
24...*	0954	5.50	11.0	109
24...*	0956	4.00	11.0	123
24...*	0957	1.80	11.2	138
JUL				
08...*	0838	4.60	12.6	7.25
08...*	0841	3.70	12.6	21.8
08...*	0843	4.50	12.6	36.2
08...*	0844	5.20	12.6	50.8
08...*	0846	5.80	12.6	65.2
08...*	0848	6.60	12.6	79.8
08...*	0850	6.00	12.7	94.2
08...*	0851	4.70	12.7	109
08...*	0852	3.30	12.7	123
08...*	0853	1.20	12.8	138

* Instantaneous discharge at time of cross-sectional measurements: Apr. 24, 2,100 ft³/s; July 8, 1,510 ft³/s.

11421710 BEAR RIVER NEAR EMIGRANT GAP, CA

LOCATION.—Lat 39°18'23", long 120°40'41", in NW 1/4 SW 1/4 sec.30, T.17 N., R.12 E., [Placer County](#), Hydrologic Unit 18020126, on left bank, 20 ft upstream from Highway 20 Bridge, and 0.7 mi northwest of Emigrant Gap.

DRAINAGE AREA.—0.76 mi².

PERIOD OF RECORD.—October 1987 to current year (low-flow records only). Unpublished records for water years 1981–87 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and concrete culvert. Elevation of gage is 4,550 ft above NGVD of 1929, from topographic map. Prior to October 1987, nonrecording gage at same site and datum.

REMARKS.—No records computed above 160 ft³/s. Some water is diverted into stream from South Yuba Canal (station 11414200). See schematic diagram of [Bear River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	6.9	6.9	14	106	9.3	15	---	---	5.8	5.6	5.2
2	5.6	6.2	7.2	14	104	9.0	15	---	---	5.6	5.5	6.1
3	7.1	6.5	7.3	12	80	8.7	14	---	---	5.6	5.0	6.1
4	6.6	6.8	7.3	9.5	63	8.7	14	---	---	5.4	5.6	6.1
5	6.1	6.9	7.1	9.7	60	8.2	13	---	---	6.0	5.5	6.1
6	5.9	6.9	7.0	10	57	8.2	13	130	---	6.0	5.4	5.9
7	5.9	9.9	6.9	10	56	8.2	15	129	---	7.1	5.3	6.9
8	5.9	15	6.9	11	56	7.8	18	132	---	6.9	5.3	7.9
9	5.9	5.8	7.1	12	55	7.7	18	126	---	6.7	5.3	7.8
10	6.1	12	8.5	27	55	7.3	17	126	156	6.8	5.4	7.7
11	6.1	6.9	7.4	31	54	7.3	16	122	141	6.7	6.0	7.9
12	6.2	7.1	7.1	18	54	6.9	27	---	111	5.7	5.6	7.5
13	7.3	6.6	22	18	76	6.9	24	107	111	5.5	5.6	6.5
14	7.2	6.2	38	16	78	16	20	157	109	6.6	5.5	7.2
15	6.9	6.1	25	14	---	46	18	152	56	6.6	5.4	8.5
16	6.9	5.7	40	13	---	17	17	143	5.3	6.4	5.8	8.6
17	7.3	5.7	19	13	103	12	19	145	6.5	6.3	6.7	8.5
18	7.3	5.7	13	14	101	10	21	146	5.9	6.3	7.5	8.6
19	6.9	6.1	12	13	101	9.3	22	---	5.5	5.3	7.3	8.5
20	6.7	7.3	12	12	80	12	22	---	5.5	5.2	7.2	8.5
21	6.7	7.6	11	18	40	10	26	---	5.3	6.3	7.2	8.6
22	6.9	7.7	10	21	11	9.6	20	---	5.2	6.3	7.9	8.6
23	6.9	7.3	10	40	10	20	18	---	5.3	6.2	6.0	8.6
24	6.9	7.3	9.7	54	10	18	42	---	5.8	6.0	5.6	8.6
25	6.9	7.0	9.5	130	9.8	13	49	---	6.1	5.9	6.7	8.6
26	6.3	7.2	11	137	9.8	19	47	---	6.7	5.4	6.8	8.6
27	6.1	7.3	39	139	9.9	13	47	---	6.3	5.9	6.7	7.3
28	6.8	7.2	36	139	9.6	11	49	---	6.3	6.3	6.7	6.4
29	6.9	6.9	22	119	---	9.7	47	---	6.3	5.8	6.5	8.0
30	6.9	6.9	16	104	---	12	---	---	6.1	5.5	5.6	7.5
31	6.9	---	15	104	---	13	---	---	---	5.3	5.3	---
TOTAL	203.7	218.7	456.9	1296.2	---	374.8	---	---	---	187.4	187.5	226.9
MEAN	6.57	7.29	14.7	41.8	---	12.1	---	---	---	6.05	6.05	7.56
MAX	7.3	15	40	139	---	46	---	---	---	7.1	7.9	8.6
MIN	5.6	5.7	6.9	9.5	---	6.9	---	---	---	5.2	5.0	5.2
AC-FT	404	434	906	2570	---	743	---	---	---	372	372	450

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA

LOCATION.—Lat 39°15'16", long 120°46'26", in SW 1/4 NW 1/4 sec.17, T.16 N., R.11 E., [Placer County](#), Hydrologic Unit 18020126, on left bank, 60 ft downstream from Drum Afterbay Dam, and 3.5 mi west of Blue Canyon.

DRAINAGE AREA.—12.3 mi².

PERIOD OF RECORD.—April 1966 to current year, low flows only April to September 1966 and since October 1998.

GAGE.—Water-stage recorder and 4-ft steel Cipolletti weir set in a concrete broad-crested weir. Elevation of gage is 3,300 ft above NGVD of 1929, from topographic map. April 1966 to May 25, 1967, water-stage recorder at present site at different datum. May 26, 1967, to Feb. 11, 1968, water-stage recorder at site 1,000 ft downstream at different datum.

REMARKS.—Records not computed above 13.5 ft³/s. Water for Dutch Flat No. 1 Powerplant (station 11421750) and Dutch Flat No. 2 Flume (station 11421760) is diverted from Drum Afterbay just upstream from station. See schematic diagram of [Bear River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	5.5	6.2	6.2	6.2	6.1	11	11	---	11	11	11
2	5.3	5.5	6.2	6.2	---	6.1	---	11	11	11	11	11
3	5.3	5.6	6.2	6.2	---	---	---	---	11	11	11	11
4	5.3	5.6	6.2	6.2	---	---	11	---	11	11	11	11
5	5.3	5.5	6.2	6.2	---	---	11	---	11	11	11	11
6	5.2	5.6	6.2	6.2	---	---	12	---	11	11	11	11
7	5.3	5.5	6.2	6.2	---	---	12	---	11	11	11	11
8	5.3	5.5	6.2	6.2	---	---	11	---	11	11	11	11
9	5.3	5.6	6.2	6.2	---	11	11	---	11	11	11	11
10	5.3	5.5	6.2	6.2	---	11	11	11	12	11	11	11
11	5.3	5.9	6.2	6.2	---	11	11	---	11	11	11	11
12	5.3	6.1	6.2	6.2	---	11	11	11	11	11	11	11
13	5.3	6.0	6.2	6.2	---	11	11	11	11	11	11	11
14	5.7	6.1	6.2	6.2	---	11	11	---	11	11	11	11
15	6.1	6.2	6.2	6.2	---	---	11	11	11	11	11	11
16	6.0	6.1	6.2	6.2	---	7.2	11	11	11	11	11	11
17	6.1	6.2	6.2	6.2	---	11	---	11	11	11	11	11
18	6.1	6.2	6.2	6.2	---	11	---	---	11	11	11	11
19	6.1	6.1	6.2	6.2	---	12	---	---	11	11	11	11
20	6.1	6.2	6.2	6.2	---	11	11	12	11	11	11	11
21	6.1	6.1	6.2	6.2	---	11	---	12	11	11	11	11
22	5.9	6.2	6.2	6.2	6.2	11	11	---	11	11	11	11
23	5.5	6.2	6.2	6.2	6.1	11	---	12	11	11	11	11
24	5.6	6.2	6.2	6.2	6.1	12	11	11	11	11	11	11
25	5.6	6.2	6.2	6.2	---	11	---	11	11	11	11	11
26	5.5	6.2	6.2	6.2	6.1	11	11	11	11	11	11	11
27	5.5	6.2	6.2	6.2	6.1	11	11	11	11	11	11	11
28	5.6	6.2	6.2	6.2	6.1	11	11	11	11	11	11	11
29	5.6	6.2	6.2	6.2	---	11	11	---	11	11	11	11
30	5.5	6.2	6.2	6.2	---	11	11	11	11	11	11	11
31	5.6	---	6.2	6.2	---	11	---	11	---	11	11	---
TOTAL	174.8	178.4	192.2	192.2	---	---	---	---	---	341	341	330
MEAN	5.64	5.95	6.20	6.20	---	---	---	---	---	11.0	11.0	11.0
MAX	7.1	6.2	6.2	6.2	---	---	---	---	---	11	11	11
MIN	5.2	5.5	6.2	6.2	---	---	---	---	---	11	11	11
AC-FT	347	354	381	381	---	---	---	---	---	676	676	655
a	5110	920	7290	25500	29230	13530	18180	32420	29280	21600	12870	5750
b	19460	18780	21640	23750	6320	25150	22910	27280	18580	13350	17740	7250

CAL YR 2002 a 263800 b 107400

WTR YR 2003 a 201700 b 222200

a Diversion, in acre-feet, to Dutch Flat No. 2 Flume (station 11421760), provided by Nevada Irrigation District.

b Diversion, in acre-feet, to Dutch Flat No. 1 Powerplant (station 11421750), provided by Pacific Gas & Electric Co.

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA

LOCATION.—Lat 39°12'49", long 120°50'39", in NE 1/4 NW 1/4 sec.34, T.16 N., R.10 E., Placer County, Hydrologic Unit 18020126, at left bank downstream end of spillway, on Dutch Flat Afterbay Dam, and 0.6 mi north of Dutch Flat.

DRAINAGE AREA.—21.5 mi².

PERIOD OF RECORD.—December 1965 to current year.

REVISED RECORDS.—WDR CA-82-4: 1978, 1979(M), 1980.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 2,600 ft above NGVD of 1929, from topographic map.

REMARKS.—Water is imported from South Yuba River Basin via Drum Canal above forebay. Chicago Park Flume (station 11421780) diverts upstream from station to Chicago Park Powerplant. Records include spill over Dutch Flat Afterbay Dam. See schematic diagram of Bear River Basin.

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,240 ft³/s, Feb. 17, 1986; minimum daily, 0.08 ft³/s, Mar. 8–19, 1968.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	10	6.5	6.5	6.1	6.1	6.3	119	12	12	12	11
2	14	6.9	6.6	6.5	6.1	6.1	6.2	129	12	12	12	12
3	13	6.7	6.6	6.5	6.1	6.1	6.2	175	12	12	12	12
4	13	6.7	6.6	6.5	6.1	6.1	6.2	235	12	12	12	12
5	13	6.7	6.6	6.5	6.1	6.1	6.2	159	12	12	12	12
6	13	6.7	6.5	6.4	6.1	6.1	6.2	661	12	12	12	12
7	13	14	6.6	6.4	6.1	6.1	6.1	120	12	12	12	12
8	13	6.7	6.7	6.5	6.1	6.1	6.2	227	12	12	12	12
9	13	6.7	6.6	6.5	6.1	6.1	6.2	54	12	12	12	12
10	13	6.7	6.7	6.5	6.1	6.1	6.2	14	12	12	12	12
11	13	6.8	6.5	6.5	6.2	6.1	6.3	34	12	12	12	11
12	13	6.7	6.5	6.5	6.1	6.1	6.3	473	12	12	12	11
13	14	6.7	6.5	6.5	35	6.1	6.3	12	12	12	12	11
14	221	6.7	6.5	6.5	583	6.1	6.3	12	12	12	12	48
15	23	6.5	6.5	6.3	6.3	6.1	6.3	12	12	12	12	69
16	14	6.5	19	6.3	6.3	6.1	6.4	12	12	12	12	46
17	13	6.5	9.5	6.3	6.3	6.1	6.5	12	12	12	12	17
18	13	6.5	6.4	6.3	6.3	6.1	167	12	12	12	12	17
19	13	6.5	6.4	6.2	6.3	6.1	17	12	12	12	12	17
20	13	6.6	247	6.2	6.3	6.1	6.5	12	12	12	12	17
21	13	6.5	6.6	6.1	6.3	6.1	6.5	12	12	12	12	17
22	13	6.5	6.4	6.1	6.3	6.1	68	162	12	12	12	17
23	13	6.5	6.4	6.2	6.3	6.1	6.4	13	12	12	12	17
24	13	6.5	6.3	6.3	6.3	6.1	6.5	12	12	12	12	17
25	13	6.5	6.4	6.1	6.3	6.1	6.5	12	12	12	12	17
26	13	6.6	6.5	6.2	6.3	6.1	6.5	12	12	12	12	14
27	13	6.5	6.5	6.2	6.3	6.0	6.5	12	12	12	11	11
28	13	6.7	6.5	6.1	6.1	6.1	6.5	79	12	12	11	11
29	13	6.7	6.4	6.2	---	6.2	6.5	13	12	12	11	11
30	13	6.7	6.5	6.1	---	6.2	8.7	12	12	12	11	11
31	13	---	6.5	6.1	---	6.2	---	12	---	12	11	---
TOTAL	625	209.5	457.8	196.1	779.3	189.3	425.5	2847	360	372	367	526
MEAN	20.2	6.98	14.8	6.33	27.8	6.11	14.2	91.8	12.0	12.0	11.8	17.5
MAX	221	14	247	6.5	583	6.2	167	661	12	12	12	69
MIN	13	6.5	6.3	6.1	6.1	6.0	6.1	12	12	12	11	11
AC-FT	1240	416	908	389	1550	375	844	5650	714	738	728	1040
a	24220	20920	32400	54030	49920	43420	46700	62280	51540	36090	29700	12670

a Diversion, in acre-feet, to Chicago Park Flume (station 11421780).

SACRAMENTO RIVER BASIN

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.4	11.4	40.3	48.6	54.7	59.9	56.8	26.5	13.8	11.0	10.7	14.8
MAX	266	71.1	350	531	380	395	602	142	63.5	22.0	13.1	21.5
(WY)	1968	1984	1997	1997	1986	1966	1969	1998	1998	1970	1969	2001
MIN	4.81	2.65	2.42	4.94	4.10	4.26	3.94	5.30	5.13	5.00	5.00	5.00
(WY)	1978	1968	1968	1975	1974	1973	1973	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	4484.3		7354.5			
ANNUAL MEAN	12.3		20.1		27.6	
HIGHEST ANNUAL MEAN					80.1 1982	
LOWEST ANNUAL MEAN					5.53 1977	
HIGHEST DAILY MEAN	247	Dec 20	661	May 6	3400	Feb 17 1986
LOWEST DAILY MEAN	6.3	Dec 24	6.0	Mar 27	0.08	Mar 8 1968
ANNUAL SEVEN-DAY MINIMUM	6.4	Dec 22	6.1	Mar 21	0.08	Mar 8 1968
MAXIMUM PEAK FLOW			1260	Feb 14	4240	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	8890		14590		20010	
ANNUAL DIVERSION (AC-FT) a	426900		463900			
10 PERCENT EXCEEDS	13		14		23	
50 PERCENT EXCEEDS	12		11		9.6	
90 PERCENT EXCEEDS	6.6		6.1		5.0	

a Diversion, in acre-feet, to Chicago Park Flume (station 11421780).

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.—Lat 39°08'08", long 120°56'57", in NE 1/4 SE 1/4 sec.22, T.15 N., R.9 E., [Placer County](#), Hydrologic Unit 18020126, on left bank, 300 ft upstream from Rollins Dam on Bear River, and 2.3 mi north of Colfax.

DRAINAGE AREA.—104 mi².

PERIOD OF RECORD.—December 1964 to current year.

REVISED RECORDS.—WDR CA-01-4: Oct. 10, 1977, contents; 1978–2000, minimum contents for period of record.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Nevada Irrigation District).

REMARKS.—Reservoir is formed by an earthfill dam. Storage began Dec. 15, 1964. Usable capacity, 66,000 acre-ft, between elevations 1,970.0 ft, invert of outlet tunnel, and 2,171.0 ft, spillway crest. Dead storage, 270 acre-ft. Several diversions into and out of basin upstream for power development and irrigation. Water is normally released through Rollins Powerplant (station 11421900). Part of the water then is diverted to Bear River Canal (station 11422000) for power development. Water is later used for irrigation. See schematic diagram of [Bear River Basin](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 71,700 acre-ft, Feb. 17, 1986, elevation, 2,177.7 ft; minimum since reservoir first filled, 4,550 acre-ft, Oct. 13, 1977, elevation, 2,204.7 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 67,100 acre-ft, Mar. 15, Apr. 13, May 3, 4, 8, maximum elevation, 2,172.32 ft, May 3; minimum, 43,100 acre-ft, Oct. 12, elevation, 2,138.84 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Nevada Irrigation District in 1964)

2,020	3,920	2,050	8,940	2,100	23,900	2,160	57,300
2,030	5,320	2,060	11,200	2,120	32,700	2,178	72,000
2,040	6,990	2,080	16,800	2,140	43,800		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44400	53000	59400	66500	66600	66800	65900	67000	66600	65600	66000	61700
2	43700	53400	59300	66300	66500	66800	66000	67000	66600	65500	65400	61800
3	44000	53800	59100	66200	66600	66800	65900	67100	66600	65400	64700	62000
4	43900	54600	59100	66100	66600	66900	66100	67100	66500	64600	64900	62200
5	43900	55300	59000	66100	66600	66800	66100	67000	66500	63900	65100	62400
6	43900	56100	59100	66100	66500	66700	66100	67000	66600	63200	65400	61800
7	43900	57300	58800	66100	66500	66400	66100	66900	66500	63400	65600	61200
8	43800	58600	58500	66100	66500	66400	66000	67100	66600	63700	65700	61400
9	43900	59200	58700	66100	66500	66300	66100	67000	66600	63900	65000	61600
10	43900	60200	58800	66400	66500	66300	66000	66900	66500	64200	64300	61800
11	43900	61100	59000	66700	66300	66000	66100	66900	66600	64700	64300	62200
12	43100	62000	59300	66700	66300	66000	66600	66900	66600	64300	64400	62400
13	43200	62800	60300	66600	66300	66000	67100	66800	66500	64000	64500	61800
14	43400	63200	61400	66600	66700	66300	66900	66800	66500	64200	64600	61000
15	43600	63400	62100	66600	66800	67100	66700	66800	66500	64400	64600	60100
16	43800	63100	64600	66600	66900	66600	66700	66800	66400	64800	64000	59100
17	44600	62800	65000	66500	66900	66500	66600	66700	66400	65100	63300	58000
18	45400	62900	64900	66500	66900	66300	66700	66700	66300	65400	63300	56900
19	45500	62900	64800	66500	66900	66200	66700	66700	66400	65100	63600	55800
20	45500	62900	64600	66500	66800	66300	66700	66700	66400	64700	63700	54700
21	45800	62800	65400	66600	67000	66200	66800	66700	66400	64800	63800	53600
22	46400	62800	65500	66600	66900	66100	66700	66600	66400	65000	64000	52500
23	47100	62300	65400	66700	66800	66300	66700	66700	66200	65200	63500	51400
24	47700	61800	65000	66700	66900	66300	66900	66700	66100	65500	62900	50300
25	48200	61800	64500	66800	66900	66200	66900	66700	65900	65700	63000	49100
26	48200	61600	64200	66800	66800	66300	66900	66700	65800	65300	63200	48000
27	48500	61500	64600	66800	66800	66300	66800	66600	65800	64900	63400	46800
28	49300	61000	65600	66700	66800	66300	66900	66600	65700	65000	63600	45700
29	50200	60400	66500	66700	---	66200	66900	66700	65700	65200	63800	44500
30	51100	60000	66600	66700	---	66100	66900	66700	65600	65700	63100	43300
31	52000	---	66700	66600	---	66000	---	66600	---	65600	62400	---
MAX	52000	63400	66700	66800	67000	67100	67100	67100	66600	65700	66000	62400
MIN	43100	53000	58500	66100	66300	66000	65900	66600	65600	63200	62400	43300
a	2152.62	2163.46	2171.83	2171.76	2171.96	2171.01	2172.12	2171.71	2170.60	2170.52	2166.55	2139.24
b	+6500	+8000	+6700	-100	+200	-800	+900	-300	-1000	0	-3200	-19100
c	17050	13780	44330	60830	27710	43100	49050	49240	46540	39060	36640	33680

CAL YR 2002 MAX 66900 MIN 43100 b +13800 c 511400

WTR YR 2003 MAX 67100 MIN 43100 b -2200 c 461000

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Discharge, in acre-feet, through Rollins Powerplant (station 11421900), provided by Pacific Gas & Electric Co.

11422000 BEAR RIVER CANAL INTAKE NEAR COLFAX, CA

LOCATION.—Lat 39°07'58", long 120°57'12", in SW 1/4 SE 1/4 sec.22, T.15 N., R.9 E., [Placer County](#), Hydrologic Unit 18020126, on right bank, 400 ft downstream from canal inlet, 0.2 mi downstream from Rollins Dam, and 2.2 mi north of Colfax.

PERIOD OF RECORD.—January 1912 to September 1953, October 1964 to current year. Monthly discharge only for some periods published in WSP 1315-A. Prior to October 1912, published as "Pacific Gas & Electric Co.'s Canal near Colfax"; October 1912 to September 1953, published as "Bear River Canal near Colfax."

GAGE.—Water-stage recorder. Elevation of gage is 1,950 ft above NGVD of 1929, from topographic map. Prior to Mar. 25, 1946, water-stage recorder at site 1.5 mi downstream at different datum.

REMARKS.—Canal diverts from left bank of Bear River. Water is used to develop power at Halsey and Wise Powerplants (stations 11425310 and 11425415). Part of the water is distributed for irrigation, and the remainder is eventually spilled into North Fork American River. Capacity of canal is believed to have been increased in 1917 and 1931. See schematic diagram of [Bear River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 531 ft³/s, Oct. 5, 6, 1980; no flow at times in most years.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	442	0.00	433	218	342	344	405	353	448	456	467	449
2	441	0.00	447	238	342	343	404	354	448	455	466	449
3	442	0.00	447	247	342	342	403	354	447	455	466	449
4	442	0.00	426	247	342	342	403	354	426	455	466	450
5	442	0.00	419	247	342	338	402	355	442	454	467	451
6	442	0.00	353	247	342	192	401	355	442	453	467	451
7	442	0.00	315	323	342	247	400	355	442	451	467	452
8	442	0.00	315	363	342	248	399	355	442	449	467	452
9	442	0.00	316	339	342	248	417	359	441	449	468	453
10	443	0.00	317	339	343	304	424	372	441	449	468	454
11	443	0.00	318	338	343	391	364	376	440	450	468	455
12	439	0.00	320	338	343	422	325	392	440	450	468	456
13	55	30	246	338	344	350	324	403	439	451	463	456
14	52	205	207	338	344	315	323	404	439	451	454	457
15	52	280	210	338	303	287	358	427	439	451	454	458
16	52	321	215	338	244	341	372	433	438	455	454	459
17	53	342	213	337	245	398	371	434	438	460	454	459
18	53	342	211	337	246	416	385	434	438	461	454	459
19	117	342	210	337	247	414	391	434	437	461	454	459
20	123	345	211	337	281	414	390	434	437	461	455	459
21	123	347	211	337	348	413	390	446	436	462	455	459
22	124	355	212	337	348	412	389	458	436	463	456	459
23	125	433	212	337	347	412	389	452	435	463	432	459
24	127	433	212	337	346	411	324	452	435	464	398	459
25	128	432	213	336	346	410	288	451	434	464	405	459
26	129	433	214	336	346	409	326	450	434	465	420	459
27	41	434	214	336	346	409	351	450	433	465	434	459
28	0.00	433	216	338	346	408	352	450	433	465	443	459
29	0.00	433	217	343	---	407	353	449	433	466	447	459
30	0.00	433	217	343	---	406	353	449	439	466	447	459
31	0.00	---	218	342	---	406	---	448	---	467	448	---
TOTAL	6656.00	6373.00	8505	9906	9134	11199	11176	12692	13152	14187	14032	13677
MEAN	215	212	274	320	326	361	373	409	438	458	453	456
MAX	443	434	447	363	348	422	424	458	448	467	468	459
MIN	0.00	0.00	207	218	244	192	288	353	426	449	398	449
AC-FT	13200	12640	16870	19650	18120	22210	22170	25170	26090	28140	27830	27130
a	9660	10000	16190	17790	16410	18150	20220	22970	22910	23160	24550	23920
b	8250	10860	17090	19310	17740	18430	19320	20720	19930	22610	23300	22840

a Discharge, in acre-feet, to Halsey Powerplant (station 11425310), provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Wise Powerplant (station 11425415), provided by Pacific Gas & Electric Co.

11422000 BEAR RIVER CANAL INTAKE NEAR COLFAX, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 1931, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	184	158	156	124	139	154	200	253	253	250	251	235
MAX	300	285	281	257	265	257	286	278	300	317	300	300
(WY)	1929	1929	1925	1925	1925	1922	1925	1925	1927	1931	1926	1927
MIN	.000	.000	.000	.000	.000	.000	53.2	158	190	162	167	93.7
(WY)	1930	1930	1930	1930	1930	1930	1931	1931	1931	1918	1918	1924

SUMMARY STATISTICS

WATER YEARS 1918 - 1931

ANNUAL MEAN	197
HIGHEST ANNUAL MEAN	245 1929
LOWEST ANNUAL MEAN	121 1931
HIGHEST DAILY MEAN	345 Aug 2 1931
LOWEST DAILY MEAN	.00 Nov 12 1917
ANNUAL SEVEN-DAY MINIMUM	.00 Mar 17 1918
ANNUAL RUNOFF (AC-FT)	142400
10 PERCENT EXCEEDS	300
50 PERCENT EXCEEDS	232
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

	326	304	367	352	346	325	318	391	404	412	411	397
MEAN	326	304	367	352	346	325	318	391	404	412	411	397
MAX	492	495	488	479	478	485	490	498	499	493	497	496
(WY)	1968	1968	1976	1979	1980	1980	1978	1978	1978	1967	1967	1967
MIN	69.8	27.9	52.7	8.65	27.8	18.5	18.4	106	139	143	136	114
(WY)	1978	1978	1977	1946	1946	1977	1940	1977	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1932 - 2003

ANNUAL TOTAL	141733.00	130689.00	
ANNUAL MEAN	388	358	363
HIGHEST ANNUAL MEAN			462 1980
LOWEST ANNUAL MEAN			118 1977
HIGHEST DAILY MEAN	461 Jan 23	468 Aug 9	531 Oct 5 1980
LOWEST DAILY MEAN	0.00 Oct 28	0.00 Oct 28	0.00 Mar 12 1932
ANNUAL SEVEN-DAY MINIMUM	0.00 Oct 28	0.00 Oct 28	0.00 Mar 12 1932
ANNUAL RUNOFF (AC-FT)	281100	59200	262900
ANNUAL DISCHARGE (AC-FT) a	246800	225900	
ANNUAL DISCHARGE (AC-FT) b	226700	220400	
10 PERCENT EXCEEDS	453	459	474
50 PERCENT EXCEEDS	445	404	424
90 PERCENT EXCEEDS	211	210	140

a Discharge, in acre-feet, to Halsey Powerplant (station 11425310), provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, to Wise Powerplant (station 11425415), provided by Pacific Gas & Electric Co.

11422500 BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CA

LOCATION.—Lat 39°07'53", long 120°57'29", in SE 1/4 SW 1/4 sec.22, T.15 N., R.9 E., Nevada County, Hydrologic Unit 18020126, on right bank, 20 ft upstream from new highway bridge, 0.5 mi downstream from Rollins Dam, and 2.2 mi north of Colfax.

DRAINAGE AREA.—105 mi².

PERIOD OF RECORD.—January 1912 to September 1913, October 1913 to July 1915 (gage heights and discharge measurements only), August 1915 to June 1917, November 1949 to September 1953, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to August 1964, published as "Bear River near Colfax". Records for November and December 1911 include diversion to Bear River Canal and are not equivalent.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 1,927.41 ft above NGVD of 1929. Prior to Aug. 8, 1915, nonrecording gages at several sites above diversion dam 0.3 mi upstream at different datums. Aug. 8, 1915, to June 30, 1917, nonrecording gage 0.7 mi downstream at different datum. Nov. 1, 1949, to Sept. 30, 1953, at site 0.2 mi downstream at different datum. Aug. 17, 1964, to Feb. 4, 1986, at present site and datum. Feb. 5, 1986, to Mar. 19, 1987, at site 160 ft downstream at datum 8.00 ft lower.

REMARKS.—Flow regulated by Rollins Reservoir (station 11421800) beginning Dec. 15, 1964. Bear River Canal (station 11422000) diverts upstream from station. See schematic diagram of [Bear River Basin](#).

COOPERATION.—Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2266.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge (prior to construction of Rollins Dam in 1964), 9,620 ft³/s, Nov. 20, 1950, gage height, 21.40 ft, site and datum then in use, from rating curve extended above 3,600 ft³/s, on basis of slope-area measurement of peak flow; no flow at times in 1912, 1952. Maximum discharge since construction of Rollins Dam, 34,300 ft³/s, Jan. 2, 1997, gage height, 18.01 ft, maximum gage height, 20.62 ft, Feb. 17, 1986, site and datum then in use, from rating curve extended above 11,600 ft³/s; minimum daily, 0.5 ft³/s, Nov. 17, 1964.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	44	24	866	784	615	408	1200	643	324	151	131
2	80	25	24	710	794	606	414	1250	673	331	142	130
3	84	25	24	637	724	616	420	1380	674	325	135	111
4	85	24	24	619	740	615	408	1550	511	325	137	104
5	82	25	24	605	724	623	411	1420	487	324	142	102
6	81	24	23	615	711	784	410	1240	648	322	146	102
7	81	23	24	536	688	816	410	1200	594	215	145	104
8	81	23	23	496	674	765	409	1290	666	142	144	103
9	81	21	26	532	658	674	391	1370	650	143	142	100
10	83	22	23	552	673	634	382	1220	613	147	140	103
11	83	24	23	897	612	469	443	1120	597	145	141	107
12	88	21	23	985	566	426	525	996	605	145	140	107
13	83	23	88	797	635	489	1230	1040	594	143	141	107
14	83	28	540	750	646	515	1290	990	576	141	144	105
15	83	28	583	815	844	1230	968	952	579	141	142	105
16	83	29	486	751	999	1200	916	912	487	140	141	107
17	82	29	562	722	972	621	765	890	428	136	139	112
18	83	29	592	702	941	543	843	862	435	140	128	120
19	86	29	594	698	765	444	956	872	430	136	122	124
20	85	27	597	665	675	432	930	834	462	136	123	124
21	85	26	607	724	645	436	907	782	440	146	130	121
22	85	25	602	749	711	415	830	616	439	152	138	120
23	85	26	606	763	691	412	854	786	429	152	137	124
24	85	24	605	796	642	428	1010	774	368	152	124	132
25	85	24	607	873	691	435	1080	755	348	153	131	133
26	85	26	608	883	658	432	1190	764	344	152	138	142
27	87	24	610	898	645	457	950	719	350	150	140	134
28	83	24	621	882	611	456	1050	610	345	150	136	127
29	79	24	753	859	---	435	1120	723	346	149	138	123
30	80	24	862	825	---	413	1100	728	339	148	137	117
31	79	---	947	804	---	407	---	664	---	148	136	---
TOTAL	2573	770	11755	23006	20119	17843	23020	30509	15100	5653	4270	3481
MEAN	83.0	25.7	379	742	719	576	767	984	503	182	138	116
MAX	88	44	947	985	999	1230	1290	1550	674	331	151	142
MIN	78	21	23	496	566	407	382	610	339	136	122	100
AC-FT	5100	1530	23320	45630	39910	35390	45660	60510	29950	11210	8470	6900

11423800 BEAR RIVER FISH RELEASE BELOW NEW CAMP FAR WEST RESERVOIR, NEAR WHEATLAND, CA

LOCATION.—Lat 39°02'30", long 121°19'52", in NE 1/4 NW 1/4 sec.29, T.14 N., R.6 E., [Placer County](#), Hydrologic Unit 18020108, on left bank, 5.4 mi northeast of Wheatland, and 1.2 mi downstream from New Camp Far West Reservoir.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—October 1989 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 120 ft above NGVD of 1929, from topographic map.

REMARKS.—The gage measures required fish-release flow and is entirely regulated by New Camp Far West Reservoir. See schematic diagrams of [lower Sacramento River Basin](#) and [Bear River Basin](#).

COOPERATION.—Records provided by South Sutter Water District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2997.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 43 ft³/s, Dec. 4, 1994; minimum daily, 7.3 ft³/s, Mar. 11, 12, 2002.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	11	12	13	12	13	30	28	16	11	11
2	11	11	11	12	13	12	12	30	28	11	11	11
3	11	11	11	13	13	12	12	30	28	11	11	11
4	11	11	12	13	13	12	12	31	28	11	11	12
5	11	11	12	13	13	11	12	31	28	11	11	12
6	11	12	12	13	13	11	12	30	28	11	12	12
7	11	12	12	13	13	11	12	30	28	11	12	12
8	11	12	12	13	12	11	12	30	27	11	12	12
9	11	12	11	12	12	11	12	30	27	11	12	12
10	11	12	11	12	12	11	17	30	27	11	12	12
11	11	12	11	12	12	11	28	29	28	11	12	11
12	11	12	12	12	12	11	28	29	28	11	12	11
13	11	12	12	13	12	11	29	29	28	11	12	11
14	11	12	12	13	12	11	30	28	28	11	12	11
15	16	12	12	13	12	12	29	27	28	11	12	11
16	20	12	12	12	12	13	29	27	28	11	12	11
17	22	12	12	12	13	12	29	28	28	11	12	11
18	13	12	12	12	13	12	29	29	28	11	12	11
19	11	12	12	12	12	12	28	29	28	11	12	11
20	11	12	12	12	11	11	28	29	28	11	11	11
21	11	12	12	12	11	11	28	29	27	11	11	11
22	11	12	12	13	11	11	28	29	27	11	11	11
23	11	12	12	13	11	11	29	28	27	11	11	11
24	11	12	12	13	11	11	30	28	27	11	11	11
25	11	11	12	13	11	11	30	29	27	11	10	11
26	11	11	12	13	12	11	31	28	27	11	11	11
27	12	11	12	13	12	12	30	28	27	11	11	11
28	12	11	12	13	12	12	30	28	28	11	11	11
29	12	12	12	13	---	13	30	28	28	11	11	11
30	12	11	12	12	---	13	30	28	28	11	11	11
31	12	---	12	12	---	13	---	28	---	11	11	---
TOTAL	373	350	366	389	339	359	709	897	830	346	354	337
MEAN	12.0	11.7	11.8	12.5	12.1	11.6	23.6	28.9	27.7	11.2	11.4	11.2
MAX	22	12	12	13	13	13	31	31	28	16	12	12
MIN	11	11	11	12	11	11	12	27	27	11	10	11
AC-FT	740	694	726	772	672	712	1410	1780	1650	686	702	668

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2003, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	12.5	12.8	13.0	13.3	13.3	13.7	27.1	27.9	27.6	11.3	11.2	11.3		
MAX	14.5	18.0	16.4	21.7	18.7	21.7	32.0	30.5	30.1	12.9	13.0	13.0		
(WY)	1998	1996	1996	1995	1995	1995	1995	1995	1995	1995	1995	1995		
MIN	11.0	11.0	11.0	10.9	11.0	11.2	23.6	25.9	25.8	10.2	10.1	10.1		
(WY)	1991	1991	1991	1991	1991	1991	2003	1990	1990	2001	2001	2002		

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1990 - 2003
ANNUAL TOTAL	5607.7	5649	
ANNUAL MEAN	15.4	15.5	16.2
HIGHEST ANNUAL MEAN			19.5
LOWEST ANNUAL MEAN			15.0
HIGHEST DAILY MEAN	29	May 27	43
LOWEST DAILY MEAN	7.3	Mar 11	7.3
ANNUAL SEVEN-DAY MINIMUM	9.1	Mar 8	9.1
ANNUAL RUNOFF (AC-FT)	11120	11200	11750
10 PERCENT EXCEEDS	27	28	28
50 PERCENT EXCEEDS	12	12	12
90 PERCENT EXCEEDS	10	11	11

11424000 BEAR RIVER NEAR WHEATLAND, CA

LOCATION.—Lat 39°00'00", long 121°24'20", in SE 1/4 SW 1/4 sec.3, T.13 N., R.5 E., [Placer County](#), Hydrologic Unit 18020108, on right bank, 200 ft downstream from bridge on State Highway 65, 1 mi southeast of Wheatland, and 6.5 mi downstream from New Camp Far West Reservoir.

DRAINAGE AREA.—292 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1928 to current year.

CHEMICAL DATA: Water years 1953 to July 1980, June to September 1999.

SEDIMENT DATA: June to September 1999.

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 71.92 ft above NGVD of 1929. See WSP 2131 for history of changes prior to May 28, 1970.

REMARKS.—Records good. Natural flow of stream affected by inflow from Yuba and American River Basins. Flow regulated by Lake Combie, usable capacity, 7,840 acre-ft, since 1928; Rollins Reservoir (station 11421800), since December 1964; and New Camp Far West Reservoir, usable capacity, 102,200 acre-ft, since October 1963. Many diversions for irrigation and power. See schematic diagrams of [Bear River Basin](#) and [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 48,000 ft³/s, Feb. 17, 1986, gage height, 21.60 ft, maximum gage height, 23.72 ft, Jan. 2, 1997; no flow at times.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	12	13	24	550	750	551	1480	141	29	19	16
2	8.5	12	14	22	805	747	486	1440	113	18	22	15
3	10	13	14	231	862	747	488	1730	149	17	21	17
4	9.5	13	14	792	840	683	491	1990	177	16	22	13
5	8.9	13	14	790	987	597	488	1850	148	16	23	11
6	12	12	14	787	1080	637	493	1650	92	17	22	10
7	10	18	14	784	901	744	563	1470	47	19	19	15
8	10	19	14	782	812	905	600	1400	48	21	19	15
9	13	13	13	466	775	962	599	1460	48	21	18	15
10	15	14	14	32	757	940	529	1400	49	18	18	16
11	15	13	14	24	731	837	457	1280	52	18	18	15
12	16	13	14	22	719	712	555	1160	69	17	20	16
13	15	13	17	32	720	677	1410	1230	59	17	17	19
14	16	13	21	23	767	722	2470	1150	51	17	17	21
15	27	13	23	314	807	1470	1920	1010	57	17	18	18
16	39	13	35	773	1170	2230	1440	499	59	17	16	15
17	31	13	19	773	1430	1660	1220	452	59	19	17	17
18	20	13	17	772	1290	1120	1070	498	60	20	17	17
19	12	13	18	770	1180	1040	1010	468	50	20	13	19
20	12	13	22	770	925	1050	1020	463	41	19	12	17
21	12	13	30	774	986	983	1030	385	37	19	15	13
22	12	13	21	774	897	831	1030	335	38	20	21	13
23	12	13	19	785	851	762	962	271	44	19	20	14
24	12	13	19	777	848	739	1030	262	42	18	22	13
25	12	14	19	772	819	732	1450	263	33	20	18	12
26	12	13	19	771	775	735	1630	260	32	18	18	12
27	12	14	19	770	763	737	1490	260	31	18	20	12
28	12	14	33	767	756	657	1630	240	30	19	19	11
29	12	14	49	321	---	593	1840	215	33	18	17	12
30	13	13	24	21	---	593	1660	191	34	18	16	12
31	13	---	37	52	---	593	---	140	---	18	16	---
TOTAL	443.1	403	627	15567	24803	27185	31612	26902	1923	578	570	441
MEAN	14.3	13.4	20.2	502	886	877	1054	868	64.1	18.6	18.4	14.7
MAX	39	19	49	792	1430	2230	2470	1990	177	29	23	21
MIN	8.5	12	13	21	550	593	457	140	30	16	12	10
AC-FT	879	799	1240	30880	49200	53920	62700	53360	3810	1150	1130	875

SACRAMENTO RIVER BASIN

11424000 BEAR RIVER NEAR WHEATLAND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1963, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	92.8	184	565	826	1240	1033	770	306	79.0	12.6	16.7	18.4
MAX	1348	1980	3501	3004	3360	2918	2553	939	245	55.4	148	215
(WY)	1963	1951	1956	1956	1936	1938	1958	1942	1932	1952	1935	1935
MIN	2.05	9.14	21.3	68.0	156	192	11.3	.57	.71	.53	.65	.30
(WY)	1961	1960	1960	1947	1933	1933	1959	1959	1959	1959	1939	1939

SUMMARY STATISTICS

WATER YEARS 1930 - 1963

ANNUAL MEAN	424
HIGHEST ANNUAL MEAN	891 1951
LOWEST ANNUAL MEAN	70.0 1933
HIGHEST DAILY MEAN	22100 Dec 23 1955
LOWEST DAILY MEAN	.00 Sep 18 1939
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 18 1939
MAXIMUM PEAK FLOW	33000 Dec 22 1955
MAXIMUM PEAK STAGE	20.83 Nov 21 1950
ANNUAL RUNOFF (AC-FT)	307500
10 PERCENT EXCEEDS	1060
50 PERCENT EXCEEDS	77
90 PERCENT EXCEEDS	3.6

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

MEAN	22.3	133	422	933	1239	1145	724	257	71.1	20.4	17.6	16.9
MAX	263	1606	2668	3954	5201	3845	3796	1035	484	72.6	55.8	73.2
(WY)	1999	1984	1984	1997	1986	1983	1982	1983	1998	1995	2001	1998
MIN	0.002	0.056	0.000	0.14	0.62	1.07	0.60	4.05	3.17	2.95	4.72	1.31
(WY)	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1966 - 2003

ANNUAL TOTAL	89044.1	131054.1	
ANNUAL MEAN	244	359	412
HIGHEST ANNUAL MEAN			1191 1983
LOWEST ANNUAL MEAN			3.42 1977
HIGHEST DAILY MEAN	2460 Mar 24	2470 Apr 14	35900 Feb 17 1986
LOWEST DAILY MEAN	8.5 Oct 2	8.5 Oct 2	0.00 Oct 14 1976
ANNUAL SEVEN-DAY MINIMUM	9.7 Oct 1	9.7 Oct 1	0.00 Oct 29 1976
MAXIMUM PEAK FLOW		2710 Apr 14	48000 Feb 17 1986
MAXIMUM PEAK STAGE		6.34 Apr 14	23.72 Jan 2 1997
ANNUAL RUNOFF (AC-FT)	176600	259900	298800
10 PERCENT EXCEEDS	795	1040	1200
50 PERCENT EXCEEDS	33	29	23
90 PERCENT EXCEEDS	13	13	8.7

11424000 BEAR RIVER NEAR WHEATLAND, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1953 to July 1980, June 1999 to September 2000.

CHEMICAL DATA: Water years 1953 to July 1980, June 1999 to September 2000.

SEDIMENT DATA: June 1999 to September 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, uS/cm water 25 degC (00095)	Temper- ature, deg C water, (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
OCT										
07...	1130	19	762	9.7	104	7.8	102	18.5	34.0	e.09
NOV										
12...	1230	15	763	9.4	96	--	120	16.5	--	.12
DEC										
13...	1130	16	766	12.1	105	7.8	105	9.5	36.0	<.10
JAN										
24...	1330	111	772	10.3	92	7.8	101	11.0	27.0	.17
FEB										
17...	0945	2880	--	--	--	7.2	74	8.0	26.0	.14
MAR										
27...	1230	1110	--	--	--	8.0	68	12.0	21.0	.11
APR										
13...	1300	709	759	--	--	7.6	63	13.5	20.0	e.08
16...	1550	740	--	--	--	7.8	63	14.0	20.0	e.05
17...	1400	779	--	--	--	7.4	64	12.0	27.0	e.06
18...	1200	965	--	--	--	7.3	66	13.5	25.0	e.08
MAY										
23...	1100	242	758	10.3	106	7.2	74	16.5	22.0	<.10
JUN										
16...	1100	32	752	7.9	98	7.8	89	25.5	26.0	e.07
JUL										
07...	1130	17	759	8.8	104	8.0	100	23.5	39.0	e.08
AUG										
17...	1600	16	757	8.1	109	7.6	112	30.5	36.0	.12
SEP										
26...	1230	13	760	8.9	--	--	--	21.5	37.0	e.09

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
OCT									
07...	.11	<.02	<.05	<.010	<.01	e.003	<.008	<.2	1.2
NOV									
12...	.18	<.02	<.05	<.010	<.01	<.006	e.007	.2	2.0
DEC									
13...	e.08	<.02	.07	<.010	<.01	<.006	e.004	--	1.4
JAN									
24...	.64	.02	.20	<.010	.02	.019	.112	1.1	2.9
FEB									
17...	.87	<.02	.20	<.010	<.01	.007	.039	.2	2.9
MAR									
27...	.16	<.02	.09	<.010	<.01	<.006	.016	<.2	1.8
APR									
13...	.10	<.02	.10	<.010	<.01	<.006	.011	<.2	1.6
16...	.42	<.02	.09	<.010	<.01	e.003	.012	.3	1.6
17...	.11	<.02	.10	<.010	<.01	e.003	.016	.2	1.6
18...	.11	<.02	.09	<.010	<.01	<.006	<.008	<.2	1.6
MAY									
23...	e.06	<.02	<.05	<.010	<.01	<.006	e.007	<.2	1.4
JUN									
16...	e.10	<.02	<.05	<.010	<.01	<.006	.009	<.2	1.3
JUL									
07...	.10	<.02	<.05	<.010	<.01	e.003	e.005	<.2	1.6
AUG									
17...	.15	<.02	<.05	<.010	<.01	<.006	.008	<.2	1.5
SEP									
26...	e.07	<.02	<.05	<.010	<.01	<.006	e.005	.2	1.3

e Estimated.

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

SACRAMENTO RIVER BASIN

11424000 BEAR RIVER NEAR WHEATLAND, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)
OCT						
07...SS	1130	19	18.5	6	.31	97
NOV						
12...SS	1230	15	16.5	13	.53	15
DEC						
13...SS	1130	16	9.5	<.5	<.01	50
JAN						
24...SS	1330	111	11.0	106	32	93
FEB						
17...SS	0945	2880	8.0	29	226	79
MAR						
27...SS	1230	1110	12.0	16	48	59
APR						
13...SS	1300	709	13.5	12	23	77
16...SS	1550	740	14.0	12	24	68
17...SS	1400	779	12.0	16	34	69
18...SS	1200	965	13.5	12	31	72
MAY						
23...SS	1100	242	16.5	7	4.6	89
JUN						
16...SS	1100	32	25.5	9	.78	89
JUL						
07...SS	1130	17	23.5	10	.46	30
SEP						
26...SS	1230	13	21.5	3	.11	56

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

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

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 southwest of Nicolaus, 4.2 mi downstream from Bear River, and at mile 8.1.

DRAINAGE AREA.—5,921 mi².

PERIOD OF RECORD.—Water years 1996 to 2000 (discontinued).

CHEMICAL DATA: February 1996 to September 2000 (discontinued).

SEDIMENT DATA: February 1996 to April 1998.

REMARKS.—Site was relocated 1.7 mi downstream on Sept. 20, 1973, where discharge data was recorded from June 1921 to December 1942 and April 1943 to September 1973 by the U.S. Geological Survey. The National Water-Quality Assessment (NAWQA) Program began monitoring this site for water-quality data in February 1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Organic carbon, suspnd total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
OCT										
19...	1525	--	--	--	--	--	--	--	.2	1.3
NOV										
15...	1605	--	--	--	--	7.8	100	--	.2	1.8
DEC										
13...	1450	--	--	--	--	7.4	56	--	<.2	1.4
JAN										
18...	1530	--	--	--	--	7.3	87	--	.3	1.6
30...	1430	--	758	11.9	--	--	--	11.0	--	--
31...	1230	--	760	11.5	102	--	95	10.0	--	--
FEB										
01...	1250	--	760	9.8	89	7.4	95	11.0	--	--
02...	1150	--	768	9.0	81	7.4	92	11.0	--	--
03...	1130	--	--	--	--	7.4	98	10.5	--	--
11...	1240	4250	--	--	--	7.3	101	--	--	--
13...	1420	4470	--	--	--	--	--	--	--	--
14...	1300	3570	--	--	--	--	--	--	--	--
15...	1040	--	--	--	--	--	62	--	--	--
16...	1710	--	--	--	--	7.2	52	--	.6	4.2
21...	1240	--	--	--	--	--	--	--	--	--
22...	1030	--	--	--	--	--	73	--	--	--
23...	1020	--	--	--	--	--	72	--	--	--
24...	1010	--	--	--	--	--	69	10.0	--	--
25...	1050	--	--	--	--	--	75	9.0	--	--
MAR										
21...	1400	--	--	--	--	7.3	93	--	.5	1.4
APR										
19...	1530	--	--	--	--	7.5	98	--	<.2	1.5
MAY										
16...	1520	--	--	--	--	7.0	92	--	<.2	1.3

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

11425000 FEATHER RIVER NEAR NICOLAUS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	2,6-Di-ethyl- aniline	CIAT, water,	Aceto- chlor, water,	Ala- chlor, water,	alpha- HCH, water,	Atra- zine, water,	Azin- phos- methyl, water,	Ben- flur- alin, water,	Butyl- ate, water,
	0.7u GF ug/L (82660)	fltrd, ug/L (04040)	fltrd, ug/L (49260)	fltrd, ug/L (46342)	fltrd, ug/L (34253)	fltrd, ug/L (39632)	0.7u GF ug/L (82686)	0.7u GF ug/L (82673)	fltrd, ug/L (04028)
OCT									
19...	--	--	--	--	--	--	--	--	--
NOV									
15...	--	--	--	--	--	--	--	--	--
DEC									
13...	--	--	--	--	--	--	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
30...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
31...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
FEB									
01...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
02...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
03...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
11...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
13...	<.003	<.002	<.002	<.002	<.002	<.001	<.040	<.002	<.002
14...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
15...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
16...	--	--	--	--	--	--	--	--	--
21...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
22...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
23...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
24...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
25...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
MAR									
21...	--	--	--	--	--	--	--	--	--
APR									
19...	--	--	--	--	--	--	--	--	--
MAY									
16...	--	--	--	--	--	--	--	--	--
Date	Car- baryl, water,	Carbo- furan, water,	Chlor- pyrifos water,	cis- Per- methrin water,	Cyana- zine, water,	DCPA, water,	Diazi- non, water,	Diel- drin, water,	Disul- foton, water,
	0.7u GF ug/L (82680)	0.7u GF ug/L (82674)	fltrd, ug/L (38933)	0.7u GF ug/L (82687)	fltrd, ug/L (04041)	fltrd, ug/L (82682)	fltrd, ug/L (39572)	fltrd, ug/L (39381)	0.7u GF ug/L (82677)
OCT									
19...	--	--	--	--	--	--	--	--	--
NOV									
15...	--	--	--	--	--	--	--	--	--
DEC									
13...	--	--	--	--	--	--	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
30...	<.003	<.010	<.004	<.005	<.004	<.002	.040	<.001	<.02
31...	<.003	<.010	<.004	<.005	<.004	<.002	.154	<.001	<.02
FEB									
01...	<.003	<.010	<.004	<.005	<.004	<.002	.054	<.001	<.02
02...	<.003	<.010	<.004	<.005	<.004	<.002	.054	<.001	<.02
03...	e.005	e.023	<.004	<.005	<.004	<.002	.043	<.001	<.02
11...	e.010	<.015	e.004	<.005	<.004	e.002	.060	<.001	<.02
13...	<.003	e.007	.006	<.005	<.004	<.002	.063	<.001	<.02
14...	<.003	e.004	e.004	<.005	<.004	<.002	.033	<.001	<.02
15...	<.003	<.003	<.004	<.005	<.004	<.002	.036	<.001	<.02
16...	--	--	--	--	--	--	--	--	--
21...	<.003	e.003	<.004	<.005	<.004	<.002	.008	<.001	<.02
22...	<.003	e.003	<.004	<.005	<.004	<.002	.009	<.001	<.02
23...	<.003	e.003	<.004	<.005	<.004	<.002	.008	<.001	<.02
24...	<.003	<.003	<.004	<.005	<.004	<.002	.013	<.001	<.02
25...	<.003	<.003	<.004	<.005	<.004	e.001	.016	<.001	<.02
MAR									
21...	--	--	--	--	--	--	--	--	--
APR									
19...	--	--	--	--	--	--	--	--	--
MAY									
16...	--	--	--	--	--	--	--	--	--

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

11425000 FEATHER RIVER NEAR NICOLAUS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	EPTC, water, fltrd	Ethal- flur- alin, water, fltrd	Etho- prop, water, fltrd	Fonofos water, fltrd	Lindane water, fltrd	Linuron water, fltrd	Mala- thion, water, fltrd	Methyl para- thion, water, fltrd	Metola- chlor, water, fltrd
	0.7u GF ug/L (82668)	0.7u GF ug/L (82663)	0.7u GF ug/L (82672)	ug/L fltrd, (04095)	ug/L fltrd, (39341)	0.7u GF ug/L (82666)	fltrd, ug/L (39532)	0.7u GF ug/L (82667)	fltrd, ug/L (39415)
OCT									
19...	--	--	--	--	--	--	--	--	--
NOV									
15...	--	--	--	--	--	--	--	--	--
DEC									
13...	--	--	--	--	--	--	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
30...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
31...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
FEB									
01...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
02...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
03...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	.005
11...	<.002	<.004	<.003	<.003	<.004	<.002	e.004	<.006	.004
13...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.006
14...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
15...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	.005
16...	--	--	--	--	--	--	--	--	--
21...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
22...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
23...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
24...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
25...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
MAR									
21...	--	--	--	--	--	--	--	--	--
APR									
19...	--	--	--	--	--	--	--	--	--
MAY									
16...	--	--	--	--	--	--	--	--	--
Date	Metri- buzin, water, fltrd	Moli- nate, water, fltrd	Naprop- amide, water, fltrd	p,p'- DDE, water, fltrd	Para- thion, water, fltrd	Peb- ulate, water, fltrd	Pendi- meth- alin, water, fltrd	Phorate water fltrd	Prome- ton, water, fltrd
Date	fltrd, ug/L (82630)	0.7u GF ug/L (82671)	0.7u GF ug/L (82684)	ug/L fltrd, (34653)	ug/L fltrd, (39542)	0.7u GF ug/L (82669)	0.7u GF ug/L (82683)	0.7u GF ug/L (82664)	fltrd, ug/L (04037)
OCT									
19...	--	--	--	--	--	--	--	--	--
NOV									
15...	--	--	--	--	--	--	--	--	--
DEC									
13...	--	--	--	--	--	--	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
30...	<.004	.025	<.003	<.006	<.004	<.004	<.004	<.002	<.02
31...	<.004	.026	<.003	<.006	<.004	<.004	<.004	<.002	<.02
FEB									
01...	<.004	.030	<.003	<.006	<.004	<.004	<.004	<.002	<.02
02...	<.004	.025	<.003	<.006	<.004	<.004	<.004	<.002	<.02
03...	<.004	.021	<.003	<.006	<.004	<.004	<.004	<.002	<.02
11...	<.004	.023	<.003	<.006	<.004	<.004	<.004	<.002	<.02
13...	<.004	.009	<.003	<.006	<.004	<.004	.008	<.002	<.02
14...	<.004	.007	<.003	<.006	<.004	<.004	<.004	<.002	<.02
15...	<.004	.009	<.003	<.006	<.004	<.004	<.004	<.002	<.02
16...	--	--	--	--	--	--	--	--	--
21...	<.004	<.010	<.003	<.006	<.004	<.004	<.004	<.002	<.02
22...	<.004	<.010	<.003	<.006	<.004	<.004	<.004	<.002	<.02
23...	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.002	<.02
24...	<.004	.008	<.003	<.006	<.004	<.004	<.004	<.002	<.02
25...	<.004	.008	<.003	<.006	<.004	<.004	<.004	<.002	<.02
MAR									
21...	--	--	--	--	--	--	--	--	--
APR									
19...	--	--	--	--	--	--	--	--	--
MAY									
16...	--	--	--	--	--	--	--	--	--

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

11425000 FEATHER RIVER NEAR NICOLAUS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Pron- amide, water, fltrd 0.7u GF ug/L (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd 0.7u GF ug/L (82679)	Propar- gite, water, fltrd 0.7u GF ug/L (82685)	Sima- zine, water, fltrd, ug/L (04035)	Tebu- thiuron water fltrd 0.7u GF ug/L (82670)	Terba- cil, water, fltrd 0.7u GF ug/L (82665)	Terbu- fos, water, fltrd 0.7u GF ug/L (82675)	Thio- bencarb water fltrd 0.7u GF ug/L (82681)
OCT									
19...	--	--	--	--	--	--	--	--	--
NOV									
15...	--	--	--	--	--	--	--	--	--
DEC									
13...	--	--	--	--	--	--	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
30...	<.003	<.007	<.004	<.01	.011	<.01	<.007	<.01	.009
31...	<.003	<.007	<.004	<.01	.060	<.01	<.007	<.01	.011
FEB									
01...	<.003	<.007	<.004	<.01	.026	<.01	<.007	<.01	.011
02...	<.003	<.007	<.004	<.01	.031	<.01	<.007	<.01	.010
03...	<.003	<.007	<.004	<.01	.033	<.01	<.007	<.01	.009
11...	<.003	<.007	<.004	<.01	.062	<.01	<.007	<.01	.009
13...	<.003	<.007	<.004	<.01	.051	<.01	<.007	<.01	.007
14...	<.003	<.007	<.004	<.01	.031	<.01	<.007	<.01	.005
15...	<.003	<.007	<.004	<.01	.034	<.01	<.007	<.01	.007
16...	--	--	--	--	--	--	--	--	--
21...	<.003	<.007	<.004	<.01	.006	<.01	<.007	<.01	<.002
22...	<.003	<.007	<.004	<.01	.006	<.01	<.007	<.01	e.003
23...	<.003	<.007	e.004	<.01	.015	<.01	<.007	<.01	e.003
24...	<.003	<.007	<.004	<.01	.017	<.01	<.007	<.01	e.004
25...	<.003	<.007	<.004	<.01	.011	<.01	<.007	<.01	e.004
MAR									
21...	--	--	--	--	--	--	--	--	--
APR									
19...	--	--	--	--	--	--	--	--	--
MAY									
16...	--	--	--	--	--	--	--	--	--

Date	Tri- allate, water, fltrd 0.7u GF ug/L (82678)	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)
OCT		
19...	--	--
NOV		
15...	--	--
DEC		
13...	--	--
JAN		
18...	--	--
30...	<.001	<.002
31...	<.001	<.002
FEB		
01...	<.001	<.002
02...	<.001	<.002
03...	<.001	.005
11...	<.001	<.002
13...	<.001	<.002
14...	<.001	<.002
15...	<.001	<.002
16...	--	--
21...	<.001	<.002
22...	<.001	<.002
23...	<.001	<.002
24...	<.001	<.002
25...	<.001	<.002
MAR		
21...	--	--
APR		
19...	--	--
MAY		
16...	--	--

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

11425418 MORMON RAVINE NEAR NEWCASTLE, CA

LOCATION.—Lat 38°50'12", long 121°05'36", in SE 1/4 NW 1/4 sec.4, T.11 N., R.8 E., [Placer County](#), Hydrologic Unit 18020128, on right bank, 200 ft upstream from Folsom Lake, 700 ft north of Newcastle Powerplant, and 3.3 mi southeast of Newcastle.

DRAINAGE AREA.—3.84 mi².

PERIOD OF RECORD.—October 1989 to current year (low-flow records only).

GAGE.—Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 500 ft above NGVD of 1929, from topographic map.

REMARKS.—Records not computed above 8.5 ft³/s. Low flow augmented by release from end of South Canal. Most of the water in South Canal is diverted to Newcastle Powerplant (station 11425416). See schematic diagram of [Bear River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0.54	6.7	---	---	---	---	---	---	---	---	6.4
2	---	0.83	6.6	---	---	---	---	---	---	---	---	6.5
3	---	---	6.9	---	---	---	---	---	---	---	---	5.9
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	7.2	---	---	---	---	---	---	---	---	---
6	---	---	7.0	---	---	---	---	---	---	---	---	6.8
7	7.7	---	6.9	---	---	---	---	---	---	---	---	7.1
8	7.9	---	6.9	---	---	---	---	---	---	---	---	7.1
9	7.7	---	7.1	---	---	---	---	---	---	---	---	7.4
10	---	---	7.9	---	---	---	---	---	---	---	---	7.6
11	8.0	---	7.6	---	8.5	---	---	---	---	---	---	---
12	7.5	---	---	---	---	---	---	---	---	---	---	6.6
13	---	---	---	---	---	---	---	---	---	---	---	7.1
14	1.1	---	---	---	---	---	---	---	---	---	---	6.5
15	1.1	---	---	---	---	---	---	---	7.8	---	---	6.0
16	1.3	---	---	---	---	---	---	---	7.4	---	---	6.5
17	---	8.1	---	7.9	---	---	---	---	7.2	---	---	---
18	---	7.5	---	8.1	---	---	---	---	---	---	---	7.1
19	---	7.4	---	8.5	---	---	---	---	8.1	---	---	6.8
20	1.7	7.4	---	---	---	---	---	---	8.0	---	---	6.7
21	0.85	7.0	---	---	---	---	---	---	8.0	---	---	6.4
22	1.3	7.1	---	---	---	---	---	---	---	---	---	---
23	---	7.2	---	---	---	---	---	---	7.8	---	---	6.1
24	0.68	7.5	---	---	---	---	---	---	---	---	---	6.3
25	0.74	---	---	---	---	---	---	---	7.8	---	---	7.2
26	0.97	6.9	---	---	---	---	---	---	---	---	---	7.4
27	---	7.2	---	---	---	---	---	---	---	---	---	7.5
28	---	7.1	---	---	---	---	---	---	---	---	---	7.2
29	0.46	7.1	---	---	---	---	---	---	---	---	---	7.5
30	0.76	7.0	---	---	---	---	---	---	---	---	---	---
31	0.78	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---
a	3260	7820	13070	15930	14540	14100	13090	9530	4010	0	1000	9930

CAL YR 2002 a 112400

WTR YR 2003 a 106300

a Diversion, in acre-feet, to Newcastle Powerplant (station 11425416), provided by Pacific Gas & Electric Co.

11425500 SACRAMENTO RIVER AT VERONA, CA

LOCATION.—Lat 38°46'28", long 121°35'50", in SW 1/4 NW 1/4 sec.25, T.11 N., R.3 E., [Sutter County](#), Hydrologic Unit 18020109, on left bank, 1.3 mi southeast of Verona, 1.5 mi downstream from Feather River, 6.2 mi east of Knights Landing, and at mile 19.1 upstream from Sacramento.

DRAINAGE AREA.—21,251 mi².

PERIOD OF RECORD.—May 1926 to September 1929 (low-water periods only), October 1929 to current year.

CHEMICAL DATA: Water years 1952, 1969–70, 1996–98.

SPECIFIC CONDUCTANCE: Water years 1995–98.

WATER TEMPERATURE: Water years 1980, 1995–98.

SEDIMENT: Water years 1980, 1996–98.

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

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 3.00 ft below NGVD of 1929. May 1926 to Sept. 30, 1987, at site 0.5 mi upstream at same datum.

REMARKS.—Records good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. When discharge exceeds about 55,000 ft³/s, flow begins over Fremont Weir, 3.5 mi upstream on right bank, into Yolo Bypass (station 11453000). See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 94,000 ft³/s, Jan. 2, 1997, gage height, 42.09 ft; maximum gage height, 42.11 ft, Feb. 20, 1986, site then in use; minimum daily, 304 ft³/s, July 23, 24, 1931.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10600	9070	8920	60000	38900	23200	16300	37400	22900	17500	21000	15000
2	10300	9220	9130	60700	36500	21000	15500	39500	22500	17300	20800	14900
3	10100	9320	9250	60900	34300	19100	15700	43600	21800	17400	21100	15200
4	9940	9500	9390	59500	32000	18100	15900	48500	21200	17500	21600	15500
5	9520	9730	9640	56600	29300	17300	15500	51900	21600	17300	21900	15500
6	9190	10500	9840	51300	27100	16400	15500	54500	21300	17500	21700	15500
7	8870	11000	10000	44600	24900	16000	15100	56700	20700	17700	21000	15300
8	8520	12500	9990	38200	22900	15500	14200	56600	20500	18100	19900	15000
9	8520	13600	10200	33500	21400	15100	13600	54800	20700	18400	18600	15100
10	8580	13600	10300	30300	20300	14500	13200	51900	20900	18700	17500	15400
11	8650	13600	10400	29800	19600	14200	13100	48000	20400	19100	16200	15600
12	8430	13400	10600	33600	22000	13800	12900	42900	19900	19700	15300	15500
13	8230	13300	11100	36000	25700	13700	13800	37100	19600	20200	15200	14900
14	8150	12700	12900	40500	28200	13900	18600	32500	19000	20600	15200	14500
15	8310	12100	19700	47800	29600	15600	23500	29900	18100	20900	15100	14200
16	8510	11600	32100	58200	31000	26200	22900	28700	18000	21000	15100	14400
17	8300	11100	38600	61000	35700	34600	20200	27600	18000	20600	15300	14900
18	8190	10700	42500	59800	38900	34700	18600	27000	17500	20100	15200	14800
19	8060	10200	47300	57300	38500	30700	17900	26300	16800	20000	14900	14100
20	8160	9920	45600	53300	37100	26400	17400	25100	16200	20000	15000	13400
21	8370	9690	42800	48400	36600	23300	16700	23700	15700	20000	15500	13100
22	8440	9590	44900	44200	35900	21300	16300	22500	14900	20100	16500	12800
23	8320	9400	46800	41700	34700	19700	16000	22100	14000	20300	17100	12400
24	8190	9190	45000	42700	33500	18800	16500	22200	13800	20200	17000	12300
25	8270	8970	37700	45000	31900	19200	19000	22900	13300	20400	16900	12000
26	8480	8930	31100	46600	30100	18900	26700	22800	12900	20600	16700	11800
27	8670	8720	27500	47300	28000	17900	31800	22000	13900	20800	16000	11700
28	8660	8720	29600	46800	25600	19900	32900	22300	16100	21100	16000	11600
29	8930	8630	37700	45700	---	19900	34000	22800	16900	21600	15700	11400
30	9150	8580	47200	44100	---	18300	35400	22700	17200	21700	15200	11400
31	9080	---	56200	41800	---	17300	---	22800	---	21500	15200	---
TOTAL	271690	317080	813960	1467200	850200	614500	574700	1069300	546300	607900	535400	419200
MEAN	8764	10570	26260	47330	30360	19820	19160	34490	18210	19610	17270	13970
MAX	10600	13600	56200	61000	38900	34700	35400	56700	22900	21700	21900	15600
MIN	8060	8580	8920	29800	19600	13700	12900	22000	12900	17300	14900	11400
AC-FT	538900	628900	1614000	2910000	1686000	1219000	1140000	2121000	1084000	1206000	1062000	831500

11425500 SACRAMENTO RIVER AT VERONA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5623	8493	17140	28130	33500	35320	34370	24600	12750	3943	2603	4242
MAX	7816	23510	41690	56930	57860	57700	55330	53730	33480	9176	5036	5895
(WY)	1939	1938	1938	1941	1942	1938	1938	1938	1938	1938	1938	1938
MIN	3462	3923	5968	7819	11730	13860	5932	3103	1872	497	846	2960
(WY)	1933	1933	1937	1937	1933	1931	1931	1931	1931	1931	1931	1934

SUMMARY STATISTICS

WATER YEARS 1930 - 1943

ANNUAL MEAN	17470
HIGHEST ANNUAL MEAN	31300 1938
LOWEST ANNUAL MEAN	6286 1931
HIGHEST DAILY MEAN	76900 Feb 8 1942
LOWEST DAILY MEAN	304 Jul 23 1931
ANNUAL SEVEN-DAY MINIMUM	313 Jul 18 1931
MAXIMUM PEAK FLOW	79200 Mar 1 1940
MAXIMUM PEAK STAGE	41.20 Mar 1 1940
ANNUAL RUNOFF (AC-FT)	12650000
10 PERCENT EXCEEDS	50700
50 PERCENT EXCEEDS	8620
90 PERCENT EXCEEDS	2680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2003, BY WATER YEAR (WY)

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
MEAN	10520	13780	22610	30050	34540	31890	24550	20090	14550	12070	12340	12820
MAX	24920	43300	64470	71040	70030	71340	62140	51600	45560	24550	21400	22110
(WY)	1963	1974	1984	1997	1998	1983	1982	1952	1998	1983	1983	1971
MIN	4725	5987	6586	8561	7591	6731	6188	5118	4858	4848	5385	6300
(WY)	1978	1993	1960	1991	1991	1977	1977	1992	1992	1947	1947	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1946 - 2003

ANNUAL TOTAL	5857960	8087430	
ANNUAL MEAN	16050	22160	19910
HIGHEST ANNUAL MEAN			39150 1983
LOWEST ANNUAL MEAN			7178 1977
HIGHEST DAILY MEAN	58800 Jan 6	61000 Jan 17	92300 Feb 20 1986
LOWEST DAILY MEAN	7790 May 11	8060 Oct 19	3590 Jun 24 1992
ANNUAL SEVEN-DAY MINIMUM	8000 May 6	8240 Oct 14	3960 Jun 22 1992
MAXIMUM PEAK FLOW		61300 Jan 17	94000 Jan 2 1997
MAXIMUM PEAK STAGE		32.31 Jan 17	42.11 Feb 20 1986
ANNUAL RUNOFF (AC-FT)	11620000	16040000	14430000
10 PERCENT EXCEEDS	25300	43800	46600
50 PERCENT EXCEEDS	13400	18100	13600
90 PERCENT EXCEEDS	8610	9210	7580

11426000 SACRAMENTO WEIR SPILL TO YOLO BYPASS, NEAR SACRAMENTO, CA

LOCATION.—Lat 38°36'25", long 121°33'15", unsurveyed, [Sacramento County](#), Hydrologic Unit 18020109, on right bank, 100 ft upstream from weir, 3.2 mi upstream from American River, 4 mi northwest of Sacramento, and 4.2 mi upstream from Sacramento.

PERIOD OF RECORD.—October 1939 to current year. Monthly discharge only for water years 1940–51, published in WSP 1735. Published as "Sacramento Weir near Sacramento" 1939–61. Gage-height records collected at same site February 1926 to September 1934 and major flood flows only October 1934 to September 1939 are contained in reports of California Department of Water Resources.

GAGE.—Water-stage recorder and concrete weir crest. Datum of gage is 3.00 ft below NGVD of 1929. October 1939 to September 1942, October 1959 to September 1963, water-stage recorder or nonrecording gage at downstream end of weir. October 1942 to September 1959, water-stage recorder on left bank of Sacramento River opposite center of weir. February 1963 to September 1985, water-stage recorder on right bank of Sacramento River 100 ft downstream from end of weir.

REMARKS.—Crest of weir is at gage height 20.2 ft and top of movable gates are at 28.0 ft. Weir consists of 48 gates each 38.1 ft long. Flow over weir enters Yolo Bypass by way of Sacramento Bypass. Flow regulated by weir gates. February 1963 to September 1985, stage was obtained by averaging the stage obtained at sites on the Sacramento River above and below the weir. See schematic diagram of [lower Sacramento River Basin](#).

COOPERATION.—Records provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 128,000 ft³/s, Feb. 20, 1986, gage height, 30.84 ft, maximum gage height, 33.01 ft, Dec. 23, 1955; no flow all or most of each year.

EXTREMES FOR CURRENT YEAR.—No flow for 2003 water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2003, BY WATER YEAR (WY)

MEAN	1.21	121	515	762	743	510	83.5	2.09	0.21	0.000	0.000	0.000
MAX	72.6	7014	12470	19700	23920	17830	2042	79.1	12.7	0.000	0.000	0.000
(WY)	1963	1951	1965	1997	1986	1983	1982	1983	1998	1943	1943	1943
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1944	1944	1944	1944	1944	1944	1944	1943	1943	1943	1943	1943

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1943 - 2003	
ANNUAL TOTAL	0.0		0.0			
ANNUAL MEAN	0.000		0.000		223	
HIGHEST ANNUAL MEAN					2075 1986	
LOWEST ANNUAL MEAN					0.000 1944	
HIGHEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	123000	Feb 20 1986
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Jan 1 1943
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Jan 1 1943
MAXIMUM PEAK FLOW					128000 Feb 20 1986	
MAXIMUM PEAK STAGE					33.01 Dec 23 1955	
ANNUAL RUNOFF (AC-FT)	0.00		0.00		161800	
10 PERCENT EXCEEDS	0.00		0.00		0.00	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11426170 LAKE VALLEY RESERVOIR NEAR CISCO, CA

LOCATION.—Lat 39°18'01", long 120°35'46", in NE 1/4 NW 1/4 sec.35, T.17 N., R.12 E., [Placer County](#), Hydrologic Unit 18020128, on dam near left abutment, on North Fork of North Fork American River, and 1.3 mi west of Cisco.

DRAINAGE AREA.—4.54 mi².

PERIOD OF RECORD.—July 1987 to current year. Unpublished records for water years 1980–86 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 5,727.4 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to July 1987, nonrecording gage at same site and datum.

REMARKS.—Lake is formed by an earthfill dam; storage began in 1911. Usable capacity, 7,960 acre-ft, between gage heights 6.2 ft, natural rim of lake, and 57.5 ft, top of flashboards. Released water is diverted downstream to Lake Valley Canal (station 11426190) and then to several powerplants. Records, including extremes, represent usable contents at 2400 hours. See schematic diagrams of [Bear River Basin](#) and [South Yuba River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 8,225 acre-ft, Jan. 1, 1997, gage height, 58.35 ft; minimum, 1,153 acre-ft, Feb. 28, 1990, gage height, 25.01 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 8,000 acre-ft, May 22, 23, 28, maximum gage height, 57.62 ft, May 22, 23; minimum, 3,300 acre-ft, Dec. 12, gage height, 39.33 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated June 18, 1965)

8	41	14	304	25	1,152	50	5,810
10	102	17	476	30	1,830	59	8,411
12	189	20	693	40	3,455		

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5630	4480	3800	4410	5350	5520	7200	7720	7940	7760	7300	e6330
2	5570	4450	3750	4410	5380	5510	7260	7740	7930	7750	7310	e6300
3	5520	4410	3700	4410	5400	5500	7290	7820	7930	7740	7290	e6270
4	5470	4380	3650	4420	5410	5490	7360	7860	7960	7730	7280	e6230
5	5450	4340	3600	4420	5410	5470	7380	7840	7960	7720	7260	e6200
6	5410	4300	3550	4430	5420	5460	7400	7830	7960	7710	7250	e6160
7	5370	4360	3500	4430	5410	5450	7420	7790	7950	7700	7230	6160
8	5330	4480	3450	4430	5410	5440	7450	7800	7940	7690	7210	6100
9	5300	4490	3410	4450	5410	5430	7490	7770	7930	7680	7200	6050
10	5260	4550	3380	4500	5400	5420	7530	7750	7930	7660	7180	6010
11	5230	4550	3340	4530	5400	5410	7590	7750	7950	7640	7160	5970
12	5190	4540	3300	4550	5390	5400	7720	7770	7960	7630	7150	5930
13	5160	4540	3480	4560	5470	5410	7790	7810	7970	7600	7110	5900
14	5130	4530	3760	4570	5490	5530	7790	7860	7970	7580	7050	5890
15	5090	4500	3850	4580	5510	5720	7790	7890	7970	7560	7000	5880
16	5050	4440	3930	4580	5550	5790	7790	7890	7960	7540	6960	5860
17	5020	4400	3960	4590	5560	5840	7790	7870	7960	7520	6910	5850
18	4980	4360	3960	4590	5560	5880	7790	7840	7950	7510	6870	5830
19	4940	4310	3970	4600	5570	5930	7790	7830	7940	7490	6830	5820
20	4910	4270	3990	4610	5570	5980	7790	7870	7940	7480	6780	5810
21	4880	4230	4010	4650	5570	6020	7820	7880	7930	7470	6750	5800
22	4840	4190	4000	4710	5560	6100	7820	8000	7920	7450	6720	5790
23	4800	4150	3990	4900	5560	6310	7830	8000	7910	7440	6680	5780
24	4770	4110	3980	4980	5550	6410	7900	7990	e7900	7420	6640	5770
25	4730	4070	3980	5040	5550	6480	7960	7960	e7880	7410	6600	5750
26	4700	4020	3990	5080	5540	6760	7940	7950	e7860	7390	6560	5740
27	4670	3970	4150	5160	5540	6870	7920	7990	e7840	7370	6520	5730
28	4630	3930	4270	5210	5530	6940	7890	8000	e7820	7360	6480	5720
29	4590	3890	4320	5250	---	7000	7840	7990	e7790	7350	6440	5710
30	4560	3840	4360	5270	---	7060	7750	7970	7780	7330	e6400	5700
31	4520	---	4400	5300	---	7130	---	7950	---	7310	e6370	---
MAX	5630	4550	4400	5300	5570	7130	7960	8000	7970	7760	7310	6330
MIN	4520	3840	3300	4410	5350	5400	7200	7720	7780	7310	6370	5700
a	44.65	41.70	44.13	48.03	48.98	54.72	56.79	57.46	56.88	55.32	52.03	49.59
b	-1160	-680	+560	+900	+230	+1600	+620	+200	-170	-470	-940	-670
c	1130	1340	1490	1860	1510	1650	1860	2100	852	91	639	383

CAL YR 2002 MAX 7950 MIN 3300 b +830 c 14280

WTR YR 2003 MAX 8000 MIN 3300 b +20 c 14910

e Estimated.

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

b Change in contents, in acre-feet.

c Diversion, in acre-feet, to Lake Valley Canal (station 11426190), provided by Pacific Gas & Electric Co.

11426180 KELLY LAKE NEAR CISCO, CA

LOCATION.—Lat 39°18'40", long 120°34'49", in SE 1/4 NW 1/4 sec.25, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on outlet structure on Kelly Lake Dam, on unnamed tributary to North Fork of North Fork American River, and 2.2 mi west of Cisco.

DRAINAGE AREA.—0.58 mi².

PERIOD OF RECORD.—October 1991 to current year. Unpublished records for water years 1965–91 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 5,888.9 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to October 1991, nonrecording gage at same site and datum.

REMARKS.—No records computed during the winter months. Reservoir is formed on natural lake by rock-fill dam completed in 1928. Usable capacity, 336 acre-ft, between gage heights 0.0 ft, invert of outlet, and 17.1 ft, top of flashboards. Water is used for power development downstream. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of Bear River Basin.

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated December 1933)

0	0	8	130	16	308	19	387
4	61	12	213				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233	56	---	---	---	---	319	336	349	332	305	287
2	222	53	---	---	---	---	327	338	348	331	304	286
3	213	50	---	---	---	---	331	343	348	329	303	286
4	201	49	---	---	---	---	335	340	347	327	303	285
5	193	47	---	---	---	---	334	338	347	326	303	285
6	183	45	---	---	---	---	334	337	347	326	302	284
7	174	52	---	---	---	---	334	338	347	325	301	283
8	169	67	---	---	---	---	336	337	346	325	301	283
9	165	68	---	---	---	---	337	336	345	325	300	284
10	159	73	---	---	---	---	338	335	345	325	299	283
11	155	74	---	---	---	---	339	337	345	324	299	283
12	149	75	---	---	---	---	342	341	345	324	298	282
13	144	77	---	---	---	---	339	343	344	323	297	281
14	138	77	---	---	---	---	336	344	343	322	297	280
15	132	78	---	---	---	---	335	343	343	321	296	279
16	126	78	---	---	---	---	335	341	343	320	296	278
17	120	79	---	---	---	---	335	340	342	319	295	277
18	114	79	---	---	---	---	334	340	341	319	294	276
19	109	79	---	---	---	---	334	340	340	317	294	276
20	104	79	---	---	---	---	335	341	340	316	293	275
21	99	80	---	---	---	---	336	344	339	315	293	275
22	94	80	---	---	---	---	335	343	338	315	293	274
23	89	80	---	---	---	---	335	340	338	314	293	273
24	85	80	---	---	---	321	338	339	337	313	292	271
25	80	81	---	---	---	321	338	337	336	312	292	271
26	76	81	---	---	---	326	335	336	335	311	291	271
27	73	82	---	---	---	321	335	339	335	310	290	271
28	70	83	---	---	---	319	336	345	334	309	289	271
29	67	84	---	---	---	319	335	349	334	308	288	271
30	64	---	---	---	---	319	335	349	333	307	288	270
31	60	---	---	---	---	319	---	349	---	306	288	---
MAX	233	---	---	---	---	---	342	349	349	332	305	287
MIN	60	---	---	---	---	---	319	335	333	306	288	270
a	3.93					16.40	17.04	17.58	16.96	15.92	15.19	14.49
b	-185						+16	+14	-16	-27	-18	-18

WTR YR 2003 b +25

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11426195 CANYON CREEK NEAR BLUE CANYON, CA

LOCATION.—Lat 39°15'27", long 120°43'57", in NW 1/4 NW 1/4 sec.15, T.16 N., R.11 E., [Placer County](#), Hydrologic Unit 18020128, on left bank, 200 ft upstream from culvert, and 1.2 mi west of Blue Canyon.

DRAINAGE AREA.—0.51 mi².

PERIOD OF RECORD.—October 1999 to current year (low-flow records only). Unpublished records for water years 1981–99 available in files of the U.S. Geological Survey.

GAGE.—Nonrecording gage read most days. Datum of gage is 4,660 ft above NGVD of 1929, from topographic map.

REMARKS.—No records computed above 1.2 ft³/s. No regulation or diversion upstream from station. See schematic diagram of [Bear River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0.03	0.08	0.99	---	1.1	---	---	0.76	0.18	0.13	---
2	0.04	0.03	0.08	1.1	---	1.1	---	---	0.70	0.16	0.96	0.06
3	0.04	0.03	0.06	0.96	---	0.96	---	---	0.70	0.19	0.16	0.05
4	0.03	0.03	0.06	0.96	---	0.99	---	---	0.61	0.18	0.16	---
5	0.03	0.03	0.05	0.96	---	0.89	---	---	---	0.18	0.13	0.07
6	0.04	0.03	0.05	1.1	---	0.89	---	---	0.61	0.16	0.13	0.07
7	0.03	0.25	0.06	1.0	---	0.82	---	---	0.56	0.16	0.13	0.08
8	0.04	0.99	0.06	1.1	---	0.85	---	---	0.56	0.19	---	0.06
9	0.04	1.1	0.06	---	---	0.79	---	---	0.46	0.16	0.10	0.05
10	0.04	0.92	0.13	---	---	0.79	---	---	0.51	0.16	0.10	0.05
11	0.04	0.27	0.10	---	---	0.73	---	---	0.49	0.17	0.10	---
12	0.04	0.21	0.09	---	---	0.73	---	---	---	0.17	0.10	0.05
13	0.04	0.16	---	---	1.2	0.73	---	---	0.46	0.18	0.10	0.05
14	0.04	0.13	---	---	---	---	---	---	0.40	0.17	0.07	0.05
15	0.04	0.10	---	---	---	---	---	---	0.36	0.17	0.08	---
16	0.04	0.10	---	---	---	---	---	---	0.36	0.16	0.08	0.04
17	0.04	0.10	---	---	---	---	---	---	0.36	0.16	0.07	0.04
18	0.03	0.09	0.82	---	---	---	---	---	0.34	0.13	0.07	0.03
19	0.02	0.10	0.82	---	---	---	---	---	0.32	0.13	0.07	0.03
20	0.04	0.10	0.96	---	---	---	---	---	0.32	0.13	0.07	0.03
21	0.03	0.10	0.61	---	---	---	---	---	0.30	0.13	0.07	0.02
22	0.04	0.10	0.61	---	---	---	---	---	0.30	0.11	---	---
23	0.04	0.09	0.49	---	---	---	---	---	0.30	0.11	0.07	0.02
24	0.03	0.09	0.49	---	---	---	---	---	0.29	0.11	0.06	0.02
25	0.04	0.06	0.49	---	---	---	---	---	0.27	0.11	0.07	---
26	0.04	0.06	0.49	---	---	---	---	---	0.27	0.10	0.07	0.02
27	0.04	0.06	---	---	---	---	---	---	0.25	0.11	0.07	0.02
28	0.04	---	---	---	---	---	---	0.92	0.22	0.10	---	0.02
29	0.03	0.07	1.2	---	---	---	---	0.92	0.25	0.08	0.06	0.02
30	0.03	0.08	1.1	---	---	---	---	0.85	0.22	0.10	0.06	0.03
31	0.03	---	---	---	---	---	---	0.79	---	0.10	---	---
TOTAL	---	---	---	---	---	---	---	---	---	4.45	---	---
MEAN	---	---	---	---	---	---	---	---	---	0.14	---	---
MAX	---	---	---	---	---	---	---	---	---	0.19	---	---
MIN	---	---	---	---	---	---	---	---	---	0.08	---	---
AC-FT	---	---	---	---	---	---	---	---	---	8.8	---	---

11426196 CANYON CREEK BELOW TOWLE DIVERSION DAM, NEAR BLUE CANYON, CA

LOCATION.—Lat 39°14'31", long 120°45'03", in SE 1/4 NW 1/4 sec.21, T.16 N., R.11 E., [Placer County](#), Hydrologic Unit 18020128, on left bank, 4 ft downstream from Towle Diversion Dam, and 2.4 mi southwest of Blue Canyon.

DRAINAGE AREA.—1.35 mi².

PERIOD OF RECORD.—October 1999 to current year (low-flow records only). Unpublished records for water years 1981–99 available in files of the U.S. Geological Survey.

GAGE.—Nonrecording gage read most days. Datum of gage is 4,320 ft above NGVD of 1929, from topographic map.

REMARKS.—No records computed above 1.2 ft³/s. Flow regulated by Towle Diversion Dam. Water from Drum Canal is diverted out of Drum Forebay to Canyon Creek upstream. Most of this water is diverted at Towle Diversion Dam. See schematic diagram of [Bear River Basin](#).

COOPERATION.—Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2310.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0.44	0.49	1.0	1.1	1.1	1.1	1.0	1.0	0.76	0.34	---
2	0.44	0.25	0.44	1.1	1.1	1.1	1.1	1.0	1.0	0.76	0.89	0.64
3	0.44	0.27	0.25	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.34	0.54
4	1.0	0.61	0.25	1.0	1.1	---	1.1	1.0	1.0	1.0	0.34	---
5	0.92	0.25	0.25	1.0	1.0	1.1	1.0	1.0	---	0.76	0.40	0.61
6	0.76	0.25	0.25	1.0	1.1	1.1	1.0	---	1.0	0.64	0.34	0.56
7	0.64	0.73	0.25	1.0	1.1	1.1	1.0	1.0	1.0	0.64	0.34	0.76
8	0.49	1.0	0.22	1.0	1.1	1.1	1.0	1.1	1.0	0.76	---	0.76
9	0.49	1.0	0.59	1.2	1.1	1.1	1.0	1.1	1.0	0.61	0.29	0.70
10	0.46	---	0.59	---	1.1	1.0	1.1	1.0	1.0	0.59	0.27	---
11	0.46	0.92	0.34	1.0	1.0	1.0	1.1	1.0	1.0	0.61	0.27	---
12	0.44	0.73	0.32	1.0	1.0	1.0	1.0	1.0	---	0.73	0.25	0.56
13	0.44	0.79	1.0	---	1.0	1.0	1.0	1.0	1.0	0.54	0.25	0.56
14	0.46	0.70	1.0	1.0	1.1	1.1	1.0	1.0	1.0	0.54	0.27	0.32
15	0.44	1.0	---	1.0	1.0	1.1	1.1	1.0	1.0	0.56	0.25	---
16	0.44	0.44	---	1.0	1.1	1.1	---	1.0	1.0	0.54	0.25	0.44
17	0.46	0.34	1.0	1.0	1.1	1.0	1.0	1.0	1.0	0.64	0.27	0.40
18	0.51	0.25	1.0	1.1	1.1	1.1	1.1	1.0	1.0	0.70	0.25	0.29
19	0.49	0.16	1.0	1.1	1.1	1.0	---	1.0	1.0	0.56	0.25	0.30
20	0.51	0.25	1.0	1.0	1.1	1.1	---	1.0	1.0	0.56	0.25	0.38
21	0.49	0.49	1.0	1.1	1.0	1.0	---	1.0	1.0	0.56	0.25	0.44
22	0.49	0.25	1.0	1.0	1.1	1.1	1.0	1.0	1.0	0.51	---	---
23	0.44	0.25	1.0	---	1.1	1.0	1.0	1.0	1.0	0.46	0.70	0.34
24	0.46	0.25	1.0	1.0	1.1	1.0	1.1	1.0	0.79	0.56	0.61	0.34
25	0.56	0.25	1.0	1.0	1.1	1.0	1.1	1.0	0.96	0.51	0.96	---
26	0.56	0.25	1.0	1.0	1.0	1.1	1.0	1.0	0.76	0.49	0.70	0.32
27	0.49	0.25	---	1.0	1.1	1.1	1.0	1.0	0.89	0.51	0.70	0.25
28	0.51	---	---	1.1	1.1	1.0	1.0	1.0	0.82	0.46	---	0.96
29	0.76	0.82	---	1.2	---	1.1	1.1	1.0	0.82	0.34	0.61	0.85
30	0.56	0.56	1.1	---	---	1.1	1.1	1.0	0.76	0.30	0.56	0.92
31	0.56	---	---	1.1	---	1.1	---	1.0	---	0.34	---	---
TOTAL	---	---	---	---	30.1	---	---	---	---	18.54	---	---
MEAN	---	---	---	---	1.07	---	---	---	---	0.60	---	---
MAX	---	---	---	---	1.1	---	---	---	---	1.0	---	---
MIN	---	---	---	---	1.0	---	---	---	---	0.30	---	---
AC-FT	---	---	---	---	60	---	---	---	---	37	---	---

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA

LOCATION.—Lat 38°56'10", long 121°01'22", in SW 1/4 NW 1/4 sec.31, T.13 N., R.9 E., [Placer County](#), Hydrologic Unit 18020128, on left bank, 50 ft upstream from crest of North Fork Dam, 2 mi upstream from Middle Fork, and 4 mi northeast of Auburn.

DRAINAGE AREA.—342 mi².

PERIOD OF RECORD.—October 1941 to current year.

CHEMICAL DATA: Water years 1977–80.

WATER TEMPERATURE: Water years 1959–83.

SEDIMENT DATA: Water year 1980 (periodic record).

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder and ogee section of concrete debris dam. Datum of gage is 715.0 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.—Records fair. Minor regulation by Lake Clementine, usable capacity, 12,800 acre-ft, formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir (station 11426170), combined capacity, 10,300 acre-ft, upstream from station. Lake Valley Canal (station 11426190) diverts from North Fork of North Fork American River into Bear River Basin for power development in powerplants of Pacific Gas & Electric Co. Combined storage and diversion have small effect on natural flow. See schematic diagrams of [Bear River Basin](#) and [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 65,400 ft³/s, Dec. 23, 1964, gage height, 11.87 ft, from rating curve extended above 24,000 ft³/s, on basis of computed flow over crest of dam at gage height 10.22 ft; no flow Aug. 27–30, Sept. 2–11, 1944, Oct. 5, 6, 1963, Nov. 7–10, 1965, caused by operation of valve in North Fork Dam.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 4,300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	1145	5,440	3.88	Mar. 26	1730	4,310	3.56
Mar. 15	1615	4,480	3.61				

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	33	85	1290	1070	476	1480	1930	1860	265	84	61
2	34	33	83	1030	1170	453	1380	1840	1810	252	101	62
3	39	34	79	930	942	438	1200	2230	1760	242	126	60
4	42	34	77	880	815	430	1150	3290	1700	234	99	59
5	38	34	77	865	726	414	1130	2630	1590	225	89	60
6	36	35	84	866	671	401	1050	2360	1430	213	87	57
7	33	51	79	807	612	398	957	2100	1330	200	86	56
8	32	293	74	772	571	394	1040	2240	1290	190	84	55
9	30	1210	75	751	541	391	1220	2000	1180	179	81	56
10	29	673	91	966	512	391	1290	1750	1010	169	80	55
11	29	937	122	1540	493	391	1350	1700	893	158	78	56
12	29	404	110	1280	476	406	1640	1780	797	149	76	55
13	29	311	200	1090	625	473	3020	2080	724	141	75	54
14	30	294	3460	1030	1140	844	2610	2460	662	133	73	53
15	30	239	2190	890	830	2780	1980	2640	602	128	73	51
16	29	201	2980	786	1040	2100	1670	2580	558	121	71	51
17	30	185	2050	738	956	1380	1520	2220	562	117	68	51
18	30	162	1180	798	795	1080	1480	2150	556	112	68	50
19	31	142	802	826	736	926	1420	2000	508	109	67	51
20	31	129	758	775	696	972	1430	1990	453	105	65	51
21	31	163	1180	757	641	945	1520	2220	420	102	66	51
22	31	182	921	998	612	913	1460	2490	392	100	77	50
23	31	170	646	2110	590	1870	1290	2680	369	98	86	49
24	31	152	522	2700	569	2080	1620	2790	351	96	78	48
25	32	135	454	1690	560	1550	2020	2570	335	93	70	49
26	33	119	417	1560	534	2420	2170	2180	318	89	67	49
27	33	108	654	1380	526	2460	1900	2200	307	88	66	49
28	33	103	2090	1730	502	1650	2040	2560	302	86	65	48
29	33	96	2350	1340	---	1360	2170	2450	295	85	62	49
30	33	88	1570	1100	---	1270	2060	2340	282	84	61	49
31	33	---	1500	1020	---	1360	---	2040	---	82	60	---
TOTAL	1000	6750	26960	35295	19951	33416	48267	70490	24646	4445	2389	1595
MEAN	32.3	225	870	1139	713	1078	1609	2274	822	143	77.1	53.2
MAX	42	1210	3460	2700	1170	2780	3020	3290	1860	265	126	62
MIN	29	33	74	738	476	391	957	1700	282	82	60	48
AC-FT	1980	13390	53480	70010	39570	66280	95740	139800	48890	8820	4740	3160

SACRAMENTO RIVER BASIN

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	101	360	884	1351	1440	1488	1565	1617	783	192	66.6	50.2
MAX	1749	3307	5781	7303	8403	5187	4490	3688	2855	928	214	121
(WY)	1963	1951	1965	1997	1986	1995	1982	1952	1983	1983	1983	1982
MIN	18.3	35.6	33.9	44.6	70.5	114	207	273	71.7	25.8	13.4	14.9
(WY)	1978	1960	1977	1991	1991	1977	1977	1992	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1942 - 2003	
ANNUAL TOTAL	231191		275204			
ANNUAL MEAN	633		754		822	
HIGHEST ANNUAL MEAN					1843	
LOWEST ANNUAL MEAN					88.5	
HIGHEST DAILY MEAN	3910	Feb 20	3460	Dec 14	50100	Jan 2 1997
LOWEST DAILY MEAN	29	Oct 10	29	Oct 10	0.00	Aug 27 1944
ANNUAL SEVEN-DAY MINIMUM	29	Oct 10	29	Oct 10	0.00	Sep 2 1944
MAXIMUM PEAK FLOW			5440	Dec 14	65400	Dec 23 1964
MAXIMUM PEAK STAGE			3.88	Dec 14	11.87	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	458600		545900		595300	
10 PERCENT EXCEEDS	1640		2080		2040	
50 PERCENT EXCEEDS	348		430		275	
90 PERCENT EXCEEDS	35		41		42	

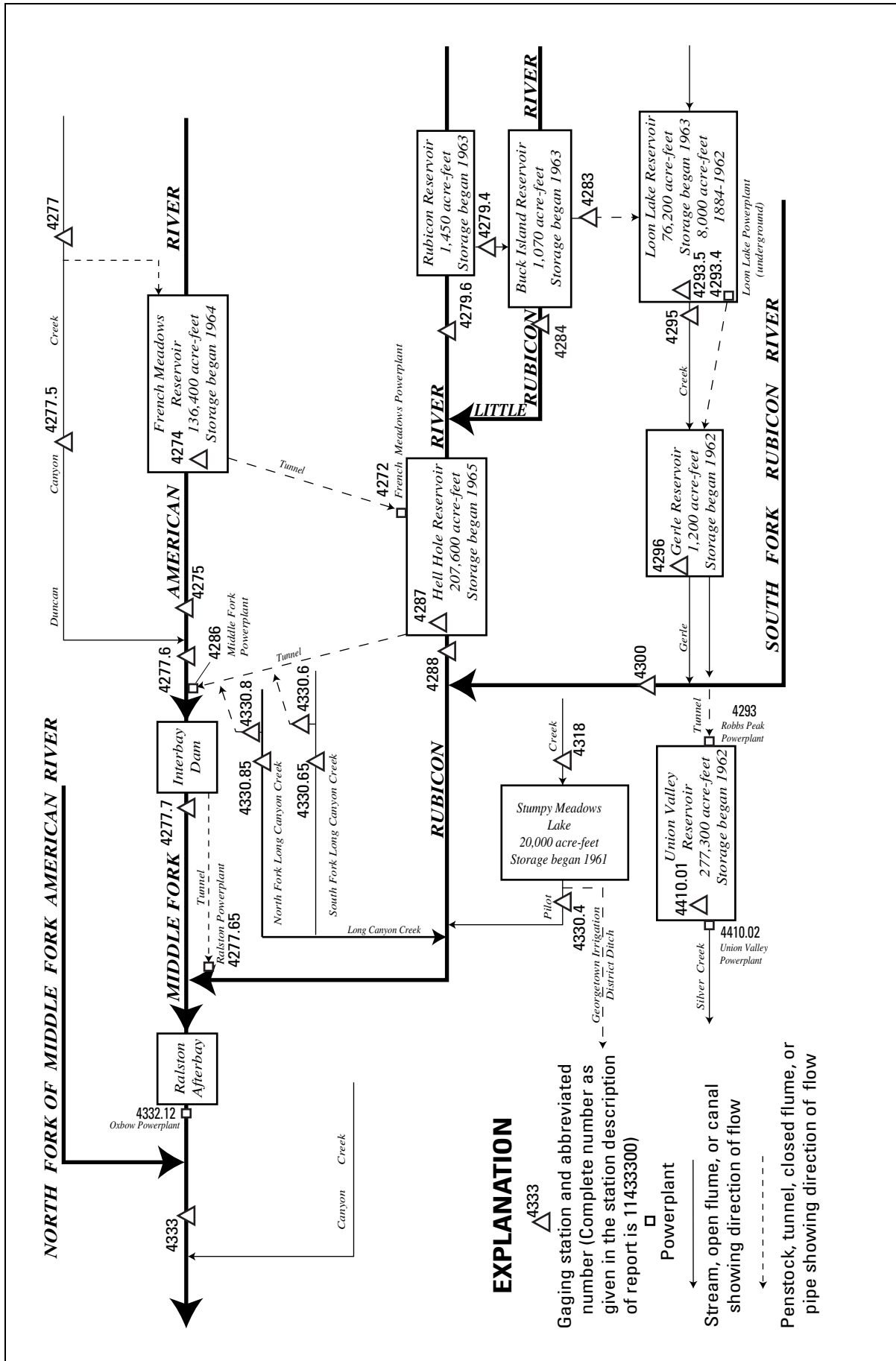


Figure 34. Diversions and storage in Middle Fork American and Rubicon River Basins.

11427400 FRENCH MEADOWS RESERVOIR NEAR FORESTHILL, CA

LOCATION.—Lat 39°06'32", long 120°25'49", in SW 1/4 NE 1/4 sec.32, T.15 N., R.14 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank, 2.2 mi upstream from dam, on Middle Fork American River, 6.9 mi upstream from Chipmunk Creek, and 21 mi northeast of Foresthill.

DRAINAGE AREA.—47.0 mi².

PERIOD OF RECORD.—December 1964 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Placer County Water Agency).

REMARKS.—Reservoir is formed by rockfill dam with earth core. Storage began Dec. 21, 1964. Usable capacity, 125,601 acre-ft, between elevations 5,125 ft, minimum operating level, and 5,263 ft, top of radial gates. Dead storage, 10,804 acre-ft. Reservoir is used to store water for hydroelectric power. Up to 400 ft³/s diverted from Duncan Creek through a tunnel to reservoir. Water is released through a tunnel to French Meadows Powerplant (station 11427200) at Hell Hole Reservoir (station 11428700) on the Rubicon River; releases began Dec. 13, 1965. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 137,700 acre-ft, May 19, 1966, elevation, 5,263.9 ft; minimum since reservoir first filled, 28,500 acre-ft, Oct. 21–24, 1991, elevation, 5,157.6 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 136,000 acre-ft, June 13–15, elevation, 5,262.7 ft; minimum, 65,900 acre-ft, Dec. 12, elevation, 5,203.6 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on a survey by Placer County Water Agency in 1965)

5,125	10,800	5,150	23,700	5,200	62,400	5,270	146,500
5,130	13,100	5,170	37,100	5,230	94,100		

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85400	73600	69000	69400	76000	75800	84200	91200	129300	132200	118500	105800
2	84800	73400	68700	69400	76500	75800	84500	91300	130200	131600	118700	105300
3	84400	73200	68600	69300	76500	75600	84700	92300	131100	131200	118700	105000
4	83900	72800	68300	69400	76400	75300	84900	93600	132300	131200	118200	104700
5	83600	72500	67900	69400	76300	75000	85400	94500	133200	131400	117600	104200
6	83200	72200	67600	69300	76100	74700	85800	95400	133400	131400	117100	103700
7	82800	72000	67500	69100	76000	74400	85700	96200	133900	130900	116600	103200
8	82400	72800	67200	69100	76100	74400	85700	97000	134700	130400	116100	102700
9	82100	73000	67000	69000	76200	74400	85800	97700	135000	129800	115800	102200
10	81700	73200	66700	69100	76000	74000	86000	98300	135300	129300	115400	101600
11	81200	73000	66200	69300	75700	73800	86500	98900	135600	128700	114900	101100
12	80900	72800	65900	69500	75500	73600	87600	99800	135800	128300	114500	100700
13	80500	72600	66200	69400	75600	73500	88500	101100	135800	127900	114000	100200
14	80100	72300	67900	69300	75700	73700	88600	102800	135800	127400	113500	99700
15	79700	72000	68300	69200	76000	74900	88600	104700	135700	126800	113000	99100
16	79400	71900	68600	69100	76300	75400	88600	105900	135600	126300	112700	98600
17	79000	71800	68600	69000	76200	75400	88600	107400	135600	125700	112200	98100
18	78500	71500	68500	69100	76100	75300	88600	108800	135400	125200	111700	97500
19	78300	71200	68400	69300	75900	75200	89000	109700	135300	124800	111200	97000
20	78000	70900	68300	69200	76000	75100	89600	110700	135000	124400	110800	96500
21	77600	70600	68300	69300	76100	75100	89700	112100	135100	124000	110500	96100
22	77300	70400	68200	69600	76200	75300	89700	113600	135300	123400	110100	95500
23	76900	70300	68000	71000	76300	76900	89700	115300	135000	122900	109700	94900
24	76400	70100	67800	71900	76200	77600	90100	117500	134700	122400	109500	94400
25	76100	69700	67700	72800	76200	78000	90200	119200	134400	122000	109000	93800
26	75800	69400	67600	73400	76000	79800	90700	120900	134000	121400	108500	93300
27	75500	69000	67900	73900	75800	80700	91100	122200	133600	121000	108100	93200
28	75100	69000	68500	74600	75800	81100	91400	124000	133300	120500	107600	93000
29	74800	69000	68800	75000	---	82000	91400	125300	132900	120000	107100	92700
30	74400	69000	69000	75200	---	82800	91300	126600	132600	119600	106600	92200
31	73900	---	69200	75500	---	83500	---	127900	---	119100	106200	---
MAX	85400	73600	69200	75500	76500	83500	91400	127900	135800	132200	118700	105800
MIN	73900	69000	65900	69000	75500	73500	84200	91200	129300	119100	106200	92200
a	5211.6	5206.7	5206.9	5213.1	5213.4	5220.6	5227.6	5256.9	5260.3	5250.3	5240.2	5228.4
b	-12100	-4900	+200	+6300	+300	+7700	+7800	+36600	+4700	-13500	-12900	-14000

CAL YR 2002 b +27900

WTR YR 2003 b +6200

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11427500 MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CA

LOCATION.—Lat 39°06'35", long 120°28'49", in SW 1/4 NW 1/4 sec.36, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank, 0.6 mi downstream from French Meadows Dam, 4.1 mi upstream from Chipmunk Creek, and 14 mi south of Cisco.

DRAINAGE AREA.—47.9 mi².

PERIOD OF RECORD.—October 1951 to current year.

REVISED RECORDS.—WSP 1445: 1953–54. WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 4,920 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 1962, at site 0.8 mi upstream at different datum.

REMARKS.—Considerable regulation by French Meadows Reservoir (station 11427400) 0.6 mi upstream beginning December 1964. Water diverted into basin from Duncan Creek to French Meadows Reservoir since December 1964. Water diverted out of basin from French Meadows Reservoir through French Meadows Powerplant (station 11427200) to Hell Hole Reservoir (station 11428700) since December 1965. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 21,500 ft³/s, Jan. 31, 1963, gage height, 14.20 ft, from rating curve extended above 1,100 ft³/s, on basis of peak flow at former site; minimum, 0.3 ft³/s, Oct. 4, 5, 21–25, 1960, Oct. 5, 6, 1961. Maximum discharge since construction of French Meadows Dam in 1964, 6,050 ft³/s, May 16, 1996, gage height, 11.61 ft, from flow over spillway of French Meadows Reservoir; minimum daily, 0.8 ft³/s, Oct. 22–25, 1964.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	10	11	13	16	9.8	12	15	9.3	10	9.7	9.3
2	9.5	10	11	13	15	9.7	12	16	9.3	11	9.8	9.3
3	9.5	10	11	13	15	9.7	12	24	9.1	10	9.7	9.3
4	9.5	10	11	13	14	9.5	12	29	10	9.9	9.7	9.3
5	9.5	10	11	13	14	9.5	12	19	12	9.9	9.7	9.3
6	9.5	9.9	11	13	13	9.4	12	17	12	9.9	9.5	9.3
7	9.3	11	10	13	13	9.0	12	16	12	9.9	9.5	9.3
8	9.4	19	10	13	13	8.9	13	16	11	9.9	9.5	9.2
9	9.5	14	10	13	12	8.9	14	14	10	9.9	9.5	9.2
10	9.5	22	11	17	11	8.9	13	14	10	9.9	9.5	9.3
11	9.5	15	11	18	11	9.0	12	13	10	9.9	9.5	9.3
12	9.5	13	10	16	10	9.1	14	12	10	9.9	9.4	9.3
13	9.5	12	17	16	14	9.2	14	12	9.9	9.9	9.3	9.3
14	9.5	12	25	15	13	9.9	12	12	9.9	9.9	9.3	9.3
15	9.5	11	16	14	12	18	12	12	9.9	9.9	9.3	9.3
16	9.4	11	18	14	13	12	12	11	9.7	9.9	9.3	9.3
17	9.3	11	15	14	12	11	12	10	9.7	9.9	9.3	9.3
18	9.3	11	14	15	11	11	13	9.8	9.7	9.9	9.3	9.3
19	9.3	11	13	15	11	11	14	9.9	9.7	9.9	9.3	9.3
20	9.3	11	13	14	11	11	14	10	9.7	9.9	9.3	9.3
21	9.3	11	13	16	11	11	15	10	9.7	9.7	9.4	9.3
22	9.7	11	12	19	10	11	13	9.8	9.7	9.7	9.5	9.3
23	10	11	12	29	10	17	14	9.7	9.7	9.7	9.3	9.3
24	10	11	12	21	10	13	18	9.7	9.7	9.7	9.3	9.3
25	10	11	12	19	10	12	15	9.5	9.7	9.7	9.3	9.3
26	10	11	13	18	10	17	14	9.4	9.5	9.7	9.3	9.3
27	10	11	17	18	10	13	14	9.3	9.5	9.7	9.3	9.3
28	10	11	18	18	9.9	12	15	9.3	9.6	9.7	9.3	9.3
29	10	11	15	16	---	12	15	9.3	9.6	9.7	9.3	9.3
30	10	11	14	16	---	11	14	9.3	9.5	9.7	9.3	9.3
31	10	---	14	16	---	11	---	9.3	---	9.7	9.3	---
TOTAL	297.8	353.9	411	491	334.9	344.5	400	396.3	299.1	306.0	292.0	278.8
MEAN	9.61	11.8	13.3	15.8	12.0	11.1	13.3	12.8	9.97	9.87	9.42	9.29
MAX	10	22	25	29	16	18	18	29	12	11	9.8	9.3
MIN	9.3	9.9	10	13	9.9	8.9	12	9.3	9.1	9.7	9.3	9.2
AC-FT	591	702	815	974	664	683	793	786	593	607	579	553
a	11050	7620	7460	8700	9710	11580	10430	5830	11630	14270	12530	13210

a Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows Powerplant (station 11427200), provided by Placer County Water Agency.

SACRAMENTO RIVER BASIN

11427500 MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1964, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.8	20.3	101	92.5	143	151	356	550	297	52.4	6.04	2.10
MAX	222	106	882	377	561	367	537	1110	775	232	25.3	5.06
(WY)	1963	1964	1956	1956	1963	1960	1962	1958	1952	1952	1952	1952
MIN	.40	1.60	1.76	5.57	40.1	55.2	187	210	69.7	6.22	1.57	.64
(WY)	1961	1960	1960	1960	1955	1962	1955	1959	1959	1959	1959	1961

SUMMARY STATISTICS

WATER YEARS 1952 - 1964

ANNUAL MEAN	149
HIGHEST ANNUAL MEAN	265 1956
LOWEST ANNUAL MEAN	68.7 1961
HIGHEST DAILY MEAN	11300 Dec 23 1955
LOWEST DAILY MEAN	.30 Oct 22 1960
ANNUAL SEVEN-DAY MINIMUM	.34 Oct 19 1960
MAXIMUM PEAK FLOW	21500 Jan 31 1963
MAXIMUM PEAK STAGE	14.20 Jan 31 1963
ANNUAL RUNOFF (AC-FT)	108000
10 PERCENT EXCEEDS	446
50 PERCENT EXCEEDS	38
90 PERCENT EXCEEDS	1.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
MEAN	15.2	10.4	12.7	19.3	17.8	21.9	22.8	56.6	40.5	15.8	8.64	11.6	
MAX	266	42.7	83.3	249	200	375	248	518	272	136	15.0	136	
(WY)	1966	1966	1965	1997	1982	1986	1965	1965	1995	1983	1965	1965	
MIN	1.67	3.16	3.91	4.37	4.53	4.40	4.47	3.95	3.68	2.98	2.76	2.70	
(WY)	1965	1978	1977	1977	1977	1977	1977	1976	1977	1977	1977	1977	

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1965 - 2003

ANNUAL TOTAL	4130.5	4205.3	
ANNUAL MEAN	11.3	11.5	21.1
HIGHEST ANNUAL MEAN			97.3 1965
LOWEST ANNUAL MEAN			3.90 1977
HIGHEST DAILY MEAN	29 Mar 6	29 Jan 23	3430 May 16 1996
LOWEST DAILY MEAN	9.1 Jul 3	8.9 Mar 8	0.80 Oct 22 1964
ANNUAL SEVEN-DAY MINIMUM	9.2 Jul 1	9.0 Mar 7	0.84 Oct 21 1964
MAXIMUM PEAK FLOW		45 May 4	6050 May 16 1996
MAXIMUM PEAK STAGE		6.14 May 4	11.61 May 16 1996
ANNUAL RUNOFF (AC-FT)	8190	8340	15300
TOTAL DIVERSION (AC-FT) ^a	88130	124000	
10 PERCENT EXCEEDS	15	15	15
50 PERCENT EXCEEDS	10	10	9.7
90 PERCENT EXCEEDS	9.4	9.3	6.0

^a A Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows Powerplant (station 11427200), provided by Placer County Water Agency.

11427700 DUNCAN CANYON CREEK NEAR FRENCH MEADOWS, CA

LOCATION.—Lat 39°08'09", long 120°28'39", in NE 1/4 NW 1/4 sec.24, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank, 0.2 mi upstream from diversion dam, 0.5 mi downstream from Little Duncan Creek, 2 mi northwest of French Meadows, and 20 mi northeast of Foresthill.

DRAINAGE AREA.—9.94 mi².

PERIOD OF RECORD.—August 1960 to current year. Published as "Duncan Creek near French Meadows" 1961–2000.

GAGE.—Water-stage recorder. Elevation of gage is 5,270 ft above NGVD of 1929, from topographic map. Prior to Sept. 3, 1965, at site 150 ft upstream at datum 9.56 ft higher.

REMARKS.—No regulation or diversion upstream from station. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,650 ft³/s, Dec. 22, 1964, gage height, 10.6 ft, from floodmarks, from rating curve extended above 400 ft³/s, on basis of computation of flow over diversion dam; maximum gage height, 10.95 ft, Jan. 1, 1997 (backwater from debris dam); minimum daily, 0.10 ft³/s, several days during July and August 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 250 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	2015	315	7.34	Mar. 26	0830	410	7.51
Dec. 14	0515	549	7.74	May 23	1815	375	7.45
Jan. 23	1800	289	7.29				

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.94	0.85	7.3	35	91	23	121	40	164	7.1	2.3	1.3
2	0.94	0.86	6.9	35	82	23	97	48	157	6.7	3.8	1.1
3	0.94	0.90	6.6	33	69	22	77	79	147	6.4	3.3	1.3
4	0.94	0.92	6.3	32	60	21	67	90	132	6.1	2.7	1.3
5	0.94	0.94	6.1	32	52	21	56	80	113	5.7	2.4	1.1
6	0.91	0.94	5.9	32	46	21	50	81	99	5.4	2.3	1.0
7	0.85	6.3	5.6	31	41	21	51	80	86	5.1	2.2	0.97
8	0.77	133	5.4	31	37	21	59	78	74	4.9	1.9	0.99
9	0.74	35	5.5	31	35	22	65	63	60	4.6	1.8	1.1
10	0.76	27	7.5	36	33	22	68	59	49	4.4	1.7	1.2
11	0.76	26	6.3	49	32	23	85	67	42	4.2	1.7	1.1
12	0.76	25	6.0	39	30	30	90	94	36	4.0	1.6	0.98
13	0.76	28	88	38	64	46	76	140	31	3.9	1.6	0.94
14	0.76	23	263	35	60	62	62	187	27	3.7	1.5	0.92
15	0.76	20	81	32	51	118	55	218	24	3.5	1.4	0.91
16	0.75	17	56	31	51	75	50	205	22	3.4	1.4	0.91
17	0.73	15	42	34	43	57	47	198	20	3.2	1.4	0.91
18	0.76	12	33	39	40	49	45	188	18	3.1	1.3	0.92
19	0.76	12	29	40	38	44	46	185	17	2.9	1.3	0.90
20	0.76	16	28	39	35	45	47	210	15	2.8	1.2	0.88
21	0.76	16	26	48	34	45	48	248	14	2.7	1.5	0.82
22	0.78	15	23	70	33	49	41	276	12	2.6	2.3	0.80
23	0.80	14	21	229	31	183	42	305	12	2.5	1.9	0.79
24	0.85	12	20	165	30	142	51	301	11	2.5	1.5	0.76
25	0.85	11	19	125	29	114	43	257	11	2.4	1.4	0.74
26	0.85	10	20	106	27	265	40	226	9.9	2.3	1.6	0.73
27	0.85	9.3	83	111	26	185	39	246	9.2	2.3	1.4	0.72
28	0.85	8.6	100	112	24	132	39	256	8.5	2.7	1.3	0.72
29	0.85	8.1	62	89	---	112	36	241	7.9	2.2	1.2	0.74
30	0.85	7.6	47	79	---	115	35	211	7.5	2.1	1.2	0.76
31	0.85	---	42	84	---	128	---	182	---	2.1	1.2	---
TOTAL	25.43	512.31	1158.4	1922	1224	2236	1728	5139	1436.0	117.5	55.3	28.31
MEAN	0.82	17.1	37.4	62.0	43.7	72.1	57.6	166	47.9	3.79	1.78	0.94
MAX	0.94	133	263	229	91	265	121	305	164	7.1	3.8	1.3
MIN	0.73	0.85	5.4	31	24	21	35	40	7.5	2.1	1.2	0.72
AC-FT	50	1020	2300	3810	2430	4440	3430	10190	2850	233	110	56

SACRAMENTO RIVER BASIN

11427700 DUNCAN CANYON CREEK NEAR FRENCH MEADOWS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.80	17.0	33.1	43.7	40.9	51.6	77.8	121	58.7	8.82	1.56	1.10
MAX	51.1	172	256	213	291	161	162	245	316	100	10.4	4.51
(WY)	1963	1984	1965	1997	1986	1986	1989	1993	1983	1983	1983	1982
MIN	0.22	1.09	0.76	1.76	3.24	5.75	12.7	12.9	2.71	0.51	0.19	0.34
(WY)	1978	1977	1977	1991	1977	1977	1977	1992	1992	1977	1977	1960

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1960 - 2003	
ANNUAL TOTAL	14034.35		15582.25			
ANNUAL MEAN	38.5		42.7		38.2	
HIGHEST ANNUAL MEAN					86.8 1982	
LOWEST ANNUAL MEAN					4.27 1977	
HIGHEST DAILY MEAN	263	Dec 14	305	May 23	2800	Jan 1 1997
LOWEST DAILY MEAN	0.72	Sep 24	0.72	Sep 27	0.10	Jul 31 1977
ANNUAL SEVEN-DAY MINIMUM	0.74	Sep 21	0.74	Sep 24	0.11	Aug 8 1977
MAXIMUM PEAK FLOW			549	Dec 14	3650	Dec 22 1964
MAXIMUM PEAK STAGE			7.74	Dec 14	a10.95	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	27840		30910		27710	
10 PERCENT EXCEEDS	121		116		108	
50 PERCENT EXCEEDS	15		22		9.2	
90 PERCENT EXCEEDS	0.85		0.86		0.76	

a Backwater from debris dam.

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL, CA

LOCATION.—Lat 39°01'31", long 120°35'40", in NW 1/4 NW 1/4 sec.36, T.14 N., R.12 E., [Placer County](#), Hydrologic Unit 18020128, Tahoe National Forest, on right bank, 300 ft upstream from Middle Fork Powerplant, 3.7 mi upstream from Big Mosquito Creek, and 11 mi east of Foresthill.

DRAINAGE AREA.—87.8 mi².

PERIOD OF RECORD.—August 1965 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 2,540 ft above NGVD of 1929, from topographic map. Prior to May 15, 1980, at datum 5.00 ft higher. May 15, 1980, to Oct. 11, 1984, at datum 4.00 ft higher.

REMARKS.—Considerable regulation by French Meadows Reservoir (station 11427400) 11 mi upstream. Transbasin diversions from French Meadows Reservoir to Hell Hole Reservoir (station 11428700) through French Meadows Powerplant (station 11427200). See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 13,900 ft³/s, Jan. 2, 1997, gage height, 14.6 ft, from floodmark, from rating curve extended above 4,200 ft³/s; minimum daily, 5.3 ft³/s, Sept. 11, 1977.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	18	40	148	206	102	161	241	100	46	29	23
2	19	18	39	143	195	99	159	253	96	47	31	22
3	18	18	38	141	174	97	148	340	92	46	33	22
4	18	18	37	144	160	95	149	493	90	44	30	22
5	18	18	37	147	149	92	139	394	89	43	30	21
6	18	18	37	148	140	90	136	361	87	42	29	21
7	18	23	36	147	131	88	136	335	84	41	29	21
8	18	151	36	149	125	86	153	336	83	40	28	21
9	18	129	36	153	119	84	168	294	77	40	28	21
10	18	162	42	205	114	84	169	275	75	39	27	22
11	18	127	40	247	110	83	166	268	73	38	27	21
12	18	84	37	210	106	84	200	265	72	37	26	21
13	18	78	89	202	150	87	255	276	70	37	26	21
14	18	71	395	194	152	97	218	285	68	36	26	20
15	18	65	212	179	135	199	200	275	66	35	25	20
16	18	61	300	169	158	155	192	253	64	34	25	21
17	17	58	217	172	139	137	194	228	62	34	25	21
18	18	56	158	183	131	125	198	211	61	33	24	20
19	18	53	135	183	131	119	199	195	60	33	24	20
20	18	52	129	177	125	130	208	184	59	32	24	20
21	18	51	128	193	122	125	228	173	59	32	25	19
22	18	50	112	215	120	121	210	162	58	31	28	19
23	19	49	103	380	117	230	202	155	57	31	27	19
24	19	48	98	332	115	213	258	148	56	31	25	18
25	18	47	94	279	114	183	267	138	54	30	24	18
26	18	45	96	257	109	259	266	129	52	30	25	18
27	18	43	162	252	110	222	251	122	49	29	24	18
28	18	42	210	247	105	195	270	117	48	29	23	18
29	18	41	194	220	---	176	260	112	46	29	23	18
30	18	40	164	204	---	162	245	108	45	28	23	18
31	18	---	174	199	---	156	---	104	---	28	23	---
TOTAL	561	1734	3625	6219	3762	4175	6005	7230	2052	1105	816	604
MEAN	18.1	57.8	117	201	134	135	200	233	68.4	35.6	26.3	20.1
MAX	19	162	395	380	206	259	270	493	100	47	33	23
MIN	17	18	36	141	105	83	136	104	45	28	23	18
AC-FT	1110	3440	7190	12340	7460	8280	11910	14340	4070	2190	1620	1200

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

MEAN	27.0	46.0	88.4	174	171	207	179	179	94.5	35.9	19.5	17.3
MAX	270	262	446	781	969	696	601	600	451	184	33.2	29.5
(WY)	1966	1984	1997	1997	1986	1986	1982	1982	1995	1983	1983	1982
MIN	7.43	13.0	12.2	15.7	18.4	21.7	19.3	21.5	15.4	8.64	6.35	6.59
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1966 - 2003

ANNUAL TOTAL	32002	37888	
ANNUAL MEAN	87.7	104	103
HIGHEST ANNUAL MEAN			271
LOWEST ANNUAL MEAN			14.3
HIGHEST DAILY MEAN	459	Feb 20	493
LOWEST DAILY MEAN	17	Oct 17	17
ANNUAL SEVEN-DAY MINIMUM	18	Oct 11	18
MAXIMUM PEAK FLOW			657
MAXIMUM PEAK STAGE			6.89
ANNUAL RUNOFF (AC-FT)	63480	75150	74540
10 PERCENT EXCEEDS	202	228	244
50 PERCENT EXCEEDS	60	83	39
90 PERCENT EXCEEDS	18	18	16

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 left bank, at Interbay Dam, 3.3 mi upstream from Big Mosquito Creek, and 10.6 mi east of Foresthill.

DRAINAGE AREA.—89.1 mi².

PERIOD OF RECORD.—October 1965 to current year (since October 1985, operated as low-flow station only).

GAGE.—Acoustic-velocity meter system. Elevation of gage is 2,470 ft above NGVD of 1929, from topographic map. Prior to February 1986, water-stage recorder at same site. March 1986 to September 1987, nonrecording gage and V-notch sharp-crested weir at same site and datum as previous gage.

REMARKS.—Flow regulated by French Meadows Reservoir (station 11427400) and after Aug. 22, 1966, by Interbay Reservoir (usable capacity, 130 acre-ft, between normal operating limits) 500 ft upstream. Water is diverted out of the basin from French Meadows Reservoir to Hell Hole Reservoir (station 11428700) and from Interbay Reservoir to Ralston Powerplant (station 11427765). Water is diverted into the basin from Hell Hole Reservoir to Middle Fork Powerplant (station 11428600) and through South Fork and North Fork Long Canyon Creek Diversion Tunnels (stations 11433060 and 11433080). See schematic diagram of [Middle Fork American and Rubicon River Basins](#). Beginning October 1985, only flows less than 35 ft³/s are computed.

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge (water years 1966–85), 9,900 ft³/s, Jan. 13, 1980, gage height, 7.95 ft; minimum daily, 1.0 ft³/s, Oct. 25–30, 1966, Jan. 19, 1967.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	23	24	---	---	---	---	---	---	---	---	---
2	20	23	24	---	---	---	---	---	---	---	---	---
3	20	23	24	---	---	---	---	---	---	---	---	---
4	19	23	24	---	---	---	---	---	---	---	---	---
5	19	23	24	---	---	---	---	---	---	---	---	---
6	19	23	24	---	---	---	---	---	---	---	---	---
7	19	23	25	---	---	---	---	---	---	---	---	---
8	19	24	25	---	---	---	---	---	---	---	---	---
9	19	24	25	---	---	---	---	---	---	---	---	---
10	19	24	25	---	---	---	---	---	---	---	---	---
11	19	23	24	---	---	---	---	---	---	---	---	---
12	19	23	24	---	---	---	---	---	---	---	---	---
13	19	24	24	---	---	---	---	---	---	---	---	---
14	19	23	24	---	---	---	---	---	---	---	---	---
15	19	23	24	---	---	---	---	---	---	---	---	---
16	19	24	24	---	---	---	---	---	---	---	---	---
17	19	23	24	---	---	---	---	---	---	---	---	---
18	19	23	24	---	---	---	---	---	---	---	---	---
19	19	23	24	---	---	---	---	---	---	---	---	---
20	19	24	---	---	---	---	---	---	---	---	---	---
21	20	24	---	---	---	---	---	---	---	---	---	---
22	22	24	---	---	---	---	---	---	---	---	---	---
23	23	24	---	---	---	---	---	---	---	---	---	---
24	23	24	---	---	---	---	---	---	---	---	---	---
25	23	24	---	---	---	---	---	---	---	---	---	---
26	23	24	---	---	---	---	---	---	---	---	---	---
27	23	24	---	---	---	---	---	---	---	---	---	---
28	23	24	---	---	---	---	---	---	---	---	---	---
29	23	24	---	---	---	---	---	---	---	---	---	---
30	23	24	---	---	---	---	---	---	---	---	---	---
31	23	---	---	---	---	---	---	---	---	---	---	---
TOTAL	632	706	---	---	---	---	---	---	---	---	---	---
MEAN	20.4	23.5	---	---	---	---	---	---	---	---	---	---
MAX	23	24	---	---	---	---	---	---	---	---	---	---
MIN	19	23	---	---	---	---	---	---	---	---	---	---
AC-FT	1250	1400	---	---	---	---	---	---	---	---	---	---
a	9970	23820	18550	27320	27470	35250	25330	51090	40120	31580	35420	42110

a Diversion, in acre-feet, through Ralston Powerplant (station 11427765), provided by Placer County Water Agency.

SACRAMENTO RIVER BASIN

11427770 MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1985, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.5	27.4	73.8	93.7	86.6	101	117	118	78.2	29.4	18.8	18.3
MAX	270	140	548	398	928	508	868	857	313	152	23.7	24.7
(WY)	1966	1984	1984	1980	1982	1983	1982	1982	1967	1983	1983	1983
MIN	5.84	6.38	6.22	6.15	9.32	7.61	11.6	11.1	11.3	7.52	5.86	5.68
(WY)	1978	1968	1968	1968	1968	1968	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

WATER YEARS 1966 - 1985

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

ANNUAL MEAN	66.0		
HIGHEST ANNUAL MEAN	347	1982	
LOWEST ANNUAL MEAN	10.0	1968	
HIGHEST DAILY MEAN	8090	Feb 16	1982
LOWEST DAILY MEAN	1.0	Oct 25	1966
ANNUAL SEVEN-DAY MINIMUM	1.3	Oct 25	1966
MAXIMUM PEAK FLOW	9900	Jan 13	1980
MAXIMUM PEAK STAGE	7.95	Jan 13	1980
ANNUAL RUNOFF (AC-FT)	47810		
TOTAL DIVERSION (AC-FT) a			
10 PERCENT EXCEEDS	141		234100
50 PERCENT EXCEEDS	22		368000
90 PERCENT EXCEEDS	11		

a Diversion, in acre-feet, through Ralston Powerplant (station 11427765), provided by Placer County Water Agency.

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA

LOCATION.—Lat 38°59'16", long 120°13'29", in NE 1/4 SE 1/4 sec.8, T.13 N., R.16 E., [El Dorado County](#), Hydrologic Unit 18020128, Eldorado National Forest, on right bank at tunnel intake, 100 ft upstream from diversion dam on Rubicon River, 3.5 mi upstream from Rubicon Springs, and 6.4 mi southwest of Meeks Bay.

PERIOD OF RECORD.—December 1963 to current year.

GAGE.—Water-stage recorder. Datum of gage is 6,533.23 ft above NGVD of 1929 (levels by Sacramento Municipal Utility District). Auxiliary water-stage recorder since Aug. 26, 1966, 220 ft downstream from tunnel outlet at different datum.

REMARKS.—Tunnel diverts water from Rubicon River to Rockbound Lake which flows into Buck Island Lake. Water is then diverted via Buck-Loon Tunnel (station 11428300) to Loon Lake (station 11429350) for power development. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	4.8	28	83	17	203	41	610	141	8.4	0.08
2	0.00	0.00	4.0	28	72	15	137	45	609	127	11	0.07
3	0.00	0.00	3.2	27	52	16	92	54	626	123	11	0.07
4	0.00	0.00	2.8	27	42	16	71	65	679	120	7.3	0.07
5	0.00	0.00	2.4	28	36	15	58	60	638	100	4.5	0.06
6	0.00	0.00	2.2	27	32	16	50	76	584	90	2.5	0.06
7	0.00	0.00	1.9	24	28	17	46	76	587	82	1.2	0.05
8	0.00	226	1.5	25	25	18	78	67	616	75	0.51	0.04
9	0.00	350	1.2	24	24	21	127	52	586	68	0.21	0.04
10	0.00	85	1.2	24	22	24	155	45	538	85	0.13	0.04
11	0.00	45	0.87	23	22	29	177	66	459	42	0.12	0.03
12	0.00	48	0.72	22	20	41	195	135	376	0.31	0.11	0.04
13	0.00	82	23	21	24	67	127	245	338	2.3	0.10	0.04
14	0.00	47	390	21	29	101	97	352	317	29	0.10	0.03
15	0.00	104	171	20	29	108	73	400	305	39	0.10	0.03
16	0.00	39	72	19	29	75	57	422	311	36	0.10	0.03
17	0.00	25	44	21	27	48	50	352	372	33	0.10	0.02
18	0.00	20	40	25	23	36	46	345	376	33	0.10	0.01
19	0.00	16	35	28	24	32	47	335	341	29	0.10	0.01
20	0.00	26	31	28	22	33	59	378	271	28	0.10	0.01
21	0.00	41	29	28	20	36	61	481	228	26	0.10	0.01
22	0.00	45	27	32	21	53	51	601	194	24	0.10	0.00
23	0.00	40	25	196	21	105	48	703	170	21	0.10	0.00
24	0.00	33	23	301	22	117	65	721	132	19	0.10	0.00
25	0.00	26	21	150	21	97	59	687	137	15	0.10	0.00
26	0.00	17	20	99	18	316	50	595	151	12	0.10	0.00
27	0.00	13	36	112	19	368	48	659	173	8.8	0.09	0.00
28	0.00	10	85	200	17	171	43	824	191	8.2	0.08	0.00
29	0.00	8.2	58	111	---	107	40	833	200	6.3	0.08	0.00
30	0.00	6.1	38	70	---	124	37	812	173	4.9	0.08	0.00
31	0.00	---	31	62	---	187	---	703	---	4.3	0.08	---
TOTAL	0.00	1352.30	1225.79	1851	824	2426	2447	11230	11288	1432.11	48.79	0.84
MEAN	0.000	45.1	39.5	59.7	29.4	78.3	81.6	362	376	46.2	1.57	0.028
MAX	0.00	350	390	301	83	368	203	833	679	141	11	0.08
MIN	0.00	0.00	0.72	19	17	15	37	41	132	0.31	0.08	0.00
AC-FT	0.00	2680	2430	3670	1630	4810	4850	22270	22390	2840	97	1.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	14.9	47.3	43.7	49.3	42.2	66.8	155	358	316	109	17.1	9.65
MAX	149	277	204	222	187	196	295	655	789	519	168	91.0
(WY)	1983	1984	1965	1970	1986	1986	1989	1969	1983	1983	1983	1982
MIN	0.000	0.000	0.000	0.000	3.44	13.5	24.6	110	13.7	0.042	0.000	0.000
(WY)	1964	1964	1977	1977	1991	1977	1975	1977	2001	2001	1964	1964

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	32300.57	34125.83	
ANNUAL MEAN	88.5	93.5	103
HIGHEST ANNUAL MEAN			197
LOWEST ANNUAL MEAN			30.5
HIGHEST DAILY MEAN	601	833	1180
LOWEST DAILY MEAN	0.00	0.00	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	0.00
ANNUAL RUNOFF (AC-FT)	64070	67690	74290
10 PERCENT EXCEEDS	295	336	333
50 PERCENT EXCEEDS	27	27	26
90 PERCENT EXCEEDS	0.00	0.00	0.00

11427960 RUBICON RIVER BELOW RUBICON DAM, NEAR MEEKS BAY, CA

LOCATION.—Lat 38°59'20", long 120°13'20", in NW 1/4 SW 1/4 sec.9, T.13 N., R.16 E., [El Dorado County](#), Hydrologic Unit 18020128, Eldorado National Forest, at outlet structure, on diversion dam on Rubicon River, 3.3 mi upstream from Rubicon Springs, and 6.2 mi southwest of Meeks Bay.

DRAINAGE AREA.—26.8 mi².

PERIOD OF RECORD.—October 1991 to current year (low-flow records only). Unpublished records for water years 1964–91 available in files of the U.S. Geological Survey.

GAGE.—Differential-pressure gage and orifice control in outlet pipes. Auxiliary nonrecording gage 1,300 ft downstream at different datum. Datum of gage is 6,520 ft above NGVD of 1929, from topographic map. Prior to Sept. 4, 1991, nonrecording gage at site 1,300 ft downstream at different datum.

REMARKS.—Records not computed above 10 ft³/s. Flow regulated by Rubicon Reservoir. Flow over the spillway bypasses this station. Most of the water is diverted through Rubicon–Rockbound Tunnel (station 11427940) to Rockbound Lake, which flows into Buck Island Lake. Water is then diverted via Buck–Loon Tunnel (station 11428300) to Loon Lake (station 11429350) for power development. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.2	6.6	6.6	6.7	6.5	7.2	6.0	8.4	6.5	7.2	2.9
2	1.1	1.2	6.6	6.6	6.5	6.5	6.9	6.1	8.4	6.4	7.3	2.3
3	1.1	1.2	6.5	6.6	6.4	6.5	6.7	6.1	8.4	6.4	7.3	1.7
4	1.1	1.2	6.5	6.6	6.3	6.5	6.5	6.2	8.6	6.4	7.3	1.7
5	1.1	1.2	6.5	6.6	6.3	6.5	6.5	6.2	8.4	6.2	7.3	1.7
6	1.1	1.1	6.7	6.5	6.2	6.5	6.4	6.2	8.2	6.2	7.1	1.7
7	1.1	1.1	6.7	6.5	6.1	6.5	6.4	6.2	8.3	6.1	7.2	1.7
8	1.2	1.6	6.7	6.5	6.1	6.5	6.6	6.2	8.4	6.1	7.1	1.7
9	1.3	1.8	6.6	6.5	6.1	6.5	6.8	6.0	8.3	6.1	7.1	1.7
10	1.3	1.7	6.5	6.4	6.1	6.5	6.9	6.0	8.1	6.1	7.1	1.7
11	1.3	1.6	6.5	6.4	6.0	6.5	7.0	6.2	7.9	6.6	7.1	1.7
12	1.3	1.6	6.5	6.4	6.0	6.6	7.0	6.6	7.6	7.1	7.0	1.7
13	1.2	1.7	6.7	6.4	6.0	6.8	6.8	7.1	7.5	7.3	6.2	1.7
14	1.2	6.2	8.3	6.4	6.1	6.9	6.6	7.5	7.4	7.3	4.7	1.7
15	1.2	6.8	7.5	6.4	6.1	7.0	6.4	7.7	7.3	7.3	4.7	1.7
16	1.2	6.4	7.0	6.4	6.1	6.8	6.3	7.7	7.3	7.3	4.7	1.7
17	1.2	6.2	6.9	6.4	6.0	6.6	6.3	7.5	7.5	7.2	4.7	1.7
18	1.2	6.5	6.9	6.4	6.0	6.6	6.3	7.5	7.5	7.2	4.7	1.7
19	1.2	6.9	6.8	6.4	6.0	6.4	6.3	7.5	7.4	7.2	4.0	1.7
20	1.2	6.9	6.8	6.4	6.2	6.5	6.3	7.5	7.1	7.2	2.9	1.7
21	1.1	7.0	6.7	6.4	6.5	6.6	6.3	7.9	6.9	7.1	2.9	1.7
22	1.1	7.1	6.7	6.4	6.5	6.6	6.2	8.3	6.8	7.1	2.9	1.7
23	1.2	7.0	6.7	7.3	6.5	6.8	6.1	8.6	6.6	7.1	3.0	1.5
24	1.3	6.9	6.7	7.7	6.5	7.0	6.3	8.7	6.5	7.2	3.0	1.3
25	1.3	6.9	6.6	7.1	6.5	6.8	6.2	8.5	6.5	7.1	3.0	1.2
26	1.3	6.8	6.6	6.8	6.5	7.7	6.1	8.3	6.6	7.1	3.0	1.2
27	1.3	6.7	6.7	6.8	6.5	7.9	6.1	8.4	6.6	7.2	3.0	1.2
28	1.3	6.7	7.0	7.4	6.5	7.2	6.1	8.7	6.7	7.2	3.0	1.2
29	1.2	6.7	6.8	6.9	---	6.9	6.1	8.7	6.7	7.1	3.0	1.2
30	1.2	6.6	6.7	6.6	---	6.9	6.0	8.7	6.6	7.0	2.9	1.2
31	1.2	---	6.6	6.5	---	7.2	---	8.6	---	7.0	2.9	---
TOTAL	37.3	132.5	209.6	205.3	175.3	209.3	193.7	227.4	224.5	212.4	155.3	49.2
MEAN	1.20	4.42	6.76	6.62	6.26	6.75	6.46	7.34	7.48	6.85	5.01	1.64
MAX	1.3	7.1	8.3	7.7	6.7	7.9	7.2	8.7	8.6	7.3	7.3	2.9
MIN	1.1	1.1	6.5	6.4	6.0	6.4	6.0	6.0	6.5	6.1	2.9	1.2
AC-FT	74	263	416	407	348	415	384	451	445	421	308	98

11428300 BUCK-LOON TUNNEL NEAR MEEKS BAY, CA

LOCATION.—Lat 39°00'17", long 120°15'21", in SE 1/4 NW 1/4 sec.6, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank, at tunnel intake near left abutment of diversion dam, and 7.4 mi southwest of Meeks Bay.

PERIOD OF RECORD.—November 1963 to current year.

GAGE.—Water-stage recorder. Datum of gage is 6,425.0 ft above NGVD of 1929 (levels by Sacramento Municipal Utility District).

REMARKS.—Tunnel diverts water from Buck Island Lake and discharges into Loon Lake (station 11429350). Buck Island Lake receives water from Rubicon River via Rubicon-Rockbound Tunnel (station 11427940). Gates are closed at the tunnel entrance during the summer to raise the level of Buck Island Lake for recreational purposes. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.38	0.00	7.1	43	97	19	269	43	828	199	6.5	0.00
2	0.36	0.00	6.0	38	107	18	217	49	793	171	9.3	0.00
3	0.34	0.00	5.1	36	80	17	148	66	810	158	12	0.00
4	0.33	0.00	4.2	36	60	17	108	86	871	155	12	0.00
5	0.31	0.00	3.5	36	48	17	82	80	869	138	10	0.00
6	0.28	0.00	3.0	35	41	16	66	89	778	117	6.9	0.00
7	0.26	0.00	2.6	33	36	17	56	104	748	105	4.5	0.00
8	0.15	3.4	2.3	31	31	18	69	102	787	95	3.0	0.00
9	0.00	247	1.9	31	28	20	129	82	765	48	2.6	0.00
10	0.00	172	2.0	33	26	23	186	64	708	0.50	2.4	0.00
11	0.00	86	1.7	33	24	28	221	71	618	0.77	2.1	0.00
12	0.00	55	1.4	30	23	40	260	138	506	2.3	1.9	0.00
13	0.00	70	15	28	26	66	222	272	441	6.9	0.70	0.00
14	0.00	272	440	27	33	122	150	426	412	27	0.00	0.00
15	0.00	220	370	26	34	158	109	508	392	40	0.00	0.00
16	0.00	99	176	25	39	135	80	552	384	40	0.00	0.00
17	0.00	47	98	25	35	84	66	480	451	40	0.00	0.00
18	0.00	31	65	28	30	55	59	454	479	39	0.00	0.00
19	0.00	22	52	32	28	42	54	440	461	37	0.00	0.00
20	0.00	23	49	35	26	39	60	469	374	34	0.00	0.00
21	0.00	37	45	36	23	40	72	582	307	32	0.00	0.00
22	0.00	50	38	40	23	52	69	735	263	30	0.00	0.00
23	0.00	53	34	174	23	123	60	890	230	28	0.00	0.00
24	0.00	46	31	429	24	184	77	938	192	26	0.00	0.00
25	0.00	38	28	274	24	156	90	916	173	22	0.00	0.00
26	0.00	27	27	171	22	289	77	819	184	18	0.00	0.00
27	0.00	18	38	142	23	548	62	817	205	14	0.00	0.00
28	0.00	13	99	250	21	301	57	975	231	12	0.00	0.00
29	0.00	10	118	194	---	173	51	979	255	10	0.00	0.00
30	0.00	8.4	70	121	---	152	45	971	239	7.9	0.00	0.00
31	0.00	---	57	88	---	214	---	922	---	6.4	0.00	---
TOTAL	2.41	1647.80	1890.8	2560	1035	3183	3271	14119	14754	1659.77	73.90	0.00
MEAN	0.078	54.9	61.0	82.6	37.0	103	109	455	492	53.5	2.38	0.000
MAX	0.38	272	440	429	107	548	269	979	871	199	12	0.00
MIN	0.00	0.00	1.4	25	21	16	45	43	173	0.50	0.00	0.00
AC-FT	4.8	3270	3750	5080	2050	6310	6490	28010	29260	3290	147	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	19.3	64.2	60.0	67.8	56.5	87.5	199	457	396	129	18.7	11.8
MAX	182	405	264	297	254	239	356	861	994	643	197	116
(WY)	1983	1984	1965	1970	1986	1989	1989	1969	1983	1995	1983	1982
MIN	0.000	0.000	0.000	0.25	5.46	19.1	36.8	145	24.5	0.67	0.000	0.000
(WY)	1964	1964	1977	1991	1991	1977	1967	1977	2001	2001	1964	1964

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	40518.50	44196.68	
ANNUAL MEAN	111	121	131
HIGHEST ANNUAL MEAN			245
LOWEST ANNUAL MEAN			39.2
HIGHEST DAILY MEAN	722	May 31	1240
LOWEST DAILY MEAN	0.00	Oct 9	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 9	0.00
ANNUAL RUNOFF (AC-FT)	80370	87660	94690
10 PERCENT EXCEEDS	371	427	420
50 PERCENT EXCEEDS	34	34	34
90 PERCENT EXCEEDS	0.35	0.00	0.03

11428400 LITTLE RUBICON RIVER BELOW BUCK ISLAND DAM, NEAR MEEKS BAY, CA

LOCATION.—Lat 39°00'18", long 120°15'19", in SW 1/4 NW 1/4 sec.6, T.13 N., R.16 E., [El Dorado County](#), Hydrologic Unit 18020128, Eldorado National Forest, at outlet structure on Buck Island Diversion Dam, and 7.4 mi southwest of Meeks Bay.

DRAINAGE AREA.—6.00 mi².

PERIOD OF RECORD.—October 1990 to current year (low-flow records only). Unpublished records for water years 1964–90 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,420 ft above NGVD of 1929, from topographic map. Aug. 14, 1964, to Oct. 4, 1973, nonrecording gage at site 60 ft downstream at different datum. Nonrecording gage at present site Oct. 4, 1973, to Aug. 26, 1986, at different datum and Aug. 27, 1986, to Sept. 30, 1990, at same datum.

REMARKS.—No records computed above 2 ft³/s. Flow regulated by Buck Island Reservoir. Flow over the spillway bypasses this station. Most of the water is diverted at Buck Island Reservoir via Buck–Loon Tunnel (station 11428300) to Loon Lake (station 11429350). Buck Island Lake receives water from Rubicon River via Rubicon–Rockbound Tunnel (station 11427940). See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.2	1.3	1.3	1.4	1.3	1.5	1.2	1.6	1.3	1.3	1.2
2	1.2	1.2	1.3	1.3	1.4	1.3	1.4	1.2	1.6	1.3	1.3	1.2
3	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.6	1.3	1.3	1.3
4	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.7	1.3	1.3	1.3
5	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.7	1.2	1.3	1.3
6	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.6	1.2	1.3	1.3
7	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.6	1.2	1.3	1.3
8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.6	1.2	1.3	1.2
9	1.3	---	1.3	1.3	1.3	1.3	1.3	1.2	1.6	1.2	1.3	1.2
10	1.3	---	1.3	1.3	1.3	1.3	1.3	1.1	1.6	1.4	1.3	1.2
11	1.3	1.7	1.3	1.3	1.3	1.3	1.4	1.1	1.4	1.5	1.3	1.2
12	1.3	1.6	1.3	1.3	1.3	1.3	1.4	1.2	1.3	1.3	1.3	1.2
13	1.3	1.6	1.3	1.3	1.3	1.3	1.4	1.3	1.3	1.2	1.3	1.2
14	1.3	1.6	1.6	1.3	1.3	1.4	1.3	1.4	1.3	1.2	1.3	1.2
15	1.3	1.3	1.6	1.3	1.3	1.4	1.3	1.5	1.3	1.2	1.3	1.2
16	1.3	1.2	1.4	1.3	1.3	1.4	1.3	1.5	1.3	1.3	1.3	1.2
17	1.3	1.2	1.4	1.3	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.2
18	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.3	1.2	1.3
19	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.3	1.3	1.2	1.3
20	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.3	1.3	1.2	1.2
21	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.5	1.3	1.3	1.2	1.2
22	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.5	1.2	1.3	1.2	1.2
23	1.3	1.3	1.3	1.4	1.3	1.4	1.2	---	1.2	1.3	1.2	1.2
24	1.3	1.3	1.3	1.6	1.3	1.4	1.3	---	1.2	1.3	1.2	1.1
25	1.3	1.3	1.3	1.5	1.3	1.4	1.3	---	1.2	1.3	1.2	1.1
26	1.3	1.3	1.3	1.4	1.3	1.5	1.3	1.6	1.2	1.3	1.2	1.2
27	1.3	1.3	1.3	1.4	1.3	1.6	1.2	---	1.3	1.3	1.2	1.2
28	1.3	1.3	1.3	1.5	1.3	1.5	1.2	---	1.3	1.3	1.2	1.2
29	1.3	1.3	1.4	1.4	---	1.4	1.2	---	1.3	1.3	1.2	1.2
30	1.2	1.3	1.3	1.4	---	1.4	1.2	---	1.3	1.3	1.2	1.3
31	1.2	---	1.3	1.4	---	1.4	---	---	---	1.3	1.2	---
TOTAL	39.5	---	41.2	41.6	36.6	41.9	39.1	---	41.9	39.8	38.9	36.6
MEAN	1.27	---	1.33	1.34	1.31	1.35	1.30	---	1.40	1.28	1.25	1.22
MAX	1.3	---	1.6	1.6	1.4	1.6	1.5	---	1.7	1.5	1.3	1.3
MIN	1.2	---	1.3	1.3	1.3	1.3	1.2	---	1.2	1.2	1.2	1.1
AC-FT	78	---	82	83	73	83	78	---	83	79	77	73

11428700 HELL HOLE RESERVOIR NEAR MEEKS BAY, CA

LOCATION.—Lat 39°03'54", long 120°24'50", in SE 1/4 NW 1/4 sec.16, T.14 N., R.14 E., [Placer County](#), Hydrologic Unit 18020128, Eldorado National Forest, on right bank, 0.3 mi upstream from Hell Hole Dam, on Rubicon River, and 15.6 mi west of Meeks Bay.

DRAINAGE AREA.—114 mi².

PERIOD OF RECORD.—December 1965 to current year.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Placer County Water Agency).

REMARKS.—Reservoir is formed by rockfill dam with earth core. Storage began Dec. 6, 1965. Usable capacity, 207,342 acre-ft, between elevations 4,287.65 ft, invert of river outlet, and 4,630.0 ft, crest of ogee spillway. Dead storage, 248 acre-ft. Reservoir is used to store water for hydroelectric power. Water is diverted into reservoir from French Meadows Reservoir (station 11427400) on the Middle Fork American River through French Meadows Powerplant (station 11427200). Water is diverted out of reservoir to the Middle Fork American River through Middle Fork Powerplant. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 217,400 acre-ft, Jan. 2, 1997, elevation, 4,637.7 ft; minimum since reservoir first filled, 37,499 acre-ft, Mar. 23, 1973, elevation, 4,428.28 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 208,600 acre-ft, June 7, elevation, 4,630.8 ft; minimum, 113,100 acre-ft, Dec. 6, elevation, 4,538.5 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Placer County Water Agency in 1966)

4,340	5,220	4,400	24,200	4,500	83,000	4,600	171,900
4,360	9,840	4,450	49,600	4,550	122,700	4,650	233,400
4,380	16,200						

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126900	124100	116500	123500	138600	138700	149100	172900	204500	202500	186300	162900
2	127200	123300	115800	123900	139100	138500	150100	173700	205300	202000	185900	161800
3	127600	122500	115000	124300	139200	138000	150700	175300	206500	201400	185200	160500
4	127900	121900	114300	124800	139300	137600	151300	176600	207100	200600	184800	159300
5	128100	121200	113600	125000	139300	137200	152000	177200	207600	199900	184200	158200
6	128300	120600	113100	125700	139200	136600	152200	177700	208000	199400	183600	157600
7	128600	120000	113300	126400	139100	136200	152500	177500	208500	199400	182900	157100
8	128900	121500	113500	126900	139200	135700	153200	177400	208200	198900	182200	156000
9	129100	122300	113800	126900	139000	135000	153900	176900	208200	198400	181400	155100
10	129400	123000	113800	127000	138600	134500	154800	176500	208100	197800	180700	153900
11	129700	122800	114000	127300	138700	134100	155700	176400	207800	197200	179700	152800
12	129800	122400	114000	127300	138300	133600	157300	176600	207500	196800	178900	151700
13	130100	122300	114800	127400	138500	133500	158600	177200	207200	196400	178100	150900
14	130300	121900	117100	127400	138800	133800	159600	178200	206800	195800	177200	150200
15	130600	121300	117500	127300	139200	135100	160300	179300	206500	195100	176600	149300
16	130700	121100	118200	127100	139300	135200	161700	180500	206300	194400	175800	148400
17	131000	120900	118700	127900	139500	135300	162300	181000	206000	193700	175100	147200
18	131200	120300	118900	128600	139300	135700	162900	181500	205700	193000	174300	146300
19	131400	119700	119100	128700	140000	135400	163700	182400	205600	192500	174000	145200
20	131500	119800	119300	128700	140100	135300	164700	183800	205300	192100	172900	144400
21	131500	119900	119600	128900	140200	135200	165700	185600	205300	191800	172100	143700
22	131500	120000	119600	129100	140300	135800	166200	187700	205000	191200	171400	142800
23	130800	119800	119700	131300	140000	137500	166600	190200	204700	190600	170600	141600
24	129900	119700	120000	132600	139700	137800	168000	192200	204600	190100	169800	140600
25	129100	119200	120200	133500	139300	139600	168700	193700	204300	189700	169200	139400
26	128300	118600	120200	134000	139100	142700	169400	194700	203800	189300	168400	138400
27	127600	117900	120800	135000	138800	144200	169800	196600	203100	188900	167500	137600
28	126900	117600	122000	136000	138600	145000	171000	198900	203600	188300	166400	136400
29	126300	117200	122500	136800	---	146000	171800	201500	203400	187800	165300	135200
30	125500	116900	122900	137100	---	146700	172300	203400	203000	187400	164600	134000
31	124800	---	123200	137500	---	147800	---	204100	---	186800	163700	---
MAX	131500	124100	123200	137500	140300	147800	172300	204100	208500	202500	186300	162900
MIN	124800	116900	113100	123500	138300	133500	149100	172900	203000	186800	163700	134000
a	4552.4	4543.1	4550.6	4566.6	4567.8	4577.3	4600.4	4627.2	4626.3	4612.9	4592.6	4562.8
b	-1500	-7900	+6300	+14300	+1100	+9200	+24500	+31800	-1100	-16200	-23100	-29700

CAL YR 2002 b +78200

WTR YR 2003 b +7700

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11428800 RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CA

LOCATION.—Lat 39°03'24", long 120°24'25", in NE 1/4 NE 1/4 sec.21, T.14 N., R.14 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank, 600 ft downstream from outlet of dam, and 15.3 mi west of Meeks Bay.

DRAINAGE AREA.—114 mi².

PERIOD OF RECORD.—November 1965 to current year.

GAGE.—Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 4,231.52 ft above NGVD of 1929 (levels by Placer County Water Agency).

REMARKS.—Flow completely regulated by Hell Hole Reservoir (station 11428700) 600 ft upstream from station. During years when Hell Hole Dam spills, records include flow which bypasses the station. Transbasin diversions upstream from station through Buck-Loon Tunnel (station 11428300) to Loon Lake Reservoir (station 11429350); from Middle Fork American River Basin through tunnel from French Meadows Reservoir (station 11427400) to Hell Hole Reservoir; from Hell Hole Reservoir through tunnel to Middle Fork Powerplant (station 11428600). Diversion began Sept. 8, 1966. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 28,800 ft³/s, Jan. 2, 1997, including flow over spillway; no flow Aug. 25 to Sept. 11, 1966.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	21	21	12	15	11	13	11	22	21	21	21
2	44	21	21	12	15	11	14	12	22	21	21	21
3	43	21	21	13	13	11	13	16	22	21	22	25
4	43	21	21	13	11	11	13	20	22	21	22	21
5	43	21	21	14	11	11	13	14	21	21	22	21
6	43	21	21	13	12	11	13	13	413	21	22	21
7	43	21	21	13	11	12	14	14	765	21	22	21
8	43	24	21	13	11	11	14	12	569	21	22	21
9	43	22	21	13	11	11	13	11	415	21	22	21
10	43	24	21	14	11	11	12	11	347	21	22	21
11	43	23	21	13	11	11	12	11	157	21	22	21
12	44	22	21	13	11	11	13	11	45	21	22	21
13	44	22	23	12	14	11	16	12	22	21	22	21
14	46	22	26	12	15	11	15	17	22	21	22	21
15	48	21	17	12	13	16	14	23	22	21	22	21
16	48	21	15	12	14	13	12	22	22	21	22	21
17	48	21	11	12	13	12	12	21	22	21	21	21
18	48	21	11	12	13	12	12	21	21	21	21	22
19	48	21	11	12	13	12	12	23	21	21	21	22
20	48	21	11	11	13	12	12	22	21	21	21	22
21	32	21	11	11	13	12	12	22	21	21	21	22
22	20	21	11	12	11	12	14	23	21	21	22	22
23	21	21	11	15	11	17	11	23	21	21	22	22
24	22	21	11	14	11	15	14	23	21	21	22	22
25	22	21	11	13	11	13	14	22	21	21	22	22
26	22	21	11	13	11	16	14	22	21	21	22	21
27	22	21	13	13	11	15	13	23	21	21	22	21
28	22	21	14	13	11	13	13	23	21	21	21	21
29	22	21	13	13	---	13	12	22	21	21	21	21
30	22	21	12	14	---	13	12	22	21	21	21	21
31	22	---	12	15	---	13	---	21	---	22	21	---
TOTAL	1146	642	507	397	341	384	391	563	3203	652	671	642
MEAN	37.0	21.4	16.4	12.8	12.2	12.4	13.0	18.2	107	21.0	21.6	21.4
MAX	48	24	26	15	15	17	16	23	765	22	22	25
MIN	20	21	11	11	11	11	11	11	21	21	21	21
AC-FT	2270	1270	1010	787	676	762	776	1120	6350	1290	1330	1270
a	10000	21710	13680	18320	23020	28960	15680	41130	40050	31850	35850	42630

a Diversion, in acre-feet, from Hell Hole Reservoir through Middle Fork Powerplant (station 11428600), provided by Placer County Water Agency.

11428800 RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.7	18.2	24.2	57.9	21.1	29.4	21.1	63.2	104	43.6	16.0	17.8
MAX	42.3	34.9	318	1615	172	478	129	1053	1007	303	23.6	37.0
(WY)	2002	2002	1982	1997	1982	1986	1982	1996	1995	1983	1995	2002
MIN	7.14	7.51	7.57	6.24	6.34	6.33	7.78	7.92	7.74	6.93	6.50	6.43
(WY)	1974	1977	1989	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	7372		9539			
ANNUAL MEAN	20.2		26.1		37.0	
HIGHEST ANNUAL MEAN					158 1997	
LOWEST ANNUAL MEAN					7.11 1977	
HIGHEST DAILY MEAN	48	Oct 15	765	Jun 7	17100	Jan 2 1997
LOWEST DAILY MEAN	11	Jan 12	11	Dec 17	0.00	Aug 25 1966
ANNUAL SEVEN-DAY MINIMUM	11	Jan 18	11	Dec 17	0.00	Aug 25 1966
MAXIMUM PEAK FLOW			a856	Jun 7	a28800	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	14620		18920		26790	
TOTAL DIVERSION (AC-FT) ^b	185400		322900			
10 PERCENT EXCEEDS	43		23		27	
50 PERCENT EXCEEDS	21		21		19	
90 PERCENT EXCEEDS	11		11		9.3	

a Including flow over spillway.

b Diversion, in acre-feet, from Hell Hole Reservoir through Middle Fork Powerplant (station 11428600), provided by Placer County Water Agency.

11429350 LOON LAKE NEAR MEEKS BAY, CA

LOCATION.—Lat 38°58'59", long 120°19'22", in SE 1/4 SW 1/4 sec.8, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in powerplant intake structure, 1.6 mi southwest of right bank end of Loon Lake Dam on Gerle Creek, and 10 mi southwest of Meeks Bay.

DRAINAGE AREA.—7.96 mi².

PERIOD OF RECORD.—December 1963 to current year.

CHEMICAL ANALYSES: June to September 1996.

REVISED RECORDS.—WDR CA-76-4: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Sacramento Municipal Utility District). Prior to Sept. 23, 1975, at site 1.6 mi northeast on right bank end of Loon Lake Dam at same datum.

REMARKS.—Reservoir is formed by an earthfill dam completed Dec. 27, 1963; storage began Dec. 5, 1963. Prior to September 1962, reservoir was formed by granite-block dam built in 1884, capacity, 8,000 acre-ft. Usable capacity, 73,868 acre-ft, between elevations 6,325 ft, invert of fishwater release valve, and 6,410 ft, crest of spillway. Dead storage, 2,300 acre-ft. Lake receives water from Rubicon River via Rubicon–Rockbound Tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck–Loon Tunnel (stations 11427940 and 11428300). Records, including extremes, represent total contents. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 77,700 acre-ft, June 6, 1969, elevation, 6,411.1 ft; minimum since reservoir first filled, 3,262 acre-ft, Nov. 8, 9, 1988, elevation, 6,328.70 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 66,900 acre-ft, July 6, elevation, 6,408.26 ft; minimum, 15,100 acre-ft, Mar. 7, elevation, 6358.33 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Table provided by Sacramento Municipal Utility District based on June, 2000, survey)

6,330	2,359	6,350	9,835	6,370	24,156	6,412	72,109
6,340	4,809	6,360	16,291	6,390	44,030		

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55200	51800	52500	27000	27400	21000	24500	30300	51600	66400	56700	49500
2	55200	51100	51400	27000	27600	20100	25000	29400	53100	66400	56600	48900
3	55100	51100	50000	27100	27700	19000	25400	28700	54600	66400	56300	47900
4	55100	49600	48600	27200	27900	17600	25700	28400	56300	66600	56200	47900
5	55000	49500	48100	27300	27900	16500	25900	27800	57900	66700	56200	47100
6	55000	49500	46700	27200	27500	15300	26100	27000	59400	66900	56200	46800
7	54900	49700	45900	26300	26900	15100	26200	26100	60900	66700	56100	46400
8	54900	50100	44900	25900	26800	15200	26400	25600	62400	66600	56100	46100
9	54800	50800	43500	24800	26800	15200	26800	25600	63300	66500	56000	45700
10	54800	51400	42000	24200	25800	15300	26600	25500	63900	66200	56000	45100
11	54800	51100	40700	24000	25800	15400	27100	25000	64500	66000	55900	44400
12	54700	51100	39400	24000	24700	15500	27900	24800	64800	65700	55800	44000
13	54700	51300	38500	24100	24000	15800	28600	24800	65000	65400	55800	43500
14	54600	51800	39300	24100	24200	16200	28500	25600	65100	65000	55700	42800
15	54600	52200	39600	24200	24300	16700	28700	26700	65800	64500	55700	41900
16	54500	52400	39100	24100	24500	17100	28900	27200	65900	64000	55600	40900
17	54500	52500	37900	24100	24600	17300	29000	27700	66000	63000	55100	40300
18	54500	52500	36800	24200	24600	17500	29100	28500	66400	62500	55100	39700
19	54400	52500	35600	24300	24700	17600	29200	29400	66200	62100	55000	38900
20	54400	52500	34600	24200	24700	17700	29300	30400	65600	61400	54700	38800
21	54300	52600	33800	23300	24800	17800	29600	31600	66200	60800	54600	38800
22	54300	52700	32900	22900	24900	18000	29700	33300	66600	60500	54500	38800
23	54300	52800	31600	23200	24900	18600	29900	35100	65800	60500	54200	38700
24	54200	52900	30400	24100	25000	19100	30300	37100	65700	60200	53300	38700
25	54200	52900	29600	24800	23800	19500	30700	39000	65500	60200	52100	38700
26	54100	52900	28500	25100	22700	20600	30900	40800	65300	60000	51000	38600
27	54000	52900	27700	25600	22200	21800	31100	42400	65400	59300	50900	38600
28	54000	52900	27300	26200	21500	22400	31300	44300	65800	58900	50800	38600
29	53900	52900	27000	26600	---	22800	31500	46200	66200	58400	50800	38500
30	53600	52900	26800	26800	---	23200	31300	48100	66600	58300	50700	38500
31	52900	---	26900	27000	---	23800	---	50000	---	57500	50300	---
MAX	55200	52900	52500	27300	27900	23800	31500	50000	66600	66900	56700	49500
MIN	52900	49500	26800	22900	21500	15100	24500	24800	51600	57500	50300	38500
a	6397.52	6397.50	6373.18	6373.27	6366.84	6369.54	6377.81	6395.10	6408.04	6401.20	6395.72	6384.94
b	-2400	0	-2600	+100	-5500	+2300	+7500	+18700	+16600	-9100	-7200	-11800
CAL YR 2002	MAX 68208	MIN 17271	b -15900									
WTR YR 2003	MAX 66900	MIN 15100	b -16800									

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

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA

LOCATION.—Lat 39°00'20", long 120°18'52", in NE 1/4 NE 1/4 sec.5, T.13 N., R.15 E., [El Dorado County](#), Hydrologic Unit 18020128, Eldorado National Forest, on right bank, 0.3 mi downstream from Loon Lake Dam, and 11 mi southwest of Meeks Bay.

DRAINAGE AREA.—8.01 mi².

PERIOD OF RECORD.—July 1910 to April 1914 (fragmentary), August 1962 to current year. Prior to August 1962, published as "near Rubicon Springs."

GAGE.—Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,250 ft above NGVD of 1929, from topographic map. Prior to August 1962, nonrecording gage at site 1,400 ft upstream at different datum.

REMARKS.—Beginning in 1884, flow regulated by Loon Lake (station 11429350). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam, which was completed Dec. 27, 1963. Loon Lake receives water from Rubicon River via Buck-Loon Tunnel (station 11428300). Since August 1971, most of the water is diverted past the station via Loon Lake Powerplant (station 11429340) and returns to Gerle Creek at Gerle Creek Dam. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,240 ft³/s, unregulated, Feb. 1, 1963, gage height, 12.65 ft, from rating curve extended above 970 ft³/s, on basis of slope-area measurement of peak flow; no flow Oct. 15, 1913. Maximum discharge since construction of Loon Lake Dam in 1963, 1,050 ft³/s, June 5, 1969, gage height, 9.03 ft; minimum daily, 3.6 ft³/s, Sept. 27, 28, Nov. 3, 1977.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	9.8	10	9.2	11	10	12	11	11	10	9.8	10
2	9.8	9.8	10	9.3	11	9.9	11	11	11	10	9.8	10
3	9.7	9.8	10	9.5	11	9.8	11	12	11	11	9.8	10
4	9.8	9.8	10	9.5	11	9.8	11	12	11	11	9.8	9.8
5	9.8	9.8	10	9.6	10	9.7	11	12	11	11	9.8	9.8
6	9.8	9.8	10	9.8	10	9.7	11	11	11	11	9.8	9.8
7	9.8	13	10	9.8	10	9.2	11	11	11	11	10	9.8
8	9.8	15	10	9.8	10	9.2	12	11	11	11	10	9.8
9	9.8	10	10	9.8	10	9.3	12	11	11	11	10	9.8
10	9.8	10	10	9.8	10	9.3	12	11	11	13	10	9.8
11	9.8	10	9.9	9.8	10	10	12	11	11	44	10	9.8
12	9.8	10	9.8	9.8	10	10	12	12	11	25	10	9.5
13	9.6	11	13	9.8	11	11	12	13	11	22	10	9.5
14	9.5	10	12	9.9	11	11	12	13	11	11	10	9.5
15	9.5	10	10	10	10	12	12	13	11	11	10	9.5
16	9.5	10	10	10	10	11	11	13	11	11	10	9.5
17	9.5	10	9.8	10	10	10	11	13	11	11	10	9.5
18	9.5	10	9.8	10	10	10	11	12	11	11	10	9.5
19	9.5	10	9.8	10	10	10	11	12	11	11	10	9.5
20	9.5	10	9.8	10	10	10	11	13	11	11	10	9.5
21	9.5	10	9.7	10	10	10	11	14	11	11	10	9.5
22	9.7	10	9.6	11	10	11	11	14	11	11	10	9.4
23	10	10	9.5	13	10	13	11	13	11	11	10	9.2
24	10	10	9.5	11	10	12	11	13	11	10	10	9.2
25	10	10	9.5	11	10	11	11	13	11	10	10	9.2
26	10	10	9.2	11	10	14	11	12	10	10	10	9.2
27	10	10	10	11	10	12	11	12	10	10	10	9.2
28	10	10	9.8	11	10	11	11	12	10	9.8	10	9.2
29	10	10	9.4	11	---	11	11	11	10	9.8	10	9.2
30	10	10	9.2	11	---	12	11	11	10	9.8	10	9.2
31	10	---	9.2	11	---	12	---	11	---	9.9	10	---
TOTAL	302.7	307.8	308.5	317.4	286	329.9	339	374	325	390.3	308.8	286.4
MEAN	9.76	10.3	9.95	10.2	10.2	10.6	11.3	12.1	10.8	12.6	9.96	9.55
MAX	10	15	13	13	11	14	12	14	11	44	10	10
MIN	9.5	9.8	9.2	9.2	10	9.2	11	11	10	9.8	9.8	9.2
AC-FT	600	611	612	630	567	654	672	742	645	774	613	568
a	1380	3960	32720	6710	8730	6970	1680	14010	11600	11140	6260	10910

a Diversion, in acre-feet, to Loon Lake Powerplant (station 11429340), provided by Sacramento Municipal Utility District.

SACRAMENTO RIVER BASIN

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1970, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	112	132	165	74.7	103	192	133	63.0	390	341	232	115
MAX	190	356	343	134	261	347	244	209	721	493	351	338
(WY)	1970	1966	1966	1968	1970	1970	1967	1969	1969	1967	1969	1967
MIN	7.53	7.93	8.95	8.41	9.13	9.57	8.75	10.5	185	196	50.8	8.20
(WY)	1965	1968	1969	1965	1968	1968	1965	1968	1966	1965	1965	1970

SUMMARY STATISTICS

WATER YEARS 1965 - 1970

ANNUAL MEAN	171
HIGHEST ANNUAL MEAN	217 1970
LOWEST ANNUAL MEAN	127 1965
HIGHEST DAILY MEAN	1030 Jun 5 1969
LOWEST DAILY MEAN	6.0 Dec 2 1969
ANNUAL SEVEN-DAY MINIMUM	6.4 Dec 10 1969
MAXIMUM PEAK FLOW	1050 Jun 5 1969
MAXIMUM PEAK STAGE	9.03 Jun 5 1969
ANNUAL RUNOFF (AC-FT)	124100
10 PERCENT EXCEEDS	394
50 PERCENT EXCEEDS	28
90 PERCENT EXCEEDS	8.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2003, BY WATER YEAR (WY)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
MEAN	9.11	9.01	9.55	9.38	9.28	9.41	9.47	11.0	9.30	9.31	8.86	8.87
MAX	13.3	11.8	23.9	13.0	12.8	11.6	13.6	48.7	13.6	15.7	12.0	12.0
(WY)	1993	2000	1984	1997	1996	1996	2000	1996	1999	1995	1999	1998
MIN	3.93	4.00	4.45	4.61	5.12	4.67	4.27	4.64	4.13	4.30	4.09	3.99
(WY)	1978	1978	1978	1978	1978	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1972 - 2003

ANNUAL TOTAL	3701.1	3875.8	
ANNUAL MEAN	10.1	10.6	9.39
HIGHEST ANNUAL MEAN			13.5 1996
LOWEST ANNUAL MEAN			6.06 1977
HIGHEST DAILY MEAN	15 Nov 8	44 Jul 11	403 May 17 1996
LOWEST DAILY MEAN	8.9 Jan 31	9.2 Dec 26	3.6 Sep 27 1977
ANNUAL SEVEN-DAY MINIMUM	9.1 Jan 25	9.2 Sep 23	3.7 Sep 23 1977
MAXIMUM PEAK FLOW		48 Jul 11	510 May 18 1996
MAXIMUM PEAK STAGE		2.80 Jul 11	6.65 May 18 1996
ANNUAL RUNOFF (AC-FT)	7340	7690	6800
ANNUAL DIVERSION (AC-FT) a	109500	116100	
10 PERCENT EXCEEDS	11	12	11
50 PERCENT EXCEEDS	10	10	8.9
90 PERCENT EXCEEDS	9.5	9.5	8.0

a Diversion, in acre-feet, to Loon Lake Powerplant (station 11429340), provided by Sacramento Municipal Utility District.

11429600 GERLE RESERVOIR NEAR MEEKS BAY, CA

LOCATION.—Lat 38°57'59", long 120°23'33", in SE 1/4 SW 1/4 sec.15, T.13 N., R.14 E., [El Dorado County](#), Hydrologic Unit 18020128, Eldorado National Forest, on left-bank side of upstream face of dam on Gerle Creek, 0.2 mi downstream from Angel Creek, and 15.2 mi southwest of Meeks Bay.

DRAINAGE AREA.—28.7 mi².

PERIOD OF RECORD.—October 1993 to current year. Unpublished records for water years 1980–93 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Sacramento Municipal Utility District). Prior to June 9, 1988, nonrecording gage at same site and datum.

REMARKS.—Reservoir is formed by concrete dam completed in 1962. Storage began in 1962. Usable capacity, 1,200 acre-ft, below elevation, 5,230.9 ft, crest of spillway. Most of the water is diverted at this reservoir to Robbs Peak Powerplant (station 11429300). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 1,469 acre-ft, Jan. 1, 1997, elevation, 5,235.39 ft; minimum, 809 acre-ft, Nov. 12, 2001, elevation, 5,221.23 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,230 acre-ft, Aug. 31, elevation, 5,230.75 ft; minimum, 857 acre-ft, Jan. 4, 15, elevation, 5,222.43 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

5,200	203	5,210	431	5,220	761	5,230	1,193
5,205	304	5,215	583	5,225	964	5,235	1,448

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	1130	1070	988	929	1060	921	1100	1130	1160	1150	1140
2	1110	978	1080	928	912	1080	962	1160	1120	1060	1120	1110
3	1100	963	1140	891	905	1080	959	1150	1110	1080	1100	1150
4	1090	978	1170	857	922	1170	962	1080	1100	1020	1100	1090
5	1090	937	1050	908	925	1040	960	1100	1120	1070	1100	1100
6	1080	932	1140	963	1060	1160	960	1130	1100	1080	1090	1110
7	1070	906	1090	1000	1080	882	967	1160	1100	1090	1090	1130
8	1060	870	1130	1040	957	913	978	1100	1100	1060	1080	1080
9	1060	893	1160	1100	940	929	983	983	1130	1050	1080	1100
10	1050	958	1130	1090	1120	897	1100	1010	1180	1060	1080	1080
11	931	1130	1090	920	916	960	1010	1110	1080	1050	1090	1190
12	928	905	1090	893	1120	939	941	1150	1140	1040	1100	1080
13	924	959	1120	892	1040	934	925	1150	1180	1100	1090	1080
14	920	899	1090	864	923	937	997	1100	1160	1120	1090	1100
15	916	941	1110	857	909	994	925	1080	1010	1060	1080	1160
16	912	970	1100	919	907	928	917	1080	1170	1060	1080	1140
17	915	868	1160	923	899	912	984	1150	1190	1190	1110	1110
18	912	900	1110	963	906	905	941	1090	1140	984	1040	1200
19	908	937	1150	918	901	904	945	981	1200	1140	1050	1200
20	926	945	1150	931	898	909	948	989	1150	1140	1210	1170
21	944	906	1090	1040	899	913	934	1110	1030	1040	1070	1160
22	940	937	1100	1110	898	920	923	1100	1080	1060	1070	1150
23	937	963	1180	1070	897	1000	930	1080	1180	951	1180	1140
24	934	951	1110	970	904	951	951	1180	1100	1080	1180	1130
25	951	967	1080	954	1160	930	925	1080	1100	1100	1190	1120
26	952	864	1150	913	1100	1030	929	1120	1090	1130	1080	1100
27	979	865	1150	995	1070	940	929	1180	1040	1140	1100	1090
28	970	881	1120	919	1050	923	935	1150	1080	1090	1090	1080
29	890	896	1060	940	---	923	931	1110	1100	1070	1100	1070
30	952	910	945	931	---	937	954	1110	1110	1080	1100	1060
31	942	---	922	926	---	934	---	1110	---	1170	1230	---
MAX	1120	1130	1180	1110	1160	1170	1100	1180	1200	1190	1230	1200
MIN	890	864	922	857	897	882	917	981	1010	951	1040	1060
a	5224.49	5223.72	5224.01	5224.10	5226.88	5224.30	5224.75	5228.26	5228.17	5229.59	5230.75	5227.17
b	-178	-32	+12	+4	+124	-116	+20	-156	0	+60	+60	-170
CAL YR 2002	MAX 1180	MIN 834	b -34									
WTR YR 2003	MAX 1230	MIN 857	b +40									

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet

11430000 SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CA

LOCATION.—Lat 38°57'17", long 120°24'02", in SW 1/4 SW 1/4 sec.22, T.13 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank, 600 ft downstream from Gerle Creek, 1.2 mi downstream from South Fork Rubicon River Diversion Dam, and 18 mi east of Georgetown.

DRAINAGE AREA.—47.6 mi².

PERIOD OF RECORD.—February 1910 to June 1914 (published as "Little South Fork Rubicon River below Gerle Creek, near Quintette"), August 1961 to current year.

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 4,970 ft above NGVD of 1929, from topographic map. Feb. 1, 1910, to June 21, 1914, nonrecording gage at site about 700 ft downstream at different datum.

REMARKS.—Beginning in 1884, flow regulated by Loon Lake (station 11429350). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam completed Dec. 27, 1963. Loon Lake receives water from Rubicon River via Rubicon-Rockbound Tunnel (station 11427940) to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon Tunnel (station 11428300). Prior to Dec. 3, 1961, water was diverted out of the basin in Georgetown Divide Ditch. Water is diverted 1.2 mi upstream at South Fork Rubicon River Diversion Dam to Robbs Peak Powerplant (station 11429300). Diversion of up to 1,440 ft³/s to Silver Creek Basin began in October 1962. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,600 ft³/s, Jan. 1, 1997, gage height, 12.65 ft, from rating curve extended above 2,500 ft³/s, on basis of slope-area measurement of peak flow; minimum, 0.8 ft³/s, Sept. 21, 1962.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	10	8.2	9.2	11	8.9	8.3	15	37	12	14	14
2	13	6.6	9.0	9.6	11	9.2	8.5	15	12	11	14	13
3	12	7.6	9.4	9.6	10	9.5	8.3	22	12	11	14	14
4	12	8.0	9.4	9.3	10	9.7	8.4	25	12	11	14	13
5	13	7.7	7.8	9.2	9.7	9.3	7.8	18	12	11	13	13
6	12	7.4	7.9	8.6	9.7	8.1	7.7	16	12	12	13	13
7	12	9.6	7.9	8.9	10	8.0	8.2	15	12	12	13	13
8	12	16	7.5	8.8	9.9	7.1	9.2	14	12	11	13	13
9	12	12	8.2	9.4	8.4	7.0	10	12	12	12	13	13
10	12	12	8.8	12	8.6	7.0	10	12	12	11	13	13
11	12	9.9	8.5	12	8.8	6.7	10	12	12	12	13	13
12	12	8.5	8.4	10	8.6	7.1	11	12	12	16	13	13
13	12	8.2	17	10	13	7.5	13	11	12	20	13	13
14	12	8.1	20	10	12	8.4	12	11	12	11	13	13
15	12	7.7	13	9.6	11	22	11	11	12	11	13	13
16	12	7.8	19	9.3	12	12	10	12	12	11	13	13
17	12	7.9	13	9.2	11	10	11	12	12	11	13	13
18	12	7.6	11	9.4	11	9.2	11	11	13	12	13	13
19	12	7.9	11	9.5	11	8.6	11	11	13	11	12	13
20	12	8.2	11	9.1	10	9.2	11	11	13	11	12	26
21	12	8.5	10	10	9.9	8.6	11	12	12	11	14	18
22	12	8.2	9.5	12	9.9	8.4	10	13	12	11	13	16
23	12	8.2	9.4	19	9.9	14	10	13	13	11	13	16
24	12	8.6	9.4	15	9.9	12	16	13	12	12	14	15
25	12	8.5	8.9	12	10	9.6	14	14	12	14	13	15
26	12	8.5	9.5	11	11	11	13	13	12	14	14	15
27	12	8.2	13	12	9.6	10	13	14	11	14	13	15
28	12	8.2	13	12	9.3	8.7	14	14	12	14	13	15
29	13	8.2	11	11	---	8.1	13	13	12	14	13	15
30	12	8.2	10	11	---	7.7	13	15	12	14	13	15
31	13	---	9.8	11	---	7.6	---	21	---	17	13	---
TOTAL	377	262.0	329.5	328.7	286.2	290.2	324.4	433	388	386	408	430
MEAN	12.2	8.73	10.6	10.6	10.2	9.36	10.8	14.0	12.9	12.5	13.2	14.3
MAX	13	16	20	19	13	22	16	25	37	20	14	26
MIN	12	6.6	7.5	8.6	8.4	6.7	7.7	11	11	11	12	13
AC-FT	748	520	654	652	568	576	643	859	770	766	809	853
a	1260	5060	35920	16210	15470	20640	15540	38620	17560	11370	6000	10830

a Diversion, in acre-feet, to Robbs Peak Powerplant (station 11429300), provided by Sacramento Municipal Utility District.

11430000 SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.8	18.3	34.2	55.4	34.2	19.6	13.0	25.5	19.7	12.8	9.38	9.58
MAX	52.2	268	396	530	524	130	141	276	249	92.5	13.2	22.3
(WY)	1963	1984	1965	1997	1986	1986	1982	1996	1983	1967	2003	1982
MIN	2.40	2.75	4.79	4.86	5.03	3.11	2.35	2.42	2.29	2.36	2.03	1.99
(WY)	1978	1978	1968	1968	1966	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1963 - 2003	
ANNUAL TOTAL	4013.4		4243.0			
ANNUAL MEAN	11.0		11.6		21.8	
HIGHEST ANNUAL MEAN					67.1 1997	
LOWEST ANNUAL MEAN					3.59 1977	
HIGHEST DAILY MEAN	32	Jan 29	37	Jun 1	8050	Jan 1 1997
LOWEST DAILY MEAN	6.0	Apr 28	6.6	Nov 2	1.3	Sep 29 1963
ANNUAL SEVEN-DAY MINIMUM	6.5	Apr 16	7.2	Mar 7	1.5	Sep 28 1963
MAXIMUM PEAK FLOW			136	Sep 20	12600	Jan 1 1997
MAXIMUM PEAK STAGE			3.34	Sep 20	12.65	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	7960		8420		15820	
ANNUAL DIVERSION (AC-FT) a	178000		194500			
10 PERCENT EXCEEDS	13		14		13	
50 PERCENT EXCEEDS	12		12		8.7	
90 PERCENT EXCEEDS	8.1		8.2		5.3	

a Diversion, in acre-feet, to Robbs Peak Powerplant (station 11429300), provided by Sacramento Municipal Utility District.

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA

LOCATION.—Lat 38°53'41", long 120°34'02", in NE 1/4 NW 1/4 sec.18, T.12 N., R.13 E., El Dorado County, Hydrologic Unit 18020128, on right bank, 2.1 mi upstream from Stumpy Meadows Dam, and 12.5 mi east of Georgetown.

DRAINAGE AREA.—11.7 mi².

PERIOD OF RECORD.—October 1960 to current year. Prior to October 1971, published as "above Stumpy Meadows Reservoir."

GAGE.—Water-stage recorder. Elevation of gage is 4,280 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,510 ft³/s, Feb. 17, 1986, gage height, 7.15 ft, from rating curve extended above 540 ft³/s, on basis of slope-area measurement at gage height 6.31 ft, maximum gage height, 8.05 ft, Jan. 31, 1963; minimum daily, 0.14 ft³/s, Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 140 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 4	0345	173	2.29

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.4	5.4	14	33	18	31	78	26	11	7.0	5.1
2	3.7	4.5	5.4	14	32	17	32	81	24	10	7.9	4.8
3	3.8	4.5	5.4	14	28	17	29	116	23	10	8.1	4.8
4	3.8	4.4	5.4	13	26	17	29	153	22	10	7.2	5.0
5	3.9	4.4	5.4	13	24	16	27	121	21	10	6.9	4.8
6	3.8	4.3	5.4	13	22	16	26	110	20	10	6.9	4.6
7	3.5	6.7	5.3	13	20	16	26	100	20	10	6.8	4.6
8	3.5	34	5.4	13	19	16	28	98	19	9.9	6.5	4.8
9	3.5	17	5.5	14	18	15	32	86	18	9.8	6.3	5.1
10	3.5	23	6.1	23	18	15	36	80	18	9.6	6.1	5.4
11	3.6	13	5.8	31	17	16	40	77	18	9.5	6.1	4.9
12	3.7	9.2	5.6	26	17	16	51	78	17	9.1	5.9	4.7
13	3.6	7.8	25	23	32	18	90	80	16	9.1	5.9	4.5
14	3.6	6.9	60	22	32	21	82	79	16	9.2	5.7	4.5
15	3.5	6.5	32	19	25	77	73	75	15	9.0	5.6	4.5
16	3.5	6.2	71	19	32	46	64	70	15	8.4	5.5	4.5
17	3.5	5.8	37	20	28	35	62	64	15	8.2	5.5	4.6
18	3.6	5.6	21	20	25	30	61	58	14	7.9	5.4	4.6
19	3.9	5.5	16	19	24	27	59	54	14	7.6	5.3	4.5
20	4.0	5.3	14	19	23	31	60	50	14	7.5	5.2	4.4
21	3.9	5.3	14	21	22	28	66	47	14	7.3	5.5	4.3
22	3.9	5.4	11	25	21	27	61	43	13	7.1	6.6	4.2
23	4.0	5.6	11	50	21	45	57	40	13	7.1	6.6	4.2
24	4.1	5.6	9.6	51	21	43	83	38	13	7.2	5.8	4.2
25	4.2	5.5	9.1	e48	20	37	90	36	12	6.8	5.4	4.1
26	4.2	5.3	9.8	e44	20	42	90	34	12	6.7	5.6	4.1
27	4.2	5.3	18	e41	20	40	86	32	12	6.6	5.5	4.2
28	4.2	5.3	23	e39	19	35	92	30	12	6.4	5.2	4.1
29	4.2	5.3	20	e37	---	32	89	29	11	6.3	5.1	4.2
30	4.2	5.4	16	e36	---	30	83	28	11	6.2	5.0	4.3
31	4.4	---	16	e35	---	29	---	27	---	6.3	5.0	---
TOTAL	119.1	233.0	499.6	789	659	868	1735	2092	488	259.8	187.1	136.6
MEAN	3.84	7.77	16.1	25.5	23.5	28.0	57.8	67.5	16.3	8.38	6.04	4.55
MAX	4.4	34	71	51	33	77	92	153	26	11	8.1	5.4
MIN	3.5	4.3	5.3	13	17	15	26	27	11	6.2	5.0	4.1
AC-FT	236	462	991	1560	1310	1720	3440	4150	968	515	371	271

e Estimated.

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.40	12.3	24.9	46.1	48.8	52.8	47.1	36.1	15.2	8.32	5.35	4.79
MAX	24.8	74.1	159	268	373	195	139	118	50.4	17.8	16.2	16.3
(WY)	1963	1984	1965	1997	1986	1983	1982	1967	1967	1998	1961	1961
MIN	0.87	2.79	3.35	4.55	4.64	4.82	3.38	4.06	1.93	0.64	0.18	0.50
(WY)	1978	1977	1977	1991	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1961 - 2003	
ANNUAL TOTAL	5666.4		8066.2			
ANNUAL MEAN	15.5		22.1		25.6	
HIGHEST ANNUAL MEAN					64.8 1983	
LOWEST ANNUAL MEAN					2.96 1977	
HIGHEST DAILY MEAN	103	Mar 7	153	May 4	2840	Feb 17 1986
LOWEST DAILY MEAN	2.7	Sep 26	3.5	Oct 7	0.14	Aug 16 1977
ANNUAL SEVEN-DAY MINIMUM	2.9	Sep 21	3.6	Oct 7	0.15	Aug 12 1977
MAXIMUM PEAK FLOW			173	May 4	3510	Feb 17 1986
MAXIMUM PEAK STAGE			2.29	May 4	8.05	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	11240		16000		18530	
10 PERCENT EXCEEDS	37		59		58	
50 PERCENT EXCEEDS	9.5		14		10	
90 PERCENT EXCEEDS	3.6		4.2		3.4	

11433040 PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CA

LOCATION.—Lat 38°55'25", long 120°38'27", in NE 1/4 NW 1/4 sec.4, T.12 N., R.12 E., [El Dorado County](#), Hydrologic Unit 18020128, Eldorado National Forest, on left bank, 450 ft downstream from Mutton Canyon, 500 ft downstream from Georgetown Divide Diversion Dam, 2.5 mi downstream from Stumpy Meadows Dam, and 10 mi east of Georgetown.

DRAINAGE AREA.—21.1 mi².

PERIOD OF RECORD.—June 1961 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 3,760 ft above NGVD of 1929, from topographic map.

REMARKS.—Records fair. Flow regulated by Stumpy Meadows Lake 2.5 mi upstream, usable capacity, 20,000 acre-ft, completed in November 1961. Georgetown Irrigation District Ditch, capacity, about 60 ft³/s, diverts water out of Pilot Creek, 500 ft upstream from station. See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,830 ft³/s, Jan. 2, 1997, gage height, 10.95 ft, from rating curve extended above 970 ft³/s, on basis of slope-area measurement at gage height 10.06 ft; minimum daily, 0.20 ft³/s, Sept. 24, Nov. 1–5, 1966.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	4.5	4.2	7.0	7.3	6.3	41	127	13	4.4	4.2	4.3
2	4.3	4.5	4.2	6.4	7.2	6.2	54	125	9.8	4.0	4.4	4.4
3	4.5	4.5	4.2	6.2	6.9	6.1	47	152	5.3	3.9	4.4	4.9
4	4.5	6.1	4.2	6.1	6.7	6.0	49	208	4.6	3.8	4.2	4.6
5	4.5	7.4	4.2	6.0	6.6	6.0	43	170	4.4	3.8	4.2	4.4
6	4.5	7.4	4.2	6.0	6.5	6.0	36	141	4.3	3.8	4.2	4.4
7	4.5	9.7	4.2	5.9	6.4	6.0	34	129	4.2	4.2	4.1	4.4
8	4.5	14	4.2	5.8	6.4	5.8	34	143	4.2	4.7	4.1	4.4
9	4.5	6.7	4.2	5.9	6.3	5.8	37	130	4.7	4.3	4.4	4.3
10	4.5	9.2	4.3	9.1	6.2	5.6	40	112	4.1	4.3	4.3	4.3
11	4.5	6.1	4.3	9.9	6.2	5.6	46	106	4.0	4.2	4.3	4.3
12	4.5	5.4	4.3	7.6	6.0	5.6	84	105	4.0	4.2	4.3	4.2
13	4.5	5.3	9.6	7.3	8.7	5.6	216	96	4.1	4.1	4.3	4.2
14	4.5	4.9	17	7.1	7.4	5.9	170	88	4.3	4.1	4.3	4.2
15	4.5	4.6	11	6.8	6.6	14	141	83	4.3	4.4	4.3	4.2
16	4.5	4.5	26	6.5	10	7.4	123	75	4.3	4.9	4.2	4.2
17	4.5	4.5	14	6.4	7.5	6.8	118	68	4.3	4.5	4.2	4.2
18	4.5	4.5	7.7	6.4	6.8	6.6	112	62	4.3	4.4	4.2	4.2
19	4.5	4.3	6.7	6.4	6.6	6.3	102	57	4.3	4.3	4.2	4.1
20	4.5	4.2	6.4	6.4	6.6	7.8	96	48	4.2	4.3	4.2	4.1
21	4.5	4.2	6.3	8.0	6.6	6.8	109	41	4.2	4.2	4.3	4.2
22	4.5	4.2	6.0	8.0	6.5	6.3	102	37	4.2	4.2	4.9	4.2
23	4.5	4.2	5.7	12	6.3	11	92	34	4.2	4.2	4.6	4.2
24	4.5	4.2	5.5	9.8	6.2	8.5	125	30	4.2	4.1	4.4	4.3
25	4.5	4.2	5.4	8.4	6.2	7.2	158	27	4.1	4.0	4.3	4.3
26	4.5	4.2	5.7	7.9	6.2	16	167	24	4.0	4.0	4.3	4.3
27	4.5	4.2	7.6	8.1	6.3	35	140	22	4.0	3.9	4.3	4.3
28	4.5	4.2	7.6	7.7	6.4	40	164	20	4.0	3.9	4.3	4.2
29	4.5	4.2	7.2	7.3	---	37	152	18	4.0	4.0	4.3	4.3
30	4.5	4.2	6.4	7.2	---	35	138	16	4.6	4.1	4.3	4.3
31	4.5	---	8.0	7.1	---	33	---	14	---	4.2	4.3	---
TOTAL	139.1	164.3	220.5	226.7	189.6	367.2	2970	2508	142.2	129.4	133.3	128.9
MEAN	4.49	5.48	7.11	7.31	6.77	11.8	99.0	80.9	4.74	4.17	4.30	4.30
MAX	4.5	14	26	12	10	40	216	208	13	4.9	4.9	4.9
MIN	4.3	4.2	4.2	5.8	6.0	5.6	34	14	4.0	3.8	4.1	4.1
AC-FT	276	326	437	450	376	728	5890	4970	282	257	264	256

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

	3.01	5.68	28.1	59.5	77.3	73.9	67.2	38.1	9.34	4.27	3.39	2.99
MEAN	3.01	5.68	28.1	59.5	77.3	73.9	67.2	38.1	9.34	4.27	3.39	2.99
MAX	7.19	28.6	340	621	585	370	289	171	54.4	15.6	13.4	8.54
(WY)	1963	1984	1965	1997	1986	1983	1982	1995	1967	1983	1983	1983
MIN	0.46	0.46	0.54	0.53	0.89	1.21	0.98	1.12	0.66	0.45	0.38	0.37
(WY)	1962	1962	1962	1962	1991	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1961 - 2003	
ANNUAL TOTAL	4112.5		7319.2			
ANNUAL MEAN	11.3		20.1		30.8	
HIGHEST ANNUAL MEAN					109	
LOWEST ANNUAL MEAN					0.84	
HIGHEST DAILY MEAN	97	Mar 23	216	Apr 13	5210	Jan 2 1997
LOWEST DAILY MEAN	4.0	Jan 24	3.8	Jul 4	0.20	Sep 24 1966
ANNUAL SEVEN-DAY MINIMUM	4.0	Jan 31	4.0	Jul 1	0.23	Oct 30 1966
MAXIMUM PEAK FLOW			229		7830	
MAXIMUM PEAK STAGE			5.58		10.95	
ANNUAL RUNOFF (AC-FT)	8160		14520		22350	
10 PERCENT EXCEEDS	31		64		84	
50 PERCENT EXCEEDS	4.9		5.3		4.3	
90 PERCENT EXCEEDS	4.3		4.2		1.3	

11433060 SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.—Lat 39°03'04", long 120°28'14", in SW 1/4 NE 1/4 sec.24, T.14 N., R.13 E., [Placer County](#), Hydrologic Unit 18020128, Eldorado National Forest, on right bank at diversion dam, 3.3 mi upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 mi east of Volcanoville.

PERIOD OF RECORD.—October 1965 to current year.

GAGE.—Water-stage recorder and sharp-crested weir. Elevation of gage is 4,630 ft above NGVD of 1929, 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 provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 251 ft³/s, Nov. 12, 1973; no flow for part of each year.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	4.8	32	11	36	36	28	0.00	0.00	0.00
2	0.00	0.00	0.00	5.3	30	9.8	34	43	25	0.00	0.00	0.00
3	0.00	0.00	0.00	5.9	24	9.8	30	74	22	0.00	0.00	0.00
4	0.00	0.00	0.00	6.9	22	9.0	28	96	20	0.00	0.00	0.00
5	0.00	0.00	0.00	7.9	20	8.7	26	71	18	0.00	0.00	0.00
6	0.00	0.00	0.00	9.0	18	8.3	24	63	16	0.00	0.00	0.00
7	0.00	0.00	0.00	9.0	16	8.7	24	59	14	0.00	0.00	0.00
8	0.00	0.00	0.00	9.8	15	8.7	29	60	12	0.00	0.00	0.00
9	0.00	0.00	0.00	10	13	8.3	34	49	10	0.00	0.00	0.00
10	0.00	0.00	0.00	19	13	8.3	34	47	8.7	0.00	0.00	0.00
11	0.00	0.00	0.00	23	12	8.7	35	50	2.3	0.00	0.00	0.00
12	0.00	0.00	0.00	18	12	9.8	39	57	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	16	32	12	38	63	0.00	0.00	0.00	0.00
14	0.00	0.00	11	15	30	17	34	68	0.00	0.00	0.00	0.00
15	0.00	0.00	8.3	12	22	49	32	68	0.00	0.00	0.00	0.00
16	0.00	0.00	15	11	23	30	30	64	0.00	0.00	0.00	0.00
17	0.00	0.00	7.2	13	20	22	31	60	0.00	0.00	0.00	0.00
18	0.00	0.00	3.5	16	18	20	33	57	0.00	0.00	0.00	0.00
19	0.00	0.00	2.3	16	17	18	34	53	0.00	0.00	0.00	0.00
20	0.00	0.00	1.6	14	16	20	36	52	0.00	0.00	0.00	0.00
21	0.00	0.00	1.1	18	15	19	41	53	0.00	0.00	0.00	0.00
22	0.00	0.00	0.19	26	15	19	35	53	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	63	14	65	35	54	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	47	14	52	50	53	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	38	14	39	44	48	0.00	0.00	0.00	0.00
26	0.00	0.00	0.18	35	12	74	39	44	0.00	0.00	0.00	0.00
27	0.00	0.00	7.4	37	12	56	38	42	0.00	0.00	0.00	0.00
28	0.00	0.00	14	39	11	45	40	40	0.00	0.00	0.00	0.00
29	0.00	0.00	9.0	31	---	38	38	38	0.00	0.00	0.00	0.00
30	0.00	0.00	5.9	28	---	36	36	34	0.00	0.00	0.00	0.00
31	0.00	---	5.6	29	---	36	---	31	---	0.00	0.00	---
TOTAL	0.00	0.00	92.27	632.6	512	776.1	1037	1680	176.00	0.00	0.00	0.00
MEAN	0.000	0.000	2.98	20.4	18.3	25.0	34.6	54.2	5.87	0.000	0.000	0.000
MAX	0.00	0.00	15	63	32	74	50	96	28	0.00	0.00	0.00
MIN	0.00	0.00	0.00	4.8	11	8.3	24	31	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	183	1250	1020	1540	2060	3330	349	0.00	0.00	0.00

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

	1966	1966	1966	1966	1991	1974	1974	1974	1966	1966	1966	1966
MEAN	0.002	2.98	4.97	10.7	13.9	22.4	28.5	25.9	8.17	0.29	0.002	0.000
MAX	0.034	37.2	38.6	42.1	77.3	77.7	67.8	80.6	54.0	4.54	0.067	0.001
(WY)	1980	1974	1984	1974	1996	1989	1980	1975	1998	1983	1983	1972
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1966	1966	1966	1966	1991	1974	1974	1974	1966	1966	1966	1966

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1966 - 2003

ANNUAL TOTAL	4256.09	4905.97		
ANNUAL MEAN	11.7	13.4	9.78	
HIGHEST ANNUAL MEAN			24.1	1998
LOWEST ANNUAL MEAN			0.43	1977
HIGHEST DAILY MEAN	102	Feb 20	96	May 4
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 13	0.00	Oct 1
ANNUAL RUNOFF (AC-FT)	8440		9730	7090
10 PERCENT EXCEEDS	34		41	34
50 PERCENT EXCEEDS	0.00		0.00	0.00
90 PERCENT EXCEEDS	0.00		0.00	0.00

11433065 SOUTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE, CA

LOCATION.—Lat 39°03'04", long 120°28'14", in SW 1/4 NE 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank, 21 ft below diversion dam, 3.3 mi upstream from confluence of North and South Forks Long Canyon Creek, and 17.2 mi east of Volcanoville.

PERIOD OF RECORD.—October 1988 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 4,630 ft above NGVD of 1929, from topographic map.

REMARKS.—Discharge is computed only during periods of operation of South Fork Long Canyon Creek Diversion Tunnel (station 11433060). See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	5.6	5.8	5.8	5.8	5.9	5.7	---	---	---
2	---	---	---	5.7	5.7	5.8	5.8	6.0	5.6	---	---	---
3	---	---	---	5.7	5.7	5.8	5.8	6.3	5.6	---	---	---
4	---	---	---	5.7	5.5	5.8	5.7	6.4	5.6	---	---	---
5	---	---	---	5.7	5.5	5.8	5.7	6.0	5.6	---	---	---
6	---	---	---	5.7	5.3	5.8	5.7	5.9	5.6	---	---	---
7	---	---	---	5.7	5.7	5.7	5.7	5.9	5.5	---	---	---
8	---	---	---	5.8	6.0	5.5	5.8	6.0	5.5	---	---	---
9	---	---	---	5.8	6.0	5.5	5.9	5.9	5.3	---	---	---
10	---	---	---	6.0	5.8	5.5	5.9	5.9	5.2	---	---	---
11	---	---	---	6.0	5.8	5.5	5.9	5.9	6.5	---	---	---
12	---	---	---	6.0	5.8	5.5	5.9	6.2	---	---	---	---
13	---	---	---	6.0	6.0	5.6	5.9	6.3	---	---	---	---
14	---	---	7.4	6.0	6.0	5.6	5.9	6.3	---	---	---	---
15	---	---	5.8	6.0	6.0	5.9	5.9	6.3	---	---	---	---
16	---	---	5.9	6.0	6.0	5.8	5.8	6.3	---	---	---	---
17	---	---	5.8	5.9	5.9	5.7	5.8	6.3	---	---	---	---
18	---	---	5.7	5.9	5.9	5.7	5.9	6.2	---	---	---	---
19	---	---	5.6	5.9	5.9	5.7	5.9	6.2	---	---	---	---
20	---	---	5.6	5.8	5.9	5.7	5.9	6.2	---	---	---	---
21	---	---	5.6	5.8	5.9	5.7	6.0	6.2	---	---	---	---
22	---	---	5.5	5.9	5.9	5.7	6.0	6.0	---	---	---	---
23	---	---	5.3	5.8	5.9	6.2	5.9	6.0	---	---	---	---
24	---	---	5.0	6.0	5.9	6.0	6.0	6.0	---	---	---	---
25	---	---	4.8	5.9	5.9	5.9	6.0	6.0	---	---	---	---
26	---	---	4.9	5.9	5.8	6.2	6.0	5.9	---	---	---	---
27	---	---	5.7	5.9	5.8	6.0	6.0	5.9	---	---	---	---
28	---	---	5.9	5.9	5.8	5.9	6.0	5.9	---	---	---	---
29	---	---	5.8	5.8	---	5.9	5.9	5.9	---	---	---	---
30	---	---	5.7	5.8	---	5.9	5.9	5.9	---	---	---	---
31	---	---	5.7	5.8	---	5.9	---	5.8	---	---	---	---
TOTAL	---	---	---	181.4	163.1	179.0	176.3	187.9	---	---	---	---
MEAN	---	---	---	5.85	5.83	5.77	5.88	6.06	---	---	---	---
MAX	---	---	---	6.0	6.0	6.2	6.0	6.4	---	---	---	---
MIN	---	---	---	5.6	5.3	5.5	5.7	5.8	---	---	---	---
AC-FT	---	---	---	360	324	355	350	373	---	---	---	---

11433085 NORTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE, CA

LOCATION.—Lat 39°02'57", long 120°28'56", in SW 1/4 NW 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank, 26 ft below diversion dam, 3.2 mi upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 mi east of Volcanoville.

PERIOD OF RECORD.—October 1988 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 4,700 ft above NGVD of 1929, from topographic map.

REMARKS.—Discharge is computed only during periods of operation of North Fork Long Canyon Creek Diversion Tunnel (station 11433080). See schematic diagram of [Middle Fork American and Rubicon River Basins](#).

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	3.4	2.8	2.5	2.7	2.8	2.5	---	---	---
2	---	---	---	3.4	2.8	2.5	2.7	2.8	2.5	---	---	---
3	---	---	---	3.4	2.7	2.5	2.7	3.2	2.5	---	---	---
4	---	---	---	3.4	2.7	2.5	2.7	3.4	2.4	---	---	---
5	---	---	---	3.5	2.8	2.5	2.6	3.1	2.8	---	---	---
6	---	---	---	3.5	2.8	2.5	2.6	3.0	---	---	---	---
7	---	---	---	3.5	2.8	2.5	2.7	3.1	---	---	---	---
8	---	---	---	3.5	2.7	2.5	2.8	3.1	---	---	---	---
9	---	---	---	3.5	2.7	2.5	2.8	3.0	---	---	---	---
10	---	---	---	3.7	2.7	2.5	2.8	3.1	---	---	---	---
11	---	---	---	4.0	2.7	2.5	2.8	2.9	---	---	---	---
12	---	---	---	3.3	2.7	2.5	2.8	3.0	---	---	---	---
13	---	---	---	2.9	2.9	2.6	3.0	3.1	---	---	---	---
14	---	---	5.2	2.8	2.8	2.6	2.9	3.2	---	---	---	---
15	---	---	3.2	2.8	2.8	3.5	2.9	3.2	---	---	---	---
16	---	---	3.0	2.8	2.8	3.2	2.9	3.0	---	---	---	---
17	---	---	2.9	2.8	2.8	3.0	2.9	2.9	---	---	---	---
18	---	---	2.8	2.9	2.7	2.8	2.9	2.8	---	---	---	---
19	---	---	2.8	2.8	2.6	2.8	3.0	2.8	---	---	---	---
20	---	---	2.8	2.8	2.6	2.8	3.1	2.8	---	---	---	---
21	---	---	2.8	2.9	2.6	2.9	3.0	2.8	---	---	---	---
22	---	---	2.8	2.9	2.6	2.8	2.9	2.8	---	---	---	---
23	---	---	2.8	3.9	2.6	3.6	2.9	2.8	---	---	---	---
24	---	---	3.1	3.0	2.6	3.2	3.0	2.8	---	---	---	---
25	---	---	3.2	2.8	2.6	3.0	3.0	2.7	---	---	---	---
26	---	---	3.3	2.7	2.5	3.7	2.8	2.7	---	---	---	---
27	---	---	3.7	2.8	2.5	3.1	2.8	2.6	---	---	---	---
28	---	---	3.9	2.8	2.5	2.9	2.8	2.6	---	---	---	---
29	---	---	3.7	2.7	---	2.9	2.8	2.6	---	---	---	---
30	---	---	3.6	2.8	---	2.9	2.8	2.5	---	---	---	---
31	---	---	3.5	2.8	---	2.8	---	2.5	---	---	---	---
TOTAL	---	---	---	96.8	75.4	87.1	85.1	89.7	---	---	---	---
MEAN	---	---	---	3.12	2.69	2.81	2.84	2.89	---	---	---	---
MAX	---	---	---	4.0	2.9	3.7	3.1	3.4	---	---	---	---
MIN	---	---	---	2.7	2.5	2.5	2.6	2.5	---	---	---	---
AC-FT	---	---	---	192	150	173	169	178	---	---	---	---

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.—Lat 39°00'22", long 120°45'35", in NW 1/4 NW 1/4 sec.4, T.13 N., R.11 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank, 1.6 mi downstream from Oxbow Powerplant, and 3.3 mi east of Foresthill.

DRAINAGE AREA.—524 mi².

PERIOD OF RECORD.—October 1958 to current year.

CHEMICAL DATA: Water year 1979.

BIOLOGICAL DATA: Water year 1979.

REVISED RECORDS.—WDR CA-03-4: 2000(M).

GAGE.—Water-stage recorder. Elevation of gage is 1,070 ft above NGVD of 1929, from topographic map. Prior to Oct. 22, 1965, at site 3.2 mi downstream at different datum. Oct. 22, 1965, to Aug. 28, 1985, at site 400 ft downstream at different datum.

REMARKS.—Flow regulated by French Meadows Reservoir, Hell Hole Reservoir, Loon Lake (stations 11427400, 11428700, and 11429350, respectively), Stumpy Meadows Lake, usable capacity, 17,500 acre-ft, several smaller reservoirs, and Oxbow Powerplant (station 11433212). Robbs Peak Powerplant (station 11429300) and Georgetown Divide Ditch, capacity about 60 ft³/s, divert water out of basin upstream from station. See schematic diagrams of lower Sacramento River Basin and Middle Fork American and Rubicon River Basins.

COOPERATION.—Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2079.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 310,000 ft³/s, Dec. 23, 1964, gage height, 69.0 ft, from floodmarks, site and datum then in use, caused by overtopping of the partly constructed Hell Hole Dam on the Rubicon River, from rating curve extended above 28,000 ft³/s, on basis of slope-area measurement at gage height 38.0 ft and slope-conveyance study at gage height 69.0 ft, at site and datum then in use; next highest peak, 123,000 ft³/s, Jan. 2, 1997, gage height, 29.56 ft, from rating curve extended above 37,000 ft³/s; minimum, 35 ft³/s, Oct. 10–20, 1961.

REVISIONS.—Maximum discharge for water year 2000 has been revised to 15,700 ft³/s, Feb. 14, 2000, gage height 20.05 ft.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	578	324	855	623	552	1110	2060	1540	679	569	754
2	90	525	644	665	1150	769	1170	2100	1460	779	387	903
3	114	634	595	748	1190	901	1190	2100	1380	804	485	874
4	106	480	671	765	1160	942	1170	3650	1350	570	544	911
5	103	667	676	978	1100	934	827	2870	1290	607	617	829
6	100	514	624	618	1030	1060	1070	2630	1260	488	815	631
7	99	724	100	580	1100	1090	1100	2590	1250	558	581	637
8	99	919	99	817	716	884	1210	2710	1490	601	722	842
9	99	1090	99	1110	905	908	1330	2580	1340	720	631	858
10	93	725	263	1140	934	1070	1340	2320	1280	778	669	876
11	89	1040	247	1730	1010	1060	1330	2170	1220	741	723	906
12	89	808	244	1370	994	1030	1160	2200	1170	597	781	896
13	90	581	398	1310	1050	986	2300	2300	1120	663	740	731
14	92	768	2050	1140	1180	998	2260	2340	1060	795	746	665
15	93	700	1680	1220	807	1510	1940	2300	1030	692	776	749
16	95	336	2440	1210	1090	1510	1460	2230	953	796	545	826
17	97	382	1740	454	1270	1240	1680	2120	1030	742	652	889
18	95	681	1180	716	1150	984	1720	2050	971	795	685	912
19	94	650	981	943	693	1210	1430	1910	932	613	565	898
20	94	260	725	1080	837	1330	1500	1830	631	496	701	647
21	94	296	801	1100	783	1340	1550	1770	458	496	724	648
22	90	291	622	1290	690	882	1600	1690	571	702	596	859
23	491	312	644	1980	1010	1350	1570	1740	778	663	701	952
24	709	296	497	1980	1100	1700	1920	1620	658	637	707	916
25	584	651	454	1490	984	1550	2330	1620	766	512	705	903
26	431	626	562	1360	975	1560	2290	1550	875	562	701	914
27	564	649	866	1520	1100	1670	2060	1510	829	545	639	624
28	592	319	1070	1420	934	1590	2120	1490	374	655	894	714
29	551	330	1290	1170	---	1030	2270	1440	716	633	987	921
30	628	290	964	1240	---	1060	2110	1580	765	590	663	872
31	596	---	1120	1220	---	1170	---	1570	---	589	636	---
TOTAL	7267	17122	24670	35219	27565	35870	48117	64640	30547	20098	20887	24557
MEAN	234	571	796	1136	984	1157	1604	2085	1018	648	674	819
MAX	709	1090	2440	1980	1270	1700	2330	3650	1540	804	987	952
MIN	89	260	99	454	623	552	827	1440	374	488	387	624
AC-FT	14410	33960	48930	69860	54680	71150	95440	128200	60590	39860	41430	48710
a	9390	27800	27610	44130	40390	51970	56510	66320	51870	36610	39210	47740

a Diversion, in acre-feet, through Oxbow Powerplant (station 11433212), provided by Placer County Water Agency.

SACRAMENTO RIVER BASIN

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA—Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	434	644	1128	1617	1834	1820	1730	1540	1012	664	626	524
MAX	1634	2952	7172	8778	8815	5076	5572	4642	3300	1836	1142	1084
(WY)	1963	1984	1965	1997	1986	1983	1982	1963	1983	1983	1983	1983
MIN	54.3	47.1	64.8	85.2	111	240	110	120	124	99.2	47.2	42.8
(WY)	1961	1960	1960	1991	1991	1977	1977	1977	1977	1966	1959	1962

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1959 - 2003	
ANNUAL TOTAL	262731		356559			
ANNUAL MEAN	720		977		1127	
HIGHEST ANNUAL MEAN					2723	
LOWEST ANNUAL MEAN					179	
HIGHEST DAILY MEAN	3240	Feb 20	3650	May 4	65000	Dec 23 1964
LOWEST DAILY MEAN	89	Oct 11	89	Oct 11	35	Oct 19 1961
ANNUAL SEVEN-DAY MINIMUM	92	Oct 10	92	Oct 10	38	Oct 14 1961
MAXIMUM PEAK FLOW			4510	May 4	310000	Dec 23 1964
MAXIMUM PEAK STAGE			16.07	May 4	69.00	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	521100		707200		816800	
TOTAL DIVERSION (AC-FT) a	342100		499600			
10 PERCENT EXCEEDS	1360		1740		2340	
50 PERCENT EXCEEDS	626		866		752	
90 PERCENT EXCEEDS	106		328		100	

a Diversion, in acre-feet, through Oxbow Powerplant (station 11433212), provided by Placer County Water Agency.

11433790 NORTH FORK AMERICAN RIVER AT AUBURN DAM SITE, NEAR AUBURN, CA

LOCATION.—Lat 39°51'06", long 121°03'26", in SW 1/4 NW 1/4 sec.23, T.12 N., R.8 E., Placer County, Hydrologic Unit 18020128, on the right bank upstream side of the Auburn Dam Site diversion tunnel, 0.7 mi upstream from Knickerbocker Creek, and 1.3 mi southeast of Auburn.

DRAINAGE AREA.— 972 mi².

PERIOD OF RECORD.—Water year 1999 to current year.

WATER TEMPERATURE: Water year 1999 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: June 1999 to current year.

INSTRUMENTATION.—Water-temperature recorder since June 4, 1999.

REMARKS.—Water-temperature records rated excellent. Water temperature can be affected by upstream releases. Interruption in record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 25.0°C, July 2, 2001; minimum recorded, 3.0°C, Jan. 31, 2002.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 24.0°C, July 22; minimum recorded, 4.5°C, Feb. 9.

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.0	17.0	11.5	9.5	9.5	8.5	7.0	6.5	8.5	8.0	9.5	7.5
2	18.0	16.0	11.0	9.0	9.5	8.5	7.5	6.5	8.5	7.5	9.5	7.5
3	17.5	15.5	11.0	9.0	9.5	8.5	7.5	6.5	8.0	7.0	8.0	7.5
4	18.0	16.0	11.0	9.0	10.0	8.5	7.5	7.0	7.5	6.5	9.0	7.0
5	19.0	16.5	11.0	9.0	10.0	8.5	8.0	7.0	7.0	5.5	9.0	7.0
6	19.5	17.0	11.0	9.0	10.0	9.0	7.5	7.0	7.0	5.5	9.0	7.5
7	19.5	17.0	11.5	9.5	10.0	9.0	7.5	6.5	6.5	5.5	9.5	7.5
8	20.0	17.5	13.0	11.5	9.5	8.0	7.0	6.0	7.0	5.5	9.5	7.0
9	19.5	17.5	13.5	12.5	9.0	8.0	7.0	6.5	6.5	4.5	10.0	7.5
10	19.0	17.0	13.0	12.0	9.5	8.5	7.5	7.0	6.5	5.0	9.5	8.0
11	19.0	16.5	12.5	11.0	9.5	8.5	8.0	7.5	6.5	5.5	10.0	8.0
12	18.5	16.0	12.5	11.0	9.0	8.0	8.5	7.5	6.5	6.0	11.0	8.5
13	18.0	16.0	13.0	11.0	10.0	8.5	8.5	8.0	7.5	6.5	10.5	9.5
14	18.0	16.0	12.5	11.0	10.0	9.0	8.5	7.5	8.0	6.5	11.0	9.5
15	17.5	15.5	12.0	10.5	9.5	8.5	8.0	7.0	9.0	7.5	10.5	9.5
16	18.0	15.5	11.5	10.5	9.0	8.5	7.5	6.5	9.0	7.5	10.0	8.5
17	17.5	15.0	11.5	10.0	---	---	7.5	6.5	9.0	8.0	9.5	8.0
18	17.0	15.0	11.0	9.5	8.5	7.5	7.5	6.5	8.5	7.0	9.5	7.5
19	17.0	15.0	11.0	9.5	8.0	7.0	7.5	6.5	8.0	7.0	9.5	8.0
20	17.0	15.0	11.5	9.5	7.5	7.0	7.5	6.5	8.5	6.5	10.5	8.5
21	17.0	15.0	11.5	10.5	8.0	7.0	7.5	6.5	8.5	7.0	10.5	8.5
22	16.5	14.5	12.0	10.5	7.5	6.5	8.0	7.5	9.0	7.0	11.5	9.5
23	16.5	14.5	12.0	11.0	7.0	6.0	8.5	8.0	9.0	7.0	11.0	10.0
24	15.0	13.0	11.5	11.0	6.5	5.5	8.5	8.0	8.0	7.5	11.0	9.5
25	13.5	11.5	11.5	10.0	6.5	5.5	8.5	7.5	9.5	7.5	11.0	9.5
26	13.0	11.0	10.5	9.5	7.0	6.0	9.0	8.0	9.0	7.5	11.0	10.0
27	13.5	11.0	10.0	9.0	7.5	7.0	9.0	8.5	9.0	8.0	11.0	10.0
28	13.0	11.0	10.5	9.0	7.5	7.0	9.5	8.0	8.5	7.0	11.0	9.0
29	12.5	10.5	10.0	8.5	7.0	6.5	9.0	8.0	---	---	11.0	9.0
30	12.5	10.0	9.0	8.0	7.0	6.5	9.0	8.0	---	---	12.0	9.5
31	12.0	10.0	---	---	7.0	6.5	9.0	8.0	---	---	12.5	10.5
MONTH	20.0	10.0	13.5	8.0	---	---	9.5	6.0	9.5	4.5	12.5	7.0

SACRAMENTO RIVER BASIN

11433790 NORTH FORK AMERICAN RIVER AT AUBURN DAM SITE, NEAR AUBURN, CA—Continued

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

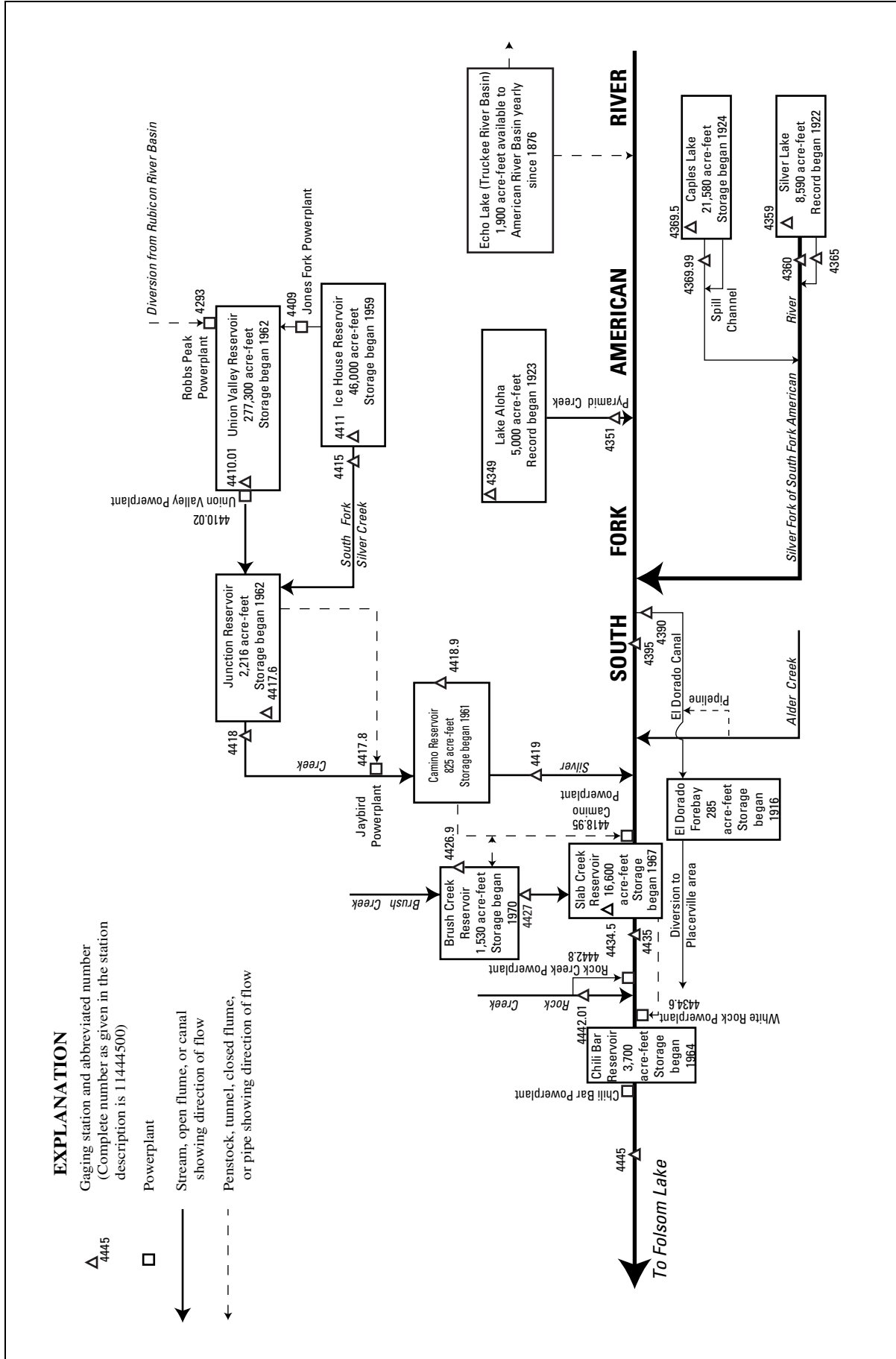
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.0	10.5	11.0	9.5	16.0	14.0	21.5	18.0	21.0	18.0	19.0	15.5
2	11.0	9.5	11.0	10.0	16.5	14.5	20.5	17.5	20.0	17.5	17.5	15.0
3	10.0	8.5	11.0	10.0	17.0	15.0	19.5	16.5	23.5	17.0	16.5	15.0
4	9.0	8.0	10.5	10.0	17.0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

11433790 NORTH FORK AMERICAN RIVER AT AUBURN DAM SITE, NEAR AUBURN, CA—Continued

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

DATE	TIME	Depth at sample loca- tion, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
AUG				
19...*	1440	1.60	18.3	3.00
19...*	1441	2.65	18.6	9.00
19...*	1442	3.55	18.9	15.0
19...*	1443	3.70	19.1	21.0
19...*	1444	3.65	19.1	27.0
19...*	1445	3.50	19.0	33.0
19...*	1446	3.20	18.9	39.0
19...*	1447	3.10	18.9	45.0
19...*	1448	2.80	18.8	51.0
19...*	1449	1.90	18.6	57.0

* Instantaneous discharge at time of cross-sectional measurement: Unknown.



EXPLANATION

▲ Gaging station and abbreviated number (Complete number as given in the station description is 11444500)

□ Powerplant

→ Stream, open flume, or canal showing direction of flow

- - - Penstock, tunnel, closed flume, or pipe showing direction of flow

Figure 35. Diversions and storage in South Fork American River Basin.

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA

LOCATION.—Lat 38°48'57", long 120°06'58", in NW 1/4 SW 1/4 sec.9, T.11 N., R.17 E., [El Dorado County](#), Hydrologic Unit 18020129, Eldorado National Forest, on right bank, 0.5 mi northeast of Twin Bridges, 2.2 mi west of Phillips, and 3.6 mi downstream from Lake Aloha.

DRAINAGE AREA.—8.76 mi².

PERIOD OF RECORD.—October 1970 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 6,320 ft above NGVD of 1929, from topographic map. Prior to October 1987, at datum 1.00 ft higher.

REMARKS.—Flow regulated by Lake Aloha, capacity, 5,000 acre-ft. Lake of the Woods, Ropi Lake, and Toem Lake (unknown capacities) also regulate at times. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by the El Dorado Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 184.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,920 ft³/s, Jan. 2, 1997, gage height, 7.22 ft, from rating curve extended above 300 ft³/s; minimum daily, 0.03 ft³/s, Oct. 26–28, 1992.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.4	8.8	19	27	12	42	21	166	61	46	38
2	3.6	3.5	8.2	16	22	11	30	21	168	59	46	38
3	3.5	3.5	8.2	16	19	12	27	23	168	57	44	37
4	3.6	3.4	7.9	16	18	12	24	24	179	56	42	37
5	3.7	3.4	7.8	16	16	11	23	24	169	51	41	36
6	3.6	3.4	7.7	16	15	12	21	26	165	49	40	35
7	3.6	5.3	7.4	16	14	12	22	25	166	47	39	34
8	3.6	114	7.0	16	13	13	30	24	166	43	38	34
9	3.6	60	6.8	16	13	13	37	23	182	28	38	34
10	3.5	33	6.7	16	13	13	40	23	162	25	37	33
11	3.5	26	6.5	16	13	14	47	30	145	25	36	32
12	3.4	26	6.5	16	12	e15	41	47	141	23	37	32
13	3.5	27	8.6	16	15	e18	36	71	140	22	42	32
14	3.5	28	22	16	15	e20	29	83	137	22	41	31
15	3.6	24	21	15	14	25	25	75	135	21	41	31
16	3.6	22	22	15	15	21	23	e75	135	21	40	30
17	3.5	20	45	15	14	18	22	e75	141	21	39	30
18	3.5	18	32	17	13	16	22	e76	141	20	39	29
19	3.5	17	26	17	13	16	23	76	135	19	38	29
20	3.5	19	26	17	13	18	25	89	126	21	40	28
21	3.6	22	26	17	13	18	24	116	123	22	46	27
22	3.6	23	26	19	13	23	22	149	121	46	45	27
23	3.6	22	26	49	13	32	23	173	118	48	43	26
24	3.6	20	26	43	13	29	26	166	115	47	42	25
25	3.6	18	26	31	12	27	24	163	112	47	41	24
26	3.6	14	26	28	12	e70	24	148	112	47	42	23
27	3.5	13	24	32	12	e55	23	173	101	46	41	13
28	3.5	11	18	32	12	35	23	222	61	45	41	6.1
29	3.5	10	18	25	---	29	21	225	61	43	40	3.8
30	3.4	9.7	18	24	---	34	21	226	60	43	40	2.7
31	3.4	---	16	25	---	43	---	187	---	46	39	---
TOTAL	110.0	622.6	542.1	648	407	697	820	2879	4051	1171	1264	837.6
MEAN	3.55	20.8	17.5	20.9	14.5	22.5	27.3	92.9	135	37.8	40.8	27.9
MAX	3.7	114	45	49	27	70	47	226	182	61	46	38
MIN	3.4	3.4	6.5	15	12	11	21	21	60	19	36	2.7
AC-FT	218	1230	1080	1290	807	1380	1630	5710	8040	2320	2510	1660

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

MEAN	11.6	17.4	16.1	19.8	17.5	24.4	40.8	96.1	101	66.4	44.0	18.4
MAX	35.8	57.1	53.2	133	55.6	63.2	70.2	160	249	198	90.2	77.4
(WY)	1996	1997	1997	1997	1982	1982	1997	1974	1998	1995	1974	1983
MIN	0.18	0.74	1.93	2.25	3.54	7.13	14.7	29.5	14.7	18.9	2.52	0.28
(WY)	1991	1991	1991	1991	1991	1977	1975	1977	2001	2001	1981	1981

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1971 - 2003	
ANNUAL TOTAL	12689.1		14049.3			
ANNUAL MEAN	34.8		38.5			
HIGHEST ANNUAL MEAN					65.1	1982
LOWEST ANNUAL MEAN					15.3	1977
HIGHEST DAILY MEAN	165	May 31	226	May 30	1570	Jan 2 1997
LOWEST DAILY MEAN	3.4	Oct 12	2.7	Sep 30	0.03	Oct 26 1992
ANNUAL SEVEN-DAY MINIMUM	3.4	Oct 30	3.4	Oct 30	0.04	Oct 22 1992
MAXIMUM PEAK FLOW			300	May 28	2920	Jan 2 1997
MAXIMUM PEAK STAGE			3.80	May 28	7.22	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	25170		27870		28700	
10 PERCENT EXCEEDS	75		113		98	
50 PERCENT EXCEEDS	22		24		20	
90 PERCENT EXCEEDS	3.6		3.7		3.6	

e Estimated.

11435900 SILVER LAKE NEAR KIRKWOOD, CA

LOCATION.—Lat 38°40'07", long 120°07'14", in NW 1/4 SE 1/4 sec.32, T.10 N., R.17 E., [Amador County](#), Hydrologic Unit 18020129, Eldorado National Forest, on outlet structure, 3.5 mi southwest of Kirkwood.

DRAINAGE AREA.—15.2 mi².

PERIOD OF RECORD.—October 1985 to current year. Unpublished records for water years 1981–85 available in files of U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 7,184.3 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). October 1985 to Mar. 5, 1991, nonrecording gage at same site and datum.

REMARKS.—Lake is formed by earthfill and rock masonry dam initially constructed in 1876 and enlarged in 1929. Capacity, 8,590 acre-ft, between gage heights 0.0 ft, invert of outlet, and 22.7 ft, top of radial gates and flashboards. Released water is used for power development on South Fork American River. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by El Dorado Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 184. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 8,791 acre-ft, June 3, 1996, gage height, 23.10 ft; minimum, 0 acre-ft, Feb. 13, 15, 20, 22, 27, 1991, gage height, 0 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 8,716 acre-ft, June 29, gage height, 22.85 ft; minimum, 1,923 acre-ft, Dec. 12, gage height, 6.81 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by El Dorado Irrigation District, dated Sept. 30, 1999)

0.0	0	6.0	1,671	15.0	5,003	21.0	7,799
2.0	519	9.0	2,646	18.0	6,364	24.0	8,792
4.0	1,076	12.0	3,756				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3935	e2160	2170	2118	2364	2591	e3903	5254	6721	8696	7760	6707
2	e3859	e2115	2144	2105	2361	2595	e3907	5281	6650	8615	7760	6678
3	e3788	e2070	2125	2099	2347	e2602	e3887	5343	6683	8600	7735	6659
4	e3717	e2025	2102	2093	2324	e2608	e3863	5383	6778	8570	7706	6626
5	e3647	e1967	2080	2076	2294	e2615	e3831	5409	6934	8545	7667	6594
6	e3562	1945	2057	2076	2294	e2619	e3800	5459	7030	8515	7633	6561
7	e3496	2034	2034	2070	2304	e2632	e3776	5486	7092	8471	7594	6528
8	e3439	2344	2009	2063	2317	e2646	e3835	5517	7178	8446	7550	6486
9	e3366	2395	1989	2070	2324	e2650	e3959	5481	7265	8406	7516	6439
10	e3295	2401	1967	2076	2334	e2667	e4087	5445	7342	8376	7472	6397
11	e3228	2388	1942	2070	2344	e2685	e4226	5450	7371	8337	7434	6359
12	e3158	2388	1923	2060	2351	e2744	e4358	5540	7458	8297	7395	6317
13	e3092	2388	1942	2051	2395	e2797	e4487	5772	7584	8257	7356	6275
14	e3026	2371	2015	2044	2411	e2858	e4622	5983	7711	8218	7313	6238
15	e2957	2368	2022	2038	2435	e2922	e4670	6187	7813	8173	7279	6187
16	e2893	2347	2112	2028	2476	e2979	4756	6219	8015	8133	7241	6140
17	e2829	2327	2131	2028	2489	e3037	4808	6173	8223	8123	7207	6103
18	e2769	2310	2128	2034	2496	e3103	4842	6131	8391	8084	7173	6061
19	e2709	2307	2141	2041	2499	e3147	4855	6205	8476	8044	7140	6020
20	e2653	2331	2141	2047	2516	e3166	4899	6275	8485	8015	7102	5983
21	e2595	2347	2135	2051	2523	e3221	4951	6401	8495	7980	7073	5942
22	e2537	2347	2135	2063	2533	e3303	4977	6584	8495	7941	7039	5886
23	e2482	2344	2118	2112	2544	e3381	5003	6589	8490	7907	7006	5818
24	e2442	2361	2105	2167	2561	e3466	5074	6518	8515	7867	6968	5744
25	e2411	2310	2089	2203	2567	e3566	5135	6415	8565	7828	6934	5676
26	e2381	2274	2089	2238	2581	e3639	5157	6350	8605	7784	6911	5603
27	e2364	2258	2083	2287	2585	e3698	5170	6594	8650	7799	6873	5535
28	e2317	2235	2112	2341	2591	e3756	5214	6811	8686	7789	6835	5459
29	e2284	2216	2115	2351	---	e3811	5232	6963	8716	7755	6811	5383
30	e2242	2193	2122	2341	---	e3871	5236	6953	8706	7721	6768	5307
31	e2206	---	2131	2347	---	e3899	---	6830	---	7725	6740	---
MAX	3935	2401	2170	2351	2591	3899	5236	6963	8716	8696	7760	6707
MIN	2206	1945	1923	2028	2294	2591	3776	5254	6650	7721	6740	5307
a		7.65	7.46	8.12	8.84		15.53	18.99	22.83	20.85	18.80	15.69
b	-1893	-13	-62	+216	+244	+1308	+1337	+1594	+1876	-981	-985	-1433

CAL YR 2002 MAX 8680 MIN 1923 b -335
WTR YR 2003 MAX 8716 MIN 1923 b +1208

e Estimated.

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

b Change in contents, in acre-feet.

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA

LOCATION.—Lat 38°40'18", long 120°07'19", in NE 1/4 SW 1/4 sec.32, T.10 N., R.17 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank, 1,000 ft downstream from Silver Lake Dam, and 3.5 mi southwest of Kirkwood.

DRAINAGE AREA.—15.2 mi².

PERIOD OF RECORD.—September 1922 to current year. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.—WDR CA-75-4: 1927(M), 1929(M), 1932(M), 1937–38(M), 1940–45(M), 1950–53(M), 1955–58(M), 1963(M), 1965(M), 1967(M), 1969–70(M), 1973(M).

GAGE.—Water-stage recorder. Concrete control since Sept. 8, 1986. Datum of gage is 7,198.0 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.—Low and medium flow regulated by Silver Lake (station 11435900) 1,000 ft upstream. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation and is measured at staff gage (station 11436500) 0.25 mi east of station. For leakage from Silver Lake, refer to monthly figures below. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by El Dorado Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 184.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,170 ft³/s, Jan. 2, 1997, gage height, 7.79 ft, from rating curve extended above 430 ft³/s; no flow many days in February and March 1948, Jan. 13, 14, 1954, and Nov. 3, 1959, to Feb. 5, 1960.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	21	13	13	30	7.1	83	12	362	20	3.0	2.8
2	33	21	13	13	29	7.1	79	12	335	22	3.2	2.8
3	33	20	13	13	29	6.3	62	12	313	9.3	3.2	3.1
4	32	20	13	13	29	5.6	48	12	276	6.7	3.2	4.2
5	32	16	13	13	29	5.8	47	12	220	3.1	3.1	3.8
6	32	13	13	13	19	5.8	47	12	201	3.1	3.2	3.0
7	32	13	13	13	6.9	5.8	47	27	204	2.9	3.2	2.9
8	31	14	13	13	6.9	5.6	27	39	207	2.9	3.2	6.4
9	31	14	13	13	6.9	5.7	10	39	185	3.1	3.2	10
10	31	14	13	13	6.9	5.8	10	39	138	3.1	3.2	10
11	30	14	13	13	6.9	4.3	11	39	125	3.0	3.0	10
12	30	14	13	13	6.9	3.0	11	51	78	2.9	3.0	10
13	30	13	13	13	6.9	2.9	11	60	50	2.7	3.0	9.8
14	30	13	13	13	6.9	3.0	11	72	52	2.9	3.0	9.8
15	29	13	12	13	6.9	3.0	11	93	53	2.9	3.1	9.8
16	29	13	13	13	7.1	3.1	11	170	32	2.9	3.0	9.8
17	29	13	13	13	7.1	3.1	11	227	9.8	2.9	3.2	9.8
18	29	13	13	13	7.1	3.0	11	222	9.7	2.9	3.4	9.8
19	28	13	13	13	7.1	3.1	11	203	26	2.8	2.8	9.8
20	28	13	13	13	7.1	3.1	11	220	58	2.9	2.8	9.8
21	28	13	13	13	7.1	3.1	11	264	48	3.0	2.9	9.8
22	27	13	13	13	7.1	3.0	11	291	36	2.9	3.0	16
23	27	13	12	13	7.1	3.2	12	360	29	2.8	3.3	25
24	27	13	12	13	7.1	3.2	12	398	13	2.7	3.1	25
25	17	14	12	13	7.1	13	12	370	2.9	2.8	3.0	25
26	9.2	13	12	13	7.1	35	12	342	3.6	3.1	3.1	25
27	9.1	13	12	13	7.1	50	12	334	3.3	3.0	3.2	26
28	9.1	13	12	13	7.1	54	12	349	3.4	2.9	3.2	30
29	9.1	13	12	23	---	53	12	375	3.6	3.0	2.7	30
30	15	13	12	30	---	57	12	391	7.5	3.1	2.6	30
31	21	---	13	29	---	71	---	381	---	3.0	2.8	---
TOTAL	810.5	429	394	446	319.4	437.7	688	5428	3084.8	137.3	94.9	389.2
MEAN	26.1	14.3	12.7	14.4	11.4	14.1	22.9	175	103	4.43	3.06	13.0
MAX	33	21	13	30	30	71	83	398	362	22	3.4	30
MIN	9.1	13	12	13	6.9	2.9	10	12	2.9	2.7	2.6	2.8
AC-FT	1610	851	781	885	634	868	1360	10770	6120	272	188	772
a	0	0	0	0	0	0	0	221	573	747	455	182

a Leakage (station 11436500), in acre-feet, from Silver Lake, provided by El Dorado Irrigation District.

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.4	18.3	15.8	14.8	13.4	15.5	44.6	127	87.0	19.2	8.19	36.5
MAX	54.3	110	116	188	93.2	98.2	133	306	353	186	50.5	74.6
(WY)	1953	1951	1951	1997	1963	1986	1943	1969	1983	1983	1987	1983
MIN	0.11	0.15	0.000	0.000	0.093	0.013	0.20	1.37	1.43	0.91	0.44	0.16
(WY)	1930	1929	1960	1960	1948	1948	1924	1977	1977	1959	1925	1923

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1923 - 2003	
ANNUAL TOTAL	10874.5		12658.8			
ANNUAL MEAN	29.8		34.7		35.5	
HIGHEST ANNUAL MEAN					85.4 1983	
LOWEST ANNUAL MEAN					8.76 1976	
HIGHEST DAILY MEAN	246	Apr 15	398	May 24	1940	Jan 2 1997
LOWEST DAILY MEAN	2.5	Jun 16	2.6	Aug 30	0.00	Feb 24 1948
ANNUAL SEVEN-DAY MINIMUM	3.0	Jun 12	2.8	Jul 19	0.00	Feb 28 1948
MAXIMUM PEAK FLOW			400	May 30	2170	Jan 2 1997
MAXIMUM PEAK STAGE			5.00	May 30	7.79	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	21570		25110		25720	
ANNUAL LEAKAGE (AC-FT) a	2100		2180			
10 PERCENT EXCEEDS	88		57		95	
50 PERCENT EXCEEDS	13		13		11	
90 PERCENT EXCEEDS	3.5		3.0		0.80	

a Leakage (station 11436500), in acre-feet, from Silver Lake, provided by El Dorado Irrigation District.

11436950 CAPLES LAKE NEAR KIRKWOOD, CA

LOCATION.—Lat 38°42'27", long 120°02'55", in SW 1/4 SW 1/4 sec.18, T.10 N., R.18 E., [Alpine County](#), Hydrologic Unit 18020129, Eldorado National Forest, on Caples Lake Dam, near the center of the earthfill portion, and 1.3 mi east of Kirkwood.

DRAINAGE AREA.—13.5 mi².

PERIOD OF RECORD.—October 1985 to current year. Unpublished records for water years 1981–85 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder since Oct. 1, 1991. Datum of gage is 7,894.0 ft above NGVD of 1929 (levels by Pacific Gas & Electric Co.). Prior to Oct. 1, 1991, nonrecording gage read periodically except for Oct. 16, 1986, to Sept. 30, 1987, Dec. 18, 1990, to May 26, 1991, and July 30 to Sept. 16, 1991, when there was a water-stage recorder at same site and datum.

REMARKS.—Lake is formed by one earthfill and one concrete dam at spillway; dam was completed and storage began in 1924. Capacity, 21,580 acre-ft, between gage heights 6.0 and 62.0 ft, top of 3 ft of flashboards; capacity, 19,751 acre-ft, at spillway level. Released water is measured at Caples Creek Release ([station 11436999](#)). When gage height is above spillway crest of 59.0 ft, there is leakage or spill which is not measured. Released water is used for power development on South Fork American River. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by El Dorado Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 184. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 22,505 acre-ft, June 28, 29, 2003, gage height, 62.27 ft; minimum, 2,427 acre-ft, Mar. 30, 31, 1987, gage height, 20.7 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 22,505 acre-ft, June 28, 29, gage height, 62.27 ft; minimum, 13,444 acre-ft, Mar. 11, gage height, 46.39 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by El Dorado Irrigation District, dated Sept. 30, 1999)

15.0	1,347	30.0	6,086	45.0	12,743	60.0	21,103
20.0	2,665	35.0	8,129	50.0	15,331	63.0	22,338
25.0	4,254	40.0	10,349	55.0	18,122		

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18951	e16981	e14925	13822	13653	13515	14136	15535	20167	22326	22307	20427
2	18869	e16925	e14845	13806	13648	13515	14214	15562	20089	22313	22282	20348
3	18822	e16869	e14755	13776	13642	13505	14240	15611	20029	22369	22276	20318
4	18781	e16813	e14681	13776	13637	13494	14302	15654	20113	22357	22238	20264
5	18746	e16762	e14591	13755	13627	13479	14318	15670	20185	22357	22182	20203
6	18693	e16707	e14549	13755	13617	13474	14339	15687	20227	22357	22164	20155
7	18646	e16651	14518	13735	13607	13474	14371	15725	20270	22344	22101	20077
8	18599	e16601	14313	13724	13596	13454	14418	15811	20372	22313	22052	20011
9	18523	e16550	14229	13724	13591	13454	14476	15833	20524	22294	22008	19956
10	18488	e16506	14157	13724	13581	13449	14523	15860	20651	22282	21965	19884
11	18424	e16467	14074	13709	13576	13444	14570	15898	20804	22294	21884	19831
12	18354	e16412	13997	13694	13561	13464	14750	15970	20950	22301	21835	19777
13	18284	e16362	13976	13678	13581	13474	14914	16118	21091	22294	21798	19711
14	18215	e16301	13981	13663	13576	13510	14973	16301	21213	22276	21754	19645
15	18174	e16212	13945	13648	13586	13566	15000	16506	21348	22326	21699	19609
16	18105	e16146	14043	13637	13596	13586	15042	16729	21551	22301	21637	19520
17	18064	e16063	14023	13627	13596	13586	15090	16970	21841	22301	21612	19472
18	17989	e15981	13971	13617	13591	13591	15106	17229	22182	22357	21551	19395
19	17908	e15915	13981	13612	13596	13607	15122	17472	22319	22301	21520	19353
20	17879	e15822	13971	13596	13586	13612	15154	17799	22319	22294	21465	19300
21	17804	e15752	13945	13591	13566	13612	15219	18203	22313	22319	21336	19235
22	17730	e15660	13909	13617	13556	13637	15235	18664	22257	22319	21256	19193
23	17689	e15595	13878	13622	13550	13668	15240	19022	22207	22326	21170	19152
24	17626	e15503	13858	13622	13566	13694	15299	19282	22126	22313	21085	19140
25	17552	e15439	13832	13622	13550	13709	15379	19365	22157	22332	21005	19087
26	17444	e15347	13822	13627	13545	13817	15406	19330	22257	22326	20919	19069
27	17370	e15267	13801	13632	13535	13847	15428	19526	22394	22381	20840	19022
28	17268	e15181	13832	13632	13530	13883	15476	19837	22505	22375	20755	18975
29	17189	e15106	13827	13632	---	13914	15498	20173	22505	22406	20682	18928
30	17093	e15010	13842	13627	---	13971	15514	20348	22425	22357	20584	18863
31	16998	---	13837	13632	---	14028	---	20251	---	22301	20512	---
MAX	18951	16981	14925	13822	13653	14028	15514	20348	22505	22406	22307	20427
MIN	16998	15010	13801	13591	13530	13444	14136	15535	20029	22276	20512	18863
a	53.03	49.40	47.16	46.76	46.56	47.53	50.34	58.60	62.14	61.94	59.03	56.27
b	-1995	-1988	-1173	-205	-102	+498	+1486	+4737	+2174	-124	-1789	-1649

CAL YR 2002 MAX 22493 MIN 13801 b -1936
WTR YR 2003 MAX 22505 MIN 13444 b -130

e Estimated.

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

b Change in contents, in acre-feet.

11436999 CAPLES CREEK RELEASE BELOW CAPLES DAM, NEAR KIRKWOOD, CA

LOCATION.—Lat 38°42'31", long 120°03'02", in NW 1/4 SW 1/4 sec.18, T.10 N., R.18 E., [Alpine County](#), Hydrologic Unit 18020129, Eldorado National Forest, on right bank, 500 ft downstream from main dam and outlet gate of Caples Lake, and 1.3 mi east of Kirkwood.

DRAINAGE AREA.—13.5 mi².

PERIOD OF RECORD.—October 1992 to current year. Unpublished records for water years 1971 and 1978–92 available in files of the U.S. Geological Survey. Records of release flows plus spillway flows for September 1922 to September 1992 were published as "Caples Lake Outlet near Kirkwood" (station 11437000).

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 7,730 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow regulated by Caples Lake (station 11436950) 500 ft upstream. Flow over Caples Lake Spillway bypasses this gage. No diversion upstream from station. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by El Dorado Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 184.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 368 ft³/s, May 31, 2003, gage height, 3.42 ft; minimum daily, 5.5 ft³/s, Sept. 10, 1996.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	40	39	14	9.0	9.4	5.8	5.7	361	93	21	35
2	20	40	39	11	9.0	9.4	5.8	5.7	358	64	21	35
3	20	40	39	8.8	8.9	9.1	5.8	5.8	355	45	21	30
4	20	40	39	8.8	8.8	8.8	5.8	5.8	300	44	21	24
5	20	40	39	8.7	8.8	8.7	5.8	5.8	255	44	21	24
6	20	40	39	8.7	8.8	8.5	5.8	5.8	255	44	21	24
7	20	41	39	8.7	8.8	8.6	5.8	5.7	255	44	21	24
8	20	40	39	8.8	8.8	8.7	5.8	5.7	255	44	21	24
9	20	40	39	8.8	8.8	8.8	5.8	5.7	210	35	21	24
10	23	40	39	8.8	8.8	8.8	5.8	5.7	170	27	21	24
11	25	40	39	8.8	8.8	7.7	5.8	5.7	133	27	20	24
12	25	40	39	8.7	8.8	7.0	5.8	5.7	102	25	21	24
13	25	40	39	8.8	8.9	7.0	5.8	5.7	102	23	21	24
14	25	40	39	8.8	9.0	6.9	5.8	5.7	102	22	21	24
15	25	40	39	8.8	9.0	6.7	5.8	5.7	102	16	21	24
16	24	40	39	8.8	9.1	6.6	5.8	5.7	74	9.8	21	24
17	24	40	39	8.6	9.2	6.4	5.8	5.7	25	14	21	24
18	24	41	29	8.6	9.3	6.4	5.8	5.7	12	20	21	24
19	24	41	22	8.6	9.3	6.4	5.8	5.7	51	20	25	24
20	24	40	22	8.6	9.4	6.4	5.8	5.7	98	25	31	24
21	24	40	22	8.6	9.4	6.3	5.8	5.7	102	30	31	24
22	24	40	22	8.6	9.4	6.3	5.8	20	102	21	34	19
23	24	40	19	8.6	9.4	6.4	5.8	82	102	10	36	12
24	33	40	15	8.6	9.4	6.2	5.8	153	97	10	36	11
25	41	40	14	8.6	9.4	6.1	5.8	206	67	12	36	8.8
26	41	40	15	8.6	9.4	6.5	5.8	264	30	15	36	15
27	41	40	15	8.6	9.4	6.2	5.8	261	13	15	36	18
28	41	40	14	8.6	9.4	5.9	5.8	263	10	15	35	18
29	41	39	14	8.8	---	5.9	5.8	263	58	16	35	18
30	41	39	14	8.9	---	5.9	5.7	303	100	18	35	18
31	41	---	14	9.0	---	5.9	---	362	---	21	35	---
TOTAL	838	1201	914	277.7	254.5	223.9	173.9	2297.1	4256	868.8	818	669.8
MEAN	27.0	40.0	29.5	8.96	9.09	7.22	5.80	74.1	142	28.0	26.4	22.3
MAX	41	41	39	14	9.4	9.4	5.8	362	361	93	36	35
MIN	18	39	14	8.6	8.8	5.9	5.7	5.7	10	9.8	20	8.8
AC-FT	1660	2380	1810	551	505	444	345	4560	8440	1720	1620	1330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

MEAN	27.0	23.9	19.6	29.2	25.0	18.7	26.4	62.1	105	52.0	25.8	28.7
MAX	54.5	57.3	35.1	116	92.4	40.0	83.5	134	203	183	64.5	55.3
(WY)	1996	2001	2001	1997	1997	1997	1995	1999	1995	1995	1995	1995
MIN	6.72	6.75	6.60	8.70	8.81	7.22	5.80	8.18	5.90	5.99	10.1	15.2
(WY)	1998	1998	1998	2002	2002	2003	2003	2001	2001	2001	1999	2002

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1993 - 2003
ANNUAL TOTAL	11526.4	12792.7	
ANNUAL MEAN	31.6	35.0	37.0
HIGHEST ANNUAL MEAN			63.1
LOWEST ANNUAL MEAN			19.8
HIGHEST DAILY MEAN	262	Jun 2	362
LOWEST DAILY MEAN	7.5	Jun 13	5.7
ANNUAL SEVEN-DAY MINIMUM	8.1	Aug 15	5.7
MAXIMUM PEAK FLOW			368
MAXIMUM PEAK STAGE			3.42
ANNUAL RUNOFF (AC-FT)	22860	25370	26790
10 PERCENT EXCEEDS	53	47	82
50 PERCENT EXCEEDS	19	20	20
90 PERCENT EXCEEDS	8.7	5.8	7.9

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA

LOCATION.—Lat 38°45'49", long 120°19'39", in SW 1/4 SW 1/4 sec.29, T.11 N., R.15 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank, 0.8 mi downstream from Silver Fork American River, and 1.9 mi southwest of Kyburz.

DRAINAGE AREA.—193 mi².

PERIOD OF RECORD.—August to December 1907, October 1922 to current year. Prior to October 1956, records for river and El Dorado Canal published separately; combined flow only, October 1956 to September 1960.

CHEMICAL DATA: Water years 1979, 1980.

BIOLOGICAL DATA: Water years 1979, 1980.

WATER TEMPERATURE: Water years 1966–79.

SUSPENDED SEDIMENT: Water year 1980.

REVISED RECORDS.—WSP 1445: 1923(M), 1925(M), 1927(M), 1928 (river only), 1935–37(M). WSP 1515: 1928 (combined). WSP 1931: Drainage area.

GAGE.—Water-stage recorder on river; water-stage recorder for canal diversion (station 11439000). Elevation of gage is 3,840 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 1962, at datum 1.00 ft higher.

REMARKS.—Low and medium flows regulated by Echo Lake, Silver Lake, Caples Lake (stations 10336608, 11435900, and 11436950, respectively), and Lake Aloha (station 11434900), total capacity, 37,100 acre-ft. Some water is diverted out of river 0.6 mi upstream at diversion dam to El Dorado Canal (station 11439000). Part of this water is used for irrigation and domestic use and the remainder is returned to river at El Dorado Powerplant. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by El Dorado Irrigation District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 184.

EXTREMES FOR PERIOD OF RECORD.—River only: Maximum discharge, 25,000 ft³/s, Jan. 2, 1997, gage height, 14.26 ft (from floodmarks), from rating curve extended above 6,300 ft³/s, on basis of contracted-opening measurement at gage height 10.40 ft; minimum daily, 0.13 ft³/s, Nov. 26, 1977.

Combined flow: Maximum discharge, 25,000 ft³/s, Jan. 2, 1997; minimum daily, 10 ft³/s, Oct. 17, 19, 1929.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	58	86	108	337	137	686	439	2290	356	92	66
2	51	57	86	112	299	131	559	472	2240	323	99	66
3	49	57	84	118	250	136	460	589	2240	265	92	69
4	52	63	85	120	226	131	393	692	2210	253	79	66
5	49	69	84	122	206	128	362	597	1950	230	72	60
6	48	64	85	123	198	129	343	624	1840	221	70	56
7	59	71	84	120	161	129	335	629	1800	212	69	54
8	65	645	81	123	153	129	421	644	1750	203	67	54
9	65	561	83	124	152	135	482	566	1650	180	64	59
10	65	180	83	137	148	140	541	533	1420	153	62	61
11	61	135	83	139	145	148	582	622	1270	147	61	59
12	51	129	82	129	139	169	667	837	1070	142	61	59
13	51	154	93	130	175	227	576	1160	948	132	63	57
14	51	141	286	134	211	309	498	1340	896	126	64	56
15	51	119	180	123	188	497	432	1430	863	113	63	55
16	51	111	182	123	198	345	399	1500	834	95	62	55
17	50	104	149	129	177	264	394	1530	750	81	61	55
18	50	99	144	154	162	223	385	1530	682	67	60	58
19	50	96	117	154	165	210	391	1520	635	67	59	60
20	50	105	112	147	155	222	449	1660	701	64	63	59
21	51	123	112	146	153	243	467	1890	666	82	69	59
22	51	122	103	153	154	267	411	2140	597	87	78	57
23	51	115	98	316	153	394	396	2350	561	82	75	63
24	51	108	93	425	155	418	529	2440	499	74	73	61
25	60	100	89	292	153	381	529	2340	451	69	70	59
26	49	92	90	286	146	846	481	2240	402	68	73	55
27	48	91	103	302	147	757	485	2480	365	69	72	56
28	48	88	140	381	139	527	501	2660	317	78	69	56
29	48	87	126	283	---	458	467	2700	346	67	67	56
30	48	87	114	263	---	522	432	2610	377	63	66	54
31	57	---	111	281	---	648	---	2410	---	66	66	---
TOTAL	1631	4031	3448	5697	5045	9400	14053	45174	32620	4235	2161	1760
MEAN	52.6	134	111	184	180	303	468	1457	1087	137	69.7	58.7
MAX	65	645	286	425	337	846	686	2700	2290	356	99	69
MIN	48	57	81	108	139	128	335	439	317	63	59	54
AC-FT	3240	8000	6840	11300	10010	18640	27870	89600	64700	8400	4290	3490

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.2	79.2	129	156	176	278	639	1203	841	182	28.0	26.4
MAX	223	1283	1587	1964	1333	1252	1497	2765	3551	1628	343	417
(WY)	1984	1951	1951	1997	1986	1986	1982	1969	1983	1995	1983	1983
MIN	0.77	0.49	0.69	0.57	0.76	2.42	38.9	56.8	0.76	0.62	0.58	0.54
(WY)	1929	1929	1931	1929	1931	1933	1977	1977	1924	1924	1926	1924

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1923 - 2003	
ANNUAL TOTAL	112408		129255			
ANNUAL MEAN	308		354		315	
HIGHEST ANNUAL MEAN					907	
LOWEST ANNUAL MEAN					19.4	
HIGHEST DAILY MEAN	1520	Apr 15	2700	May 29	18000	Jan 2 1997
LOWEST DAILY MEAN	45	Sep 22	48	Oct 6	0.13	Nov 26 1977
ANNUAL SEVEN-DAY MINIMUM	45	Sep 22	50	Oct 24	0.36	Nov 5 1928
MAXIMUM PEAK FLOW			3380	May 29	25000	Jan 2 1997
MAXIMUM PEAK STAGE			6.34	May 29	14.26	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	223000		256400		228000	
10 PERCENT EXCEEDS	1000		835		1030	
50 PERCENT EXCEEDS	122		135		54	
90 PERCENT EXCEEDS	51		57		3.0	

11441001 UNION VALLEY RESERVOIR NEAR RIVERTON, CA

LOCATION.—Lat 38°51'53", long 120°26'13", in NW 1/4 NW 1/4 sec.29, T.12 N., R.14 E., [El Dorado County](#), Hydrologic Unit 18020129, Eldorado National Forest, in valve control house, near left bank at Union Valley Dam, on Silver Creek, 0.7 mi upstream from Little Silver Creek, and 6.6 mi north of Riverton.

DRAINAGE AREA.—83.7 mi².

PERIOD OF RECORD.—October 1962 to current year.

CHEMICAL ANALYSES.—June to September 1996.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Sacramento Municipal Utility District).

REMARKS.—Reservoir is formed by earthfill dam completed in December 1962; storage began May 1962. Usable capacity, 270,300 acre-ft, between elevations 4,645.0 ft, minimum operating level, and 4,870.0 ft, top of radial spillway gates. Dead storage, 7,000 acre-ft. Reservoir receives water from the South Fork Rubicon River via Robbs Peak Powerplant (station 11429300) and from South Fork Silver Creek, since April 1985, via Jones Fork Powerplant (station 11440900). Water is used for power development in the South Fork American River Basin. Discharge to Union Valley Powerplant (station 11441002) is shown as a line item below this table. Records, including extremes, represent total contents. See schematic diagrams of [Middle Fork American and Rubicon River Basins](#) and [South Fork American River Basin](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 279,100 acre-ft, July 9, 1974, elevation, 4,870.6 ft; minimum since reservoir first filled, 18,300 acre-ft, Jan. 13, 1977, elevation, 4,683.3 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 258,700 acre-ft, June 24, elevation, 4,867.22 ft; minimum, 130,000 acre-ft, Dec. 1, 2, minimum elevation, 4,811.28 ft., Dec. 1.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Table provided by Sacramento Municipal Utility District, based on May, 2000, survey)

4,680	11,975	4,740	42,705	4,800	111,259	4,840	188,042
4,700	19,134	4,760	60,412	4,820	145,982	4,870	266,912
4,720	29,169	4,780	83,008				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165700	137900	130000	155400	150400	151000	180800	211400	253000	254500	221700	195000
2	164800	137600	130000	154600	151400	152600	182000	212800	253000	254000	220500	194600
3	163900	137300	131100	154300	150700	153600	181700	215500	253100	253800	220300	194400
4	162700	137000	132200	154500	149700	155300	182500	218300	253400	252900	218500	193300
5	162700	136400	132500	154100	148600	156700	183300	220300	253200	252300	216100	193700
6	161300	135700	133500	152800	147700	157400	184000	222200	252700	251700	214700	193800
7	160500	135600	134400	152600	147700	157400	183100	223900	252100	252000	213200	191800
8	159000	136400	134400	151700	146700	157500	182800	225600	251500	252300	211700	191600
9	158000	137000	135200	151700	145800	156700	182800	225800	250900	251100	210900	190900
10	156600	137000	135700	152000	145200	156600	184800	225500	250500	249800	209800	191400
11	156100	137800	135900	152100	144300	156600	186700	226100	251400	249000	208400	190900
12	155700	138200	136500	152900	144200	157200	188900	227000	251900	247800	207200	191100
13	155300	138500	138300	151600	144900	157600	190600	229100	252300	246000	206300	191100
14	153600	139000	141400	150600	145400	158000	192200	231100	252800	244200	205400	191100
15	152000	139300	142600	150100	145000	160500	193400	233100	252600	243000	204400	191700
16	150400	137900	144000	149200	145300	161800	194300	234400	252500	241600	203100	192800
17	149000	136600	144100	148600	145400	162000	195300	235200	253000	240400	202600	193400
18	147900	135800	144900	148000	144400	162700	196400	237500	253400	240500	202700	193400
19	147000	134500	144500	148400	143200	162400	197400	237500	254700	238600	202100	194400
20	147000	134200	144300	146600	143500	162700	198600	238300	256400	237300	200900	193900
21	146300	133600	145700	146900	144100	163400	200000	239300	256700	235800	200600	193500
22	145300	133200	146300	146700	144600	164400	201000	240700	256900	234200	199500	192500
23	144700	133100	146100	148700	145200	165900	201900	242800	258300	233300	199200	191000
24	143800	132400	147600	149600	144900	167900	203700	245800	258700	231700	199300	191000
25	142800	131500	148400	150200	145800	168800	204700	247000	258400	229000	198800	190000
26	142100	130800	150000	151200	147100	172200	205500	248100	258000	227100	199300	189500
27	141200	130700	151000	150900	148400	174400	206400	250000	256800	226000	198500	188900
28	140400	130800	152800	151100	149700	175800	207700	251200	255700	225300	197400	187900
29	139700	130700	154300	150400	---	176500	208800	252500	254900	224500	196400	187400
30	138800	130300	154900	149800	---	177600	209900	253000	254000	222800	195800	186200
31	138500	---	155100	149400	---	178900	---	252900	---	222300	195000	---
MAX	165700	139300	155100	155400	151400	178900	209900	253000	258700	254500	221700	195000
MIN	138500	130300	130000	146600	143200	151000	180800	211400	250500	222300	195000	186200
a	4816.03	4811.47	4824.67	4821.76	4821.93	4835.97	4849.10	4865.21	4865.57	4853.99	4842.97	4839.18
b	-27300	-8200	+24800	-5700	+300	+29200	+31000	+43000	+1100	-31700	-27300	-8800
c	32730	21620	26540	38950	30760	13460	8080	52650	42330	47040	34990	23820

CAL YR 2002 MAX 260864 MIN 113295 b +42800

WTR YR 2003 MAX 258700 MIN 130000 b +20400

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Diversion, in acre-feet, to Union Valley Powerplant (station 11441002), provided by Sacramento Municipal Utility District.

11441100 ICE HOUSE RESERVOIR NEAR KYBURZ, CA

LOCATION.—Lat 38°49'51", long 120°21'35", in SE 1/4 NW 1/4 sec.1, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in powerplant intake structure, near right bank, 0.5 mi north of Ice House Dam on South Fork Silver Creek, and 5.2 mi northwest of Kyburz.

DRAINAGE AREA.—27.2 mi².

PERIOD OF RECORD.—October 1959 to current year.

CHEMICAL ANALYSES: June to September 1996.

REVISED RECORDS.—WSP 1931: 1960.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Sacramento Municipal Utility District). Prior to July 15, 1985, at site 0.5 mi downstream at Ice House Dam at same datum.

REMARKS.—Reservoir is formed by an earthfill dam; storage began Dec. 15, 1959. Usable capacity, 45,839 acre-ft, between elevations 5,327.5 ft, centerline of fishwater outlet, and 5,450.0 ft, top of spillway gates. Dead storage, 160 acre-ft. Reservoir is used to store water for power development. Reservoir is also forebay for Jones Fork Powerplant (station 11440900), which diverts up to 350 ft³/s to powerplant completed in April 1985, then to Union Valley Reservoir (station 11441001). Records, including extremes, represent total contents. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 46,400 acre-ft, June 27, 1971, elevation, 5,450.6 ft; minimum since reservoir first filled, 1,450 acre-ft, Dec. 8, 1983, elevation, 5,347.9 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 42,200 acre-ft, June 29, elevation, 5,448.11 ft; minimum, 18,300 acre-ft, Mar. 6, elevation, 5,405.37 ft.

Capacity table (elevation, in feet, and contents in acre-feet)
(Table provided by Sacramento Municipal Utility District, based on June, 2000, survey)

5,345	849	5,360	3,145	5,400	15,956	5,440	37,061
5,350	1,451	5,380	8,400	5,420	25,587	5,451	44,074

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33800	29700	28900	23300	22700	19800	22600	27700	37900	42000	38500	36100
2	33800	29500	28500	23300	22700	19500	22800	27700	38200	41800	38500	35800
3	33800	29500	28100	23300	22800	19100	23000	27800	38400	41600	38300	35700
4	33800	28800	27700	23300	22800	18800	23100	28100	38700	41700	38300	35600
5	33700	28800	27400	23200	22800	18400	23300	28200	38900	41500	38200	35600
6	33700	28800	27000	23200	22700	18300	23400	28200	39100	41500	38100	35500
7	33400	28800	26800	22900	22500	18400	23500	28100	39100	41300	38000	35500
8	33200	29200	26700	22800	22500	18400	23600	28100	39200	41100	38000	35500
9	33000	29400	26300	22600	22400	18400	23800	27900	39400	40900	38000	35200
10	33000	29500	25900	22400	22100	18400	24100	27700	39600	40700	37900	34900
11	32700	29400	25500	22200	21800	18500	24400	27600	39800	40500	37900	34600
12	32600	29400	25100	22200	21600	18500	24800	27500	39900	40400	37800	34300
13	32600	29400	24900	22200	21300	18600	25100	27500	40100	40400	37700	34000
14	32600	29100	25000	22200	21400	18800	25300	27700	40200	40300	37700	33500
15	32600	29000	25000	22200	21400	19000	25500	28100	40400	40300	37600	33300
16	32500	29000	25100	22200	21500	19100	25600	28300	40500	40200	37600	33000
17	32500	29000	25200	22200	21500	19200	25700	28500	40700	40200	37400	32700
18	32500	29000	25200	22200	21500	19300	25900	28600	40900	40100	37300	32400
19	32400	29000	25000	22300	21600	19300	26000	28600	41200	40000	37300	32100
20	32400	28900	24700	22200	21400	19400	26200	29700	41300	40000	37300	31800
21	32100	29000	24600	22000	21400	19500	26300	30400	41500	39900	37200	31500
22	32100	29000	24400	21700	21400	19600	26500	31100	41600	39900	37200	31100
23	32100	29100	24100	21600	21400	19800	26600	31900	41700	39800	37000	31100
24	32100	29100	23800	21800	21100	20000	26800	32600	41800	39700	37000	31100
25	31700	29100	23800	22000	20700	20200	27000	33300	41900	39700	36700	31000
26	31600	29100	23500	22100	20400	20700	27100	33900	42000	39600	36500	31000
27	31300	29100	23300	22200	20300	21100	27200	34700	42000	39300	36500	30900
28	31000	29100	23300	22300	20100	21400	27400	35600	42100	39100	36400	30900
29	30800	29100	23200	22400	---	21600	27500	35800	42200	38900	36400	30900
30	30400	29000	23200	22500	---	21900	27600	37100	42100	38900	36300	30800
31	30100	---	23300	22500	---	22200	---	37600	---	38700	36300	---
MAX	33800	29700	28900	23300	22800	22200	27600	37600	42200	42000	38500	36100
MIN	30100	28800	23200	21600	20100	18300	22600	27500	37900	38700	36300	30800
a	5828.24	5426.33	5415.55	5414.00	5409.15	5413.48	5423.77	5440.89	5448.01	5442.60	5438.69	5429.49
b	-3900	-1100	-5700	-800	-2400	+2100	+5400	+10000	+4500	-3400	-2400	-5500
CAL YR 2002	MAX 42368	MIN 16826	-1200									
WTR YR 2003	MAX 42200	MIN 18300	-3200									

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

11441500 SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CA

LOCATION.—Lat 38°49'08", long 120°21'51", in NW 1/4 NW 1/4 sec.12, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank, 300 ft upstream from Peavine Creek, 0.4 mi downstream from Ice House Dam, and 4.8 mi northwest of Kyburz.

DRAINAGE AREA.—27.5 mi².

PERIOD OF RECORD.—October 1924 to current year.

REVISED RECORDS.—WSP 1395: 1928, 1938. WSP 1635: Drainage area at former site.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 5,290 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 1959, at site 0.3 mi upstream at different datum.

REMARKS.—Flow regulated by Ice House Reservoir (station 11441100) beginning in December 1959. Diversion to Jones Fork Powerplant (station 11440900) starting April 1985 bypasses station and returns to Silver Creek at Union Valley Reservoir (station 11441001). See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge prior to construction of Ice House Dam in 1959, 3,940 ft³/s, Dec. 23, 1955, gage height, 6.71 ft, site and datum then in use, from rating curve extended above 540 ft³/s, on basis of slope-area measurement at gage height 6.69 ft; no flow Oct. 31 to Nov. 9, 1958. Maximum discharge since construction of the dam, 7,530 ft³/s, May 16, 1996, gage height, 7.64 ft, from rating curve extended above 730 ft³/s, on basis of computation of flow over dam at gage height 5.66 ft; minimum daily, 1.2 ft³/s, Mar. 17–19, 1960.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	14	5.6	5.9	6.3	5.9	4.5	10	11	10	19	20
2	14	12	5.6	5.9	6.2	5.7	4.4	9.4	11	14	19	20
3	14	11	5.6	5.9	6.1	5.6	4.4	10	11	18	19	25
4	14	11	5.3	6.1	5.9	5.6	4.4	11	11	18	19	20
5	14	11	5.4	5.9	5.9	5.7	4.6	9.7	11	19	19	20
6	14	11	5.6	5.9	5.9	5.8	4.9	10	11	18	19	20
7	14	11	5.6	5.9	5.9	6.0	5.4	11	12	18	19	20
8	14	15	5.6	5.9	5.9	5.9	5.4	11	11	18	19	20
9	14	12	5.6	6.0	5.9	5.6	5.0	10	11	18	19	20
10	14	13	5.7	6.4	5.9	5.6	4.6	10	11	18	19	20
11	14	12	5.4	6.5	5.9	5.7	4.4	10	11	18	19	20
12	14	12	5.1	6.2	5.9	5.8	4.9	10	11	18	19	20
13	14	12	5.9	6.2	6.7	5.9	5.7	10	11	18	19	20
14	14	11	6.1	5.9	6.2	5.9	5.4	9.9	11	18	19	20
15	14	11	5.6	5.9	6.2	6.9	5.2	10	11	18	19	20
16	14	13	6.1	5.9	6.3	6.1	4.9	10	11	18	19	20
17	14	13	5.8	5.9	6.1	4.6	5.2	10	11	19	20	21
18	14	13	5.6	5.9	5.9	3.5	5.6	9.7	12	19	19	21
19	14	9.3	5.6	5.9	5.9	3.5	5.9	9.7	11	19	19	21
20	14	4.9	5.6	5.9	6.0	3.5	5.5	9.6	11	19	19	20
21	14	4.9	5.6	6.1	6.1	3.5	5.4	9.4	11	20	20	20
22	15	4.9	5.6	6.4	6.2	3.5	5.1	9.3	11	20	19	20
23	15	4.9	5.6	7.2	6.0	4.4	5.0	9.4	11	20	19	20
24	15	4.9	5.6	6.5	6.2	3.5	5.7	9.4	11	20	19	20
25	15	5.2	5.3	6.3	6.3	3.5	5.5	9.4	10	20	19	20
26	15	5.6	5.6	6.2	6.3	4.4	5.5	9.3	10	20	19	20
27	15	5.7	5.9	6.4	6.1	3.5	5.9	9.0	10	20	19	20
28	15	5.6	6.1	6.3	5.9	3.5	6.2	15	10	20	19	20
29	15	5.6	6.1	6.2	---	3.5	6.3	28	10	19	19	20
30	15	5.6	5.9	6.3	---	3.6	7.3	9.9	10	19	19	20
31	15	---	6.0	6.5	---	3.7	---	11	---	20	20	---
TOTAL	447	285.1	175.7	190.4	170.1	149.4	158.2	330.1	326	571	592	608
MEAN	14.4	9.50	5.67	6.14	6.08	4.82	5.27	10.6	10.9	18.4	19.1	20.3
MAX	17	15	6.1	7.2	6.7	6.9	7.3	28	12	20	20	25
MIN	14	4.9	5.1	5.9	5.9	3.5	4.4	9.0	10	10	19	20
AC-FT	887	565	349	378	337	296	314	655	647	1130	1170	1210
a	3010	2400	8340	3500	4890	3030	725	8360	6180	3720	1410	4480

a Diversion, in acre-feet, to Jones Fork Powerplant (station 11440900), provided by Sacramento Municipal Utility District.

SACRAMENTO RIVER BASIN

11441500 SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1959, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.98	24.1	36.6	31.3	35.8	61.6	155	296	197	42.7	5.82	2.03
MAX	28.0	326	305	163	91.7	191	280	531	418	132	22.8	7.62
(WY)	1948	1951	1951	1956	1925	1928	1943	1952	1952	1952	1952	1952
MIN	.65	.64	2.34	3.00	3.00	6.92	54.9	66.2	35.0	2.92	.22	.18
(WY)	1933	1930	1933	1933	1933	1933	1944	1934	1931	1934	1931	1931

SUMMARY STATISTICS

WATER YEARS 1925 - 1959

ANNUAL MEAN	74.5
HIGHEST ANNUAL MEAN	123 1956
LOWEST ANNUAL MEAN	25.3 1931
HIGHEST DAILY MEAN	2780 Dec 23 1955
LOWEST DAILY MEAN	.00 Oct 31 1958
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 31 1958
MAXIMUM PEAK FLOW	3940 Dec 23 1955
MAXIMUM PEAK STAGE	6.71 Dec 23 1955
ANNUAL RUNOFF (AC-FT)	53970
10 PERCENT EXCEEDS	237
50 PERCENT EXCEEDS	20
90 PERCENT EXCEEDS	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1984, BY WATER YEAR (WY)

MEAN	112	87.6	49.4	57.1	71.2	43.6	56.0	125	157	78.1	80.9	90.1
MAX	330	332	171	216	316	199	348	449	382	363	378	360
(WY)	1970	1966	1980	1982	1971	1969	1983	1982	1983	1983	1983	1983
MIN	5.64	5.05	5.21	4.76	5.48	3.67	2.94	4.17	3.80	4.02	3.79	3.97
(WY)	1965	1963	1963	1967	1973	1984	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

WATER YEARS 1961 - 1984

ANNUAL MEAN	84.0
HIGHEST ANNUAL MEAN	226 1983
LOWEST ANNUAL MEAN	24.8 1977
HIGHEST DAILY MEAN	1560 Jan 22 1970
LOWEST DAILY MEAN	1.3 Jan 26 1984
ANNUAL SEVEN-DAY MINIMUM	1.4 Jan 24 1984
MAXIMUM PEAK FLOW	1930 May 26 1982
MAXIMUM PEAK STAGE	5.74 May 26 1982
ANNUAL RUNOFF (AC-FT)	60830
10 PERCENT EXCEEDS	256
50 PERCENT EXCEEDS	12
90 PERCENT EXCEEDS	5.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

MEAN	10.5	7.74	5.57	15.2	5.61	8.48	5.26	12.9	21.7	15.5	12.6	12.7
MAX	14.4	11.2	7.26	184	7.11	55.0	6.13	87.9	168	61.9	19.1	20.3
(WY)	2003	1997	2002	1997	2002	1986	1990	1996	1995	1995	2003	2003
MIN	5.32	5.65	4.78	3.65	3.97	4.13	4.01	5.49	5.54	5.46	5.21	5.29
(WY)	1989	1993	1990	1987	1987	1987	1986	1988	1988	1987	1992	1992

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1986 - 2003

ANNUAL TOTAL	4072.5	4003.0	
ANNUAL MEAN	11.2	11.0	11.2
HIGHEST ANNUAL MEAN			26.2 1995
LOWEST ANNUAL MEAN			5.68 1988
HIGHEST DAILY MEAN	20 Sep 3	28 May 29	2840 Jan 2 1997
LOWEST DAILY MEAN	3.7 Apr 12	3.5 Mar 18	2.8 Jan 3 1986
ANNUAL SEVEN-DAY MINIMUM	3.8 Apr 10	3.6 Mar 18	3.0 Apr 11 1989
MAXIMUM PEAK FLOW		343 Sep 3	7530 May 16 1996
MAXIMUM PEAK STAGE		4.19 Sep 3	7.64 May 16 1996
ANNUAL RUNOFF (AC-FT)	8080	7940	8100
ANNUAL DIVERSION (AC-FT) a	39880	50040	
10 PERCENT EXCEEDS	19	20	16
50 PERCENT EXCEEDS	11	10	6.2
90 PERCENT EXCEEDS	5.6	5.2	4.6

a Diversion, in acre-feet, to Jones Fork Powerplant (station 11440900), provided by Sacramento Municipal Utility District.

11441760 JUNCTION RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.—Lat 38°51'07", long 120°27'22", in SW 1/4 SW 1/4 sec.30, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, in outlet structure to Jaybird Powerplant, 100 ft upstream from left abutment of Junction Diversion Dam, 0.3 mi downstream from South Fork Silver Creek, and 9.0 mi northeast of Pollock Pines.

DRAINAGE AREA.—147 mi².

PERIOD OF RECORD.—October 1991 to current year. Unpublished records for water years 1980–91 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Sacramento Municipal Utility District). Prior to Apr. 13, 1987, nonrecording gage at same site and datum.

REMARKS.—Reservoir is formed by concrete arch dam completed in 1962. Storage began in 1962. Usable capacity, 2,216 acre-ft, between elevations, 4,397 ft, maximum drawdown level, and 4,450 ft, crest of spillway. Dead storage, 392 acre-ft. Most of the flow is diverted at this reservoir to Jaybird Powerplant (station 11441780). Several days missing due to equipment malfunction. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 3,737 acre-ft, Jan. 2, 1997, elevation, 4,459.10 ft; minimum, 462 acre-ft, May 3–7, 2001, minimum elevation, 4,394.70 ft, May 3, 2001.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 2,570 acre-ft, Nov. 10, elevation, 4,449.45 ft; minimum, 991 acre-ft, Oct. 20, elevation, 4,415.77 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, surveyed May 2000)

4,390	380	4,410	816	4,440	2,020	4,460	3,305
4,400	568	4,420	1,134				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2140	2230	2230	1760	1860	2410	1650	1750	2020	2150	1790	1990
2	2060	2220	2310	1830	1790	2100	1550	1560	2010	2220	2030	1840
3	2100	2180	1880	1890	1890	2150	2250	1580	2140	2200	1950	2300
4	2050	1640	1500	2100	2110	1720	2280	2050	1930	2240	2020	2200
5	1930	1760	1990	2100	2150	1840	1870	1760	1910	2060	2010	1940
6	2320	2200	2090	2210	2150	2080	1690	1660	1880	2040	2020	1310
7	1920	2140	1980	2100	2170	2170	2120	1840	1870	2090	2070	2120
8	2330	2150	2110	2250	1960	1840	2080	1880	1840	1750	2130	2160
9	2250	2190	1930	2170	1940	2060	2050	2040	1810	1560	2080	2260
10	2090	2570	2030	1790	2180	1850	1870	2200	1770	1530	1850	2210
11	2260	2320	2170	2030	2330	1910	1960	2240	1140	1710	2040	2230
12	2280	1990	1970	1530	2090	1770	1620	2170	1340	1760	2140	2290
13	2220	1740	1410	2070	2120	2010	1800	2170	1390	1820	1920	2200
14	2140	1480	1430	2200	1770	2200	1730	2080	1290	1950	1910	1970
15	2030	1210	1350	2010	1720	2130	1930	1920	1400	2020	2000	2020
16	2100	1630	1380	1830	1890	1770	2060	2080	1360	1720	2070	1980
17	2080	2050	1590	1830	2080	2120	2080	2120	1150	1840	2210	1880
18	2340	2170	1570	2250	2020	1860	2170	1790	1710	1690	2010	2010
19	2180	2260	1840	1550	2340	2100	2260	1780	1920	1540	1900	1910
20	991	2090	2230	1930	2290	2070	2220	1850	1990	1670	2050	2030
21	1010	2070	2050	2060	2220	1560	2110	1810	2280	1770	1920	2050
22	1300	2090	2140	2100	2060	1660	1960	1500	2260	1610	1910	1960
23	1350	2090	2030	1850	2050	2030	1910	2190	1980	1450	1990	2090
24	1280	2250	1860	1920	1730	1860	1700	1500	2050	1420	1880	1830
25	1600	2320	2190	2010	1740	2160	1570	1920	1930	1660	2110	1900
26	1880	2270	1860	1960	2170	2080	1670	2190	1870	1340	2210	1510
27	2030	2010	2030	2030	2200	1890	1790	1930	1960	1620	1940	1860
28	2270	1760	2050	1950	2310	1860	1760	1780	2070	1600	2100	1980
29	2280	1790	1990	2090	---	2040	1610	1880	2280	1350	2140	1940
30	2280	2080	2170	2120	---	2130	1850	1910	2280	1570	1940	2220
31	2220	---	2010	2090	---	1970	---	1970	---	2080	2010	---
MAX	2340	2570	2310	2250	2340	2410	2280	2240	2280	2240	2210	2300
MIN	991	1210	1350	1530	1720	1560	1550	1500	1140	1340	1790	1310
a	4443.53	4441.07	4439.81	4441.25	4445.10	4439.13	4436.68	4439.08	4444.61	4441.17	4439.76	4443.53
b	-130	-140	-70	+80	+220	-340	-120	+120	+310	-200	-70	+210
CAL YR 2002	MAX 2570	MIN 991	b	+280								
WTR YR 2003	MAX 2570	MIN 991	b	-130								

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11441800 SILVER CREEK BELOW JUNCTION DAM, NEAR POLLOCK PINES, CA

LOCATION.—Lat 38°51'08", long 120°27'22", in SW 1/4 SW 1/4 sec.30, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, at outlet structure, on Junction Dam, and 9 mi northeast of Pollock Pines.

DRAINAGE AREA.—147 mi².

PERIOD OF RECORD.—October 1987 to current year (low-flow records only). Unpublished records for water years 1965–87 available in files of the U.S. Geological Survey.

GAGE.—Differential-pressure gage and orifice control in outlet pipe. Auxiliary nonrecording gage 550 ft downstream at different datum. Elevation of gage is 4,280 ft above NGVD of 1929, from topographic map. August 1964 to December 1986, nonrecording gage at site 500 ft downstream at different datum. December 1986 to September 1987, nonrecording gage at site 550 ft downstream.

REMARKS.—Records not computed above 30 ft³/s. Flow completely regulated by Junction Dam. Flow over the spillway bypasses this station. Diversion through Jaybird Powerplant (station 11441780) since 1962 bypasses this station. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	18	10	11	10	11	14	21	21	22	22	22
2	23	10	10	10	10	11	14	21	21	22	22	22
3	23	10	10	10	10	11	14	21	21	22	22	22
4	23	10	10	11	10	11	14	21	21	22	22	22
5	23	10	10	11	10	10	14	21	21	22	22	22
6	24	10	10	11	10	10	14	21	21	22	22	22
7	23	10	10	11	10	10	14	21	21	22	22	22
8	23	10	10	11	10	10	12	21	21	22	22	22
9	24	10	10	11	10	10	11	21	21	22	22	22
10	23	10	10	11	10	10	11	21	21	22	22	22
11	23	10	10	10	10	10	11	21	21	22	22	22
12	23	10	10	11	10	10	11	21	21	22	22	22
13	23	10	10	10	10	10	11	21	22	26	22	22
14	23	10	10	10	10	10	11	21	22	---	22	22
15	23	10	10	10	10	10	11	21	22	27	22	22
16	23	10	10	10	10	10	11	21	22	---	22	e22
17	23	10	10	10	10	10	11	21	22	21	22	e22
18	23	10	e10	10	10	12	10	21	22	e21	22	22
19	23	10	e26	10	10	14	8.9	21	22	e21	22	22
20	28	10	12	10	10	14	8.8	21	22	22	22	22
21	---	10	10	10	10	14	8.9	21	22	22	22	22
22	---	10	e10	10	10	14	8.9	21	22	22	22	22
23	---	10	e11	10	10	14	8.9	21	22	22	22	22
24	30	10	11	10	10	14	8.9	21	22	22	22	22
25	27	10	11	10	11	14	8.8	21	22	22	22	22
26	27	10	11	10	11	14	8.8	21	22	22	22	22
27	27	10	11	10	11	14	8.9	21	22	22	22	22
28	27	10	11	10	11	14	8.8	21	22	22	22	22
29	27	10	11	10	---	14	8.9	21	22	22	22	22
30	27	10	11	10	---	14	16	21	22	22	22	22
31	27	---	11	10	---	14	---	21	---	22	22	---
TOTAL	---	308	337	319	284	368	332.5	651	648	---	682	660
MEAN	---	10.3	10.9	10.3	10.1	11.9	11.1	21.0	21.6	---	22.0	22.0
MAX	---	18	26	11	11	14	16	21	22	---	22	22
MIN	---	10	10	10	10	10	8.8	21	21	---	22	22
AC-FT	---	611	668	633	563	730	660	1290	1290	---	1350	1310
a	32860	23250	28710	42910	33910	18190	16250	62870	44030	47860	35490	23840

CAL YR 2002 a 337800

WTR YR 2003 a 410200

e Estimated.

a Diversion, in acre-feet, to Jaybird Powerplant (station 11441780), provided by Sacramento Municipal Utility District.

11441890 CAMINO RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.—Lat 38°49'44", long 120°32'09", in NW 1/4 NW 1/4 sec.4, T.11 N., R.13 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in outlet tower to Camino Powerplant, 100 ft upstream from right abutment of Camino Diversion Dam, 0.3 mi upstream from Round Tent Canyon, and 5.3 mi northwest of Pollock Pines.

DRAINAGE AREA.—160 mi².

PERIOD OF RECORD.—October 1991 to current year. Unpublished records for water years 1980–91 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Sacramento Municipal Utility District). Prior to Apr. 8, 1987, nonrecording gage at same site and datum.

REMARKS.—Reservoir is formed by concrete-arch dam completed in 1961. Storage began in 1961. Usable capacity, 775 acre-ft, between elevations, 2,840 ft, centerline of outlet valve, and 2,915 ft, maximum water surface level. Dead storage, 50 acre-ft. Most of the water is diverted at this reservoir to Camino Powerplant (station 11441895). Missing days due to equipment malfunction. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River Basin.

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 819 acre-ft, Jan. 21, 1993, elevation, 2,915.29 ft; no storage on many days in 1999.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 772 acre-ft, Nov. 8, elevation, 2,912.72 ft; minimum, 356 acre-ft, Mar. 9, elevation, 2,883.78 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

2,860	149	2,880	315	2,900	564	2,920	910
2,870	223	2,890	428	2,910	724		

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	644	545	664	649	584	435	676	561	542	550	636	550
2	672	525	719	636	570	368	565	539	563	540	671	495
3	627	561	558	647	624	462	612	565	566	518	571	576
4	604	593	489	534	608	462	587	400	617	582	577	587
5	550	610	495	609	600	386	569	566	580	555	564	588
6	603	587	612	605	591	440	599	598	594	572	562	581
7	508	534	560	517	661	466	604	547	604	514	561	640
8	588	772	589	535	535	416	583	549	615	551	581	572
9	617	639	601	497	722	356	557	637	623	723	568	549
10	613	748	636	638	586	474	645	670	632	571	571	587
11	662	690	600	598	563	469	590	591	549	567	562	573
12	590	574	562	564	669	472	582	652	616	553	584	582
13	541	395	538	668	658	460	546	689	570	585	574	615
14	651	417	534	567	575	461	601	587	560	615	587	562
15	571	534	479	594	585	436	582	632	551	592	554	577
16	575	534	620	592	574	462	528	493	586	567	553	654
17	564	625	587	593	570	462	502	574	501	535	592	514
18	678	558	625	575	590	445	539	590	559	577	474	587
19	568	627	602	571	570	442	519	637	517	543	550	539
20	678	675	596	553	616	498	586	674	581	590	429	694
21	699	677	561	594	565	487	541	669	488	629	691	594
22	636	603	633	595	577	561	499	674	589	597	605	581
23	634	563	616	629	567	584	412	504	581	549	565	594
24	661	543	582	603	559	583	488	559	551	625	716	665
25	640	542	597	564	601	595	496	589	565	583	580	608
26	529	653	501	575	599	572	470	602	610	599	551	558
27	655	577	570	566	528	596	504	567	564	601	538	606
28	572	588	649	567	413	600	489	565	573	576	546	619
29	558	562	603	627	---	696	605	566	541	572	533	581
30	511	583	558	565	---	578	548	620	595	569	563	543
31	601	---	570	583	---	594	---	582	---	397	467	---
MAX	699	772	719	668	722	696	676	689	632	723	716	694
MIN	508	395	479	497	413	356	412	400	488	397	429	495
a	2902.47	2901.24	2900.37	2901.28	2898.48	2902.03	2898.87	2901.19	2902.07	2887.44	2893.04	2898.55
b	-25	-18	-13	+13	-170	+181	-46	+34	+13	-198	+70	+76

CAL YR 2002 MAX 772 MIN 395 b -11

WTR YR 2003 MAX 772 MIN 356 b -83

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA

LOCATION.—Lat 38°49'26", long 120°32'18", on line between secs.4 and 5, T.11 N., R.13 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank, 300 ft downstream from Round Tent Canyon, 0.4 mi downstream from diversion dam, and 5 mi northeast of Pollock Pines.

DRAINAGE AREA.—171 mi².

PERIOD OF RECORD.—October 1960 to current year.

GAGE.—Water-stage recorder. Datum of gage is 2,754.06 ft above NGVD of 1929 (Sacramento Municipal Utility District benchmark).

REMARKS.—Flow is regulated by Ice House Reservoir (station 11441100) since 1959, Union Valley Reservoir (station 11441001) since 1962, and Junction and Camino Reservoirs (stations 11441760 and 11441890). Diversion to Camino Powerplant (station 11441895) since 1961 bypasses this station. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, about 47,700 ft³/s, Jan. 2, 1997, gage height, 15.72 ft, backwater from log jam, from rating curve extended above 4,700 ft³/s, on basis of slope-area measurement at gage height 11.28 ft; minimum daily, 1.0 ft³/s, Nov. 1, 1980.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	20	15	36	16	16	15	e31	21	22	e25	24
2	25	15	15	36	16	e15	15	e35	22	21	e24	23
3	25	15	15	36	15	e16	13	e40	22	22	e24	24
4	24	16	15	37	14	e16	13	e48	23	22	e25	24
5	23	21	15	37	18	e15	13	e68	23	22	e25	24
6	23	15	15	38	16	e15	13	e53	22	22	e24	23
7	23	14	15	38	16	e15	13	e44	22	21	e24	24
8	24	16	15	37	16	e14	13	e38	22	22	e25	23
9	26	13	16	36	16	e15	12	e32	22	22	22	24
10	25	14	15	41	16	e15	12	e30	22	21	25	23
11	25	32	15	45	16	e15	13	e29	22	23	24	24
12	25	31	15	43	16	e15	e38	e29	22	24	24	23
13	24	25	16	37	18	e14	e60	e30	22	22	23	24
14	25	22	21	30	16	e18	e57	e28	24	21	23	24
15	25	22	33	26	16	e30	e38	e26	25	23	23	23
16	25	22	58	23	18	e22	e35	e27	25	e25	23	24
17	24	22	47	21	16	e16	e34	e28	25	e25	23	23
18	25	21	37	21	17	e14	e35	e27	25	e25	23	23
19	25	18	34	20	16	e16	e34	e27	24	e24	24	24
20	25	19	32	19	17	e18	e33	e26	22	e24	24	24
21	26	18	32	20	16	e12	e33	e26	21	e25	24	24
22	25	15	31	21	16	e14	e32	e24	21	e25	24	24
23	26	15	30	28	17	e24	e34	e23	21	e24	23	23
24	26	16	29	29	16	e20	e40	e25	22	e26	24	23
25	25	15	28	27	16	e17	e55	e24	21	e24	23	24
26	25	15	28	24	17	15	e50	e23	23	e25	24	23
27	24	15	31	23	17	14	e46	e25	22	e26	24	23
28	25	15	37	21	17	13	e40	e24	22	e24	23	23
29	25	16	39	19	---	14	e35	22	22	e24	23	23
30	24	16	36	18	---	13	e30	21	22	e25	24	23
31	24	---	39	17	---	13	---	20	---	e25	23	---
TOTAL	764	549	819	904	457	499	904	953	674	726	736	705
MEAN	24.6	18.3	26.4	29.2	16.3	16.1	30.1	30.7	22.5	23.4	23.7	23.5
MAX	26	32	58	45	18	30	60	68	25	26	25	24
MIN	23	13	15	17	14	12	12	20	21	21	22	23
AC-FT	1520	1090	1620	1790	906	990	1790	1890	1340	1440	1460	1400
a	33740	24410	31720	47850	37570	22000	25550	72000	46970	50420	37000	25130

e Estimated.

a Diversion, in acre-feet, to Camino Powerplant (station 11441895), provided by Sacramento Municipal Utility District.

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.3	42.1	67.8	188	120	108	109	175	136	62.4	31.6	25.9
MAX	138	1088	856	4122	1168	1207	956	1505	1019	503	364	188
(WY)	1995	1984	1965	1997	1986	1986	1962	1995	1995	1995	1962	1962
MIN	3.12	3.44	5.39	5.21	5.45	3.56	3.14	3.30	3.29	2.98	3.11	3.18
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1961 - 2003	
ANNUAL TOTAL	7977.7		8690			
ANNUAL MEAN	21.9		23.8		91.1	
HIGHEST ANNUAL MEAN					461 1997	
LOWEST ANNUAL MEAN					4.16 1977	
HIGHEST DAILY MEAN	75	Mar 8	68	May 5	32900	Jan 2 1997
LOWEST DAILY MEAN	7.6	Feb 4	12	Mar 21	1.0	Nov 1 1980
ANNUAL SEVEN-DAY MINIMUM	7.9	Jan 31	13	Apr 4	2.7	Mar 2 1977
MAXIMUM PEAK FLOW			Unknown		47700	Jan 2 1997
MAXIMUM PEAK STAGE			Unknown		15.72	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	15820		17240		65980	
ANNUAL DIVERSION (AC-FT) a	373800		454400			
10 PERCENT EXCEEDS	30		35		110	
50 PERCENT EXCEEDS	21		23		19	
90 PERCENT EXCEEDS	11		15		7.3	

a Diversion, in acre-feet, to Camino Powerplant (station 11441895), provided by Sacramento Municipal Utility District.

11442690 BRUSH CREEK RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.—Lat 38°48'42", long 120°37'14", in NW 1/4 SE 1/4 sec.10, T.11 N., R.12 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in outlet tower to Camino Powerplant, 200 ft upstream from left abutment of Brush Creek Diversion Dam, and 4.0 mi northwest of Pollock Pines.

DRAINAGE AREA.—7.99 mi².

PERIOD OF RECORD.—October 1991 to current year. Unpublished records for water years 1980–91 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Sacramento Municipal Utility District). Prior to Apr. 7, 1987, nonrecording gage at same site and datum.

REMARKS.—Reservoir is formed by concrete-arch dam completed in 1970. Storage began in 1970. Usable capacity, 1,275 acre-ft, between elevations 2,825 ft, invert of tunnel, and 2,915 ft, crest of spillway. Dead storage, 255 acre-ft. Most of the water is diverted at this reservoir to Camino Powerplant (station 11441895). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River Basin.

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 1,546 acre-ft, Jan. 25, 1997, elevation, 2,915.72 ft; minimum, 541 acre-ft, June 29, 1995, elevation, 2,853.64 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,500 acre-ft, May 16, elevation, 2,913.41 ft; minimum, 1,100 acre-ft, Nov. 18, elevation, 2,892.38 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, November, 1999)

2,820	220	2,850	499	2,880	900	2,900	1,239
2,830	300	2,860	619	2,890	1,062	2,915	1,532
2,840	393	2,870	753				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1350	1340	1280	1350	1310	1290	1340	1300	1340	1240	1230	1320
2	1340	1330	1280	1350	1310	1280	1340	1320	1340	1230	1230	1310
3	1340	1330	1330	1350	1300	1260	1340	1340	1330	1230	1230	1310
4	1330	1320	1320	1360	1300	1260	1350	1380	1330	1230	1230	1300
5	1320	1310	1310	1360	1290	1250	1350	1400	1330	1230	1220	1300
6	1320	1300	1300	1360	1280	1240	1350	1420	1330	1230	1220	1290
7	1310	1290	1290	1360	1280	1230	1350	1440	1330	1230	1220	1290
8	1300	1320	1280	1360	1270	1230	1360	1460	1330	1220	1210	1280
9	1300	1410	1270	1360	1280	1220	1370	1380	1320	1220	1210	1280
10	1290	1420	1260	1360	1350	1210	1380	1400	1320	1300	1210	1270
11	1290	1420	1250	1370	1340	1210	1380	1420	1320	1300	1200	1270
12	1280	1410	1240	1370	1240	1200	1400	1440	1320	1290	1200	1260
13	1270	1400	1250	1370	1310	1190	1380	1460	1310	1290	1200	1260
14	1270	1390	1260	1370	1330	1180	1440	1480	1310	1290	1190	1250
15	1260	1190	1270	1370	1330	1190	1470	1490	1310	1290	1190	1250
16	1250	1120	1320	1370	1330	1190	1470	1500	1300	1280	1190	1240
17	1250	1110	1340	1370	1330	1190	1360	1480	1300	1280	1180	1240
18	1240	1100	1350	1360	1330	1180	1370	1490	1300	1280	1180	1230
19	1360	1110	1350	1360	1330	1180	1380	1500	1290	1270	1180	1220
20	1350	1220	1350	1350	1320	1180	1390	1500	1290	1270	1170	1220
21	1350	1320	1350	1340	1320	1180	1400	1220	1290	1270	1170	1310
22	1340	1370	1350	1340	1320	1180	1390	1260	1280	1270	1260	1310
23	1340	1360	1340	1340	1310	1290	1260	1320	1280	1260	1260	1300
24	1340	1350	1340	1340	1310	1300	1290	1330	1270	1260	1350	1290
25	1330	1330	1330	1340	1300	1310	1330	1330	1270	1260	1360	1320
26	1320	1320	1320	1340	1300	1320	1390	1330	1260	1250	1350	1310
27	1260	1310	1320	1340	1300	1330	1420	1330	1260	1250	1350	1300
28	1300	1300	1320	1330	1290	1330	1210	1340	1250	1250	1340	1300
29	1370	1290	1330	1330	---	1340	1250	1340	1250	1240	1330	1290
30	1360	1290	1330	1330	---	1340	1280	1340	1240	1240	1330	1290
31	1350	---	1350	1320	---	1340	---	1340	---	1230	1320	---
MAX	1370	1420	1350	1370	1350	1340	1470	1500	1340	1300	1360	1320
MIN	1240	1100	1240	1320	1240	1180	1210	1220	1240	1220	1170	1220
a	2905.97	2902.50	2905.78	2904.07	2902.86	2905.35	2901.99	2905.15	2900.13	2899.77	2904.51	2902.53
b	0	-60	+60	-30	-30	+50	-60	+60	-100	-10	+90	-30
CAL YR 2002	MAX 1480	MIN 934	b +60									
WTR YR 2003	MAX 1500	MIN 1100	b -60									

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

11442700 BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES, CA

LOCATION.—Lat 38°48'41", long 120°37'20", in NW 1/4 SE 1/4 sec.10, T.11 N., R.12 E., [El Dorado County](#), Hydrologic Unit 18020129, Eldorado National Forest, at outlet structure on Brush Creek Dam, and 4.0 mi northwest of Pollock Pines.

DRAINAGE AREA.—7.99 mi².

PERIOD OF RECORD.—October 1987 to current year. Unpublished records for water years 1971–87 available in files of the U.S. Geological Survey.

GAGE.—Differential-pressure gage and orifice control in outlet pipe. Auxiliary water-stage recorder 200 ft downstream at different datum. Elevation of gage is 2,700 ft above NGVD of 1929, from topographic map. Prior to October 1987, nonrecording gage 400 ft downstream at different datum.

REMARKS.—Flow completely regulated by Brush Creek Reservoir (station 11442690). See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 620 ft³/s, Jan. 2, 1997; minimum daily, 2.1 ft³/s, many days in 1988.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.6
2	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	5.7	3.6	3.6
3	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.6	3.7
4	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.6	3.7
5	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.6	3.7
6	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.6	3.6
7	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.6	3.6
8	4.0	7.2	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.6	3.6
9	4.1	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.6	3.6
10	4.1	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.6	3.7
11	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.7	3.6
12	4.0	7.0	6.8	7.0	7.0	7.0	7.0	7.0	6.8	3.6	3.7	3.6
13	4.1	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.9	3.6	3.6	3.6
14	4.1	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.9	3.6	3.6	3.6
15	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.9	3.6	3.6	3.6
16	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.9	3.6	3.6	3.6
17	4.0	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.9	3.6	3.6	3.6
18	4.1	7.1	6.8	7.0	7.0	7.0	7.0	7.0	6.9	3.6	3.6	3.6
19	4.1	7.1	6.8	7.0	7.0	7.0	7.0	6.9	6.8	3.6	3.6	6.4
20	4.0	7.1	6.8	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.6	3.8
21	4.1	7.1	6.8	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.6	3.8
22	4.2	7.1	6.8	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.7	3.8
23	4.1	7.0	6.8	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.6	3.8
24	4.1	7.0	6.8	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.7	3.8
25	4.1	6.9	6.8	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.6	3.8
26	4.2	6.8	6.8	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.6	3.8
27	4.1	6.8	6.8	7.0	7.0	7.0	7.0	6.8	6.9	3.6	3.6	3.8
28	4.1	6.8	6.8	7.0	7.0	7.0	7.0	6.8	6.8	3.6	3.6	3.8
29	4.2	6.8	6.9	7.0	---	7.0	7.0	6.9	6.9	3.6	3.6	3.8
30	4.2	6.8	7.0	7.0	---	7.0	7.0	6.8	6.9	3.6	3.7	3.8
31	4.7	---	7.0	7.0	---	7.0	---	6.8	---	3.6	3.6	---
TOTAL	126.7	211.1	211.3	217.0	196.0	217.0	210.0	214.6	205.6	117.0	112.1	113.4
MEAN	4.09	7.04	6.82	7.00	7.00	7.00	7.00	6.92	6.85	3.77	3.62	3.78
MAX	4.7	7.2	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.9	3.7	6.4
MIN	4.0	6.8	6.8	7.0	7.0	7.0	7.0	6.8	6.8	3.6	3.6	3.6
AC-FT	251	419	419	430	389	430	417	426	408	232	222	225

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	3.16	5.86	5.83	9.01	5.89	6.07	6.16	6.03	3.49	3.19	3.15	3.17				
MAX	4.09	8.06	7.81	58.0	7.76	8.95	10.4	9.09	6.85	4.26	3.94	4.00				
(WY)	2003	1990	1990	1997	1997	1997	1997	1997	2003	1995	2002	2002				
MIN	2.44	4.16	4.09	4.10	4.12	4.39	4.23	4.28	2.24	2.18	2.14	2.14				
(WY)	1993	1991	1988	1988	1988	1992	1988	1988	1988	1988	1988	1988				

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1988 - 2003	
ANNUAL TOTAL	1962.1		2151.8			
ANNUAL MEAN	5.38		5.90		5.08	
HIGHEST ANNUAL MEAN					10.5	1997
LOWEST ANNUAL MEAN					3.39	1988
HIGHEST DAILY MEAN	8.2	May 18	7.2	Nov 8	620	Jan 2 1997
LOWEST DAILY MEAN	3.6	Jun 6	3.6	Jul 3	2.1	Jul 4 1988
ANNUAL SEVEN-DAY MINIMUM	3.8	Jun 10	3.6	Jul 3	2.1	Aug 15 1988
ANNUAL RUNOFF (AC-FT)	3890		4270		3680	
10 PERCENT EXCEEDS	7.1		7.0		7.0	
50 PERCENT EXCEEDS	4.6		6.9		4.4	
90 PERCENT EXCEEDS	3.9		3.6		2.5	

11443450 SLAB CREEK RESERVOIR NEAR CAMINO, CA

LOCATION.—Lat 38°46'21", long 120°41'58", in SW 1/4 NE 1/4 sec.25, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on left bank, 100 ft upstream from dam on South Fork American River, 1,600 ft upstream from Iowa Canyon, and 2.7 mi northwest of Camino.

DRAINAGE AREA.—493 mi².

PERIOD OF RECORD.—May 1987 to current year. Unpublished records for water years 1969–86 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by Sacramento Municipal Utility District). Prior to May 26, 1987, nonrecording gage at same site and datum. September 1980 to October 1993, supplementary water-stage recorder at left abutment of dam operated by U.S. Geological Survey during periods of spill.

REMARKS.—Reservoir is formed by concrete-arch dam completed in 1967. Storage began in October 1967. Usable capacity, 16,567 acre-ft, between elevations 1,670 ft, invert of tunnel, and 1,850 ft, crest of spillway. Dead storage, 600 acre-ft. Reservoir receives water from South Fork American River and Silver Creek via El Dorado and Camino Powerplants (station 11441895) 10 mi upstream. Nearly the entire flow is diverted at this reservoir to White Rock Powerplant (station 11443460). See South Fork American River near Camino (station 11443500) for additional information on diversions and releases from Slab Creek Reservoir. Missing days are due to equipment malfunction. Records, including extremes, represent usable contents. See schematic diagram of South Fork American River Basin.

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 18,637 acre-ft, Jan. 1, 1997, elevation, 1,859.70 ft; minimum, 3,917 acre-ft, Oct. 27, 1991, elevation unknown.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 13,700 acre-ft, June 3, elevation, 1,851.81 ft, minimum, 7,910 acre-ft, May 20, elevation, 1,820.62 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Sacramento Municipal Utility District, May 2000)

1,730	928	1,760	2,281	1,820	7,825	1,850	13,302
1,740	1,309	1,780	3,596	1,840	11,183	1,855	14,493
1,750	1,758	1,800	5,381				

RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11500	10500	10000	9660	11500	12100	11400	9280	13300	10600	10200	10900
2	11800	11400	10400	10400	11500	12300	9780	9700	13300	10700	10400	10900
3	12000	11500	11400	10300	11900	12600	10600	9620	13700	11100	11500	10800
4	12400	12600	11800	9850	11400	11600	10600	10800	13500	10400	11200	10900
5	11500	12600	11500	10400	9990	11500	11600	10900	13000	10300	10900	11000
6	11700	12300	11500	9890	11000	11600	11100	10300	12900	11300	10600	10800
7	11700	12200	11400	9940	10900	9710	11100	10400	13100	11300	9840	10600
8	10900	12300	11100	9250	11200	10400	11300	10500	12600	10600	10400	10700
9	10200	12900	10400	10000	11000	11200	11400	10000	13200	9900	10700	10500
10	10700	13200	10100	9320	10500	11200	12000	9510	13000	9830	10300	10500
11	10900	12300	11100	10700	9170	11900	10200	10900	12000	10500	10500	10600
12	10800	11600	11200	11400	9420	10700	10400	10300	11900	10600	10100	10600
13	11200	10400	10100	11700	10400	10100	10400	10100	11800	10600	10300	10400
14	10700	9250	10700	12200	11800	9280	10700	9670	11700	9650	10700	10700
15	10400	8580	9690	11600	12200	9280	11400	8950	12200	11200	10700	10700
16	10800	8870	9560	11100	12500	11100	11000	8380	12300	10900	10900	10800
17	10800	9630	10100	11100	12500	11400	11400	8500	12600	10900	11600	11100
18	11200	10500	9740	11700	12200	11600	11800	8660	12100	10900	11600	11100
19	12300	11500	8680	12100	11900	11200	11600	8390	11600	10300	11200	11100
20	13000	11400	8820	10400	12200	11200	12000	7910	11800	10700	11500	11000
21	11900	11300	9240	10000	12300	12200	11300	8600	12000	11700	11200	11100
22	12100	11600	9230	9430	12300	11700	11500	9160	12000	11700	11100	11400
23	11700	11600	9950	9940	12000	11800	10200	8850	12100	11600	11300	11600
24	11100	11600	10100	10600	12300	11800	10100	8450	12000	11400	11400	11300
25	10700	11300	10000	10900	12500	11000	10200	7910	12300	11400	11200	11400
26	10900	11200	9420	11000	12400	11600	10100	8690	11900	10500	10600	11500
27	11300	11400	9480	10900	12300	11400	10000	8850	11600	10500	10500	11400
28	10700	11500	9680	11500	12100	9880	10400	9710	11900	10300	10600	11000
29	10700	11100	10300	10900	---	10800	9340	12700	11800	10600	10600	10400
30	11000	10700	9310	10500	---	11500	9430	13400	11900	10800	10700	10300
31	10700	---	9640	11800	---	11300	---	13400	---	9950	10800	---
MAX	13000	13200	11800	12200	12500	12600	12000	13400	13700	11700	11600	11600
MIN	10200	8580	8680	9250	9170	9280	9340	7910	11600	9650	9840	10300
a	1837.48	1837.41	1831.58	1842.89	1844.73	1840.54	1830.37	1850.27	1843.54	1833.36	1837.87	1835.34
b	-1000	0	-1060	+2340	+300	-800	-1870	+3970	-1500	-1950	-850	-500

CAL YR 2002 MAX 13700 MIN 7790 b +100

WTR YR 2003 MAX 13700 MIN 7910 b -400

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA

LOCATION.—Lat 38°46'23", long 120°42'02", in SW 1/4 NE 1/4 sec.25, T.11 N., R.11 E., [El Dorado County](#), Hydrologic Unit 18020129, on right bank, 500 ft upstream from Iowa Canyon Creek, and 2.8 mi northwest of Camino.

DRAINAGE AREA.—493 mi².

PERIOD OF RECORD.—October 1922 to current year. Monthly discharge only for October 1922, WSP 1315-A. Records for river and American River Flume, published separately October 1922 to September 1956 and October 1962 to December 1964, when flume was destroyed. Records of river and flume combined October 1956 to September 1962.

REVISED RECORDS.—WSP 931: 1928, 1938, 1940(M). WSP 1931: Drainage area at former site.

GAGE.—Acoustic-velocity meter. Elevation of gage is 1,625 ft above NGVD of 1929, from topographic map. Prior to May 26, 1987, water-stage recorder at different datum at site 1,000 ft downstream. Auxiliary water-stage recorder on Slab Creek Dam records spill discharges which are combined with release discharges. See WSP 2131 for history of changes prior to Oct. 12, 1966.

REMARKS.—Flow regulated by several reservoirs. Since 1967 diversion from Slab Creek Dam to White Rock Powerplant (station 11443460) bypasses this station. Echo Lake Conduit (station 11434500) imports up to 1,900 acre-ft each year from Truckee River Basin. Variable amounts of El Dorado Canal water, up to 40 ft³/s May to October, and about 7 ft³/s remainder of the year, diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Cosumnes River Basin diverted to Camino and substituted for flow from El Dorado Canal in some years. Since October 1962, water is imported from the Upper Rubicon River Basin by way of Robbs Peak Powerplant (station 11429300). See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2101.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 62,300 ft³/s, Jan. 2, 1997, from rating curve extended above 24,000 ft³/s, on basis of computation of peak flow over dam; minimum daily, 1.3 ft³/s, Aug. 24, 1931.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	38	37	37	37	37	38	38	38	38	37	37
2	39	38	37	38	37	37	38	38	38	37	37	37
3	39	38	37	38	37	37	38	38	38	38	37	37
4	38	38	37	38	37	37	38	38	38	38	37	37
5	38	38	37	38	37	37	38	38	38	38	37	37
6	39	39	37	38	37	37	38	38	38	38	37	37
7	39	37	38	38	37	37	38	38	38	38	37	37
8	39	37	38	39	37	37	38	38	38	38	37	37
9	38	37	37	37	37	37	38	38	38	38	37	37
10	38	37	37	37	37	37	38	38	38	38	37	38
11	38	37	37	37	37	37	38	38	38	38	37	37
12	39	37	37	37	37	37	38	38	38	38	36	37
13	39	37	38	37	37	37	38	38	38	38	37	37
14	38	37	37	37	37	37	38	38	38	38	37	37
15	38	37	37	37	37	37	38	38	38	49	37	37
16	38	37	37	37	37	37	38	38	38	67	37	37
17	38	37	37	37	37	37	38	38	38	46	37	37
18	39	37	37	37	37	38	38	38	38	38	37	37
19	39	37	38	37	37	38	38	38	38	37	37	37
20	39	37	39	37	38	38	38	38	38	37	37	37
21	39	37	39	37	39	38	38	38	38	37	37	37
22	38	37	39	37	38	38	38	38	38	37	37	37
23	38	37	38	37	39	38	38	36	38	38	37	37
24	39	37	38	37	38	38	38	38	38	38	37	37
25	39	37	38	37	37	38	38	38	38	38	37	37
26	38	37	38	37	38	38	38	38	38	37	37	37
27	38	37	39	37	38	38	38	38	38	37	37	37
28	38	37	37	37	38	38	38	38	38	36	37	37
29	37	37	38	37	---	38	38	38	38	37	37	37
30	37	37	37	37	---	38	38	38	38	37	37	37
31	38	---	37	37	---	38	---	38	---	37	37	---
TOTAL	1190	1117	1164	1155	1046	1161	1140	1176	1140	1214	1146	1111
MEAN	38.4	37.2	37.5	37.3	37.4	37.5	38.0	37.9	38.0	39.2	37.0	37.0
MAX	39	39	39	39	39	38	38	38	38	67	37	38
MIN	37	37	37	37	37	37	38	36	38	36	36	37
AC-FT	2360	2220	2310	2290	2070	2300	2260	2330	2260	2410	2270	2200
a	39110	34490	47160	66360	54190	51400	81560	180100	108900	62760	41920	29580

a Diversion, in acre-feet, to White Rock Powerplant (station 11443460), provided by Sacramento Municipal Utility District.

SACRAMENTO RIVER BASIN

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1957, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.8	254	569	601	855	1171	2069	2681	1557	285	39.7	31.1
MAX	221	3951	4780	3422	2125	3367	4015	6382	4031	1310	168	150
(WY)	1952	1951	1951	1956	1927	1943	1952	1952	1952	1952	1951	1951
MIN	4.43	5.46	12.9	43.0	116	146	620	418	13.8	1.97	2.01	6.97
(WY)	1930	1930	1950	1929	1929	1924	1924	1934	1924	1931	1931	1955

SUMMARY STATISTICS

WATER YEARS 1923 - 1957

ANNUAL MEAN	846
HIGHEST ANNUAL MEAN	1760 1951
LOWEST ANNUAL MEAN	161 1924
HIGHEST DAILY MEAN	40000 Dec 23 1955
LOWEST DAILY MEAN	1.3 Aug 24 1931
ANNUAL SEVEN-DAY MINIMUM	1.5 Jul 29 1931
MAXIMUM PEAK FLOW	49800 Dec 23 1955
MAXIMUM PEAK STAGE	32.6 Dec 23 1955
ANNUAL RUNOFF (AC-FT)	612700
10 PERCENT EXCEEDS	2520
50 PERCENT EXCEEDS	230
90 PERCENT EXCEEDS	13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1957, COMBINED RIVER PLUS FLUME, BY WATER YEAR (WY)

MEAN	167	364	684	713	959	1259	2176	2815	1695	413	154	142
MAX	288	4051	4780	3422	2229	3490	4181	6552	4201	1474	324	227
(WY)	1948	1951	1951	1956	1927	1943	1952	1952	1952	1952	1952	1952
MIN	44.1	49.8	134	141	212	252	727	533	97.3	50.2	35.5	53.4
(WY)	1930	1930	1924	1929	1933	1924	1924	1934	1924	1931	1931	1924

SUMMARY STATISTICS

WATER YEARS 1923 - 1957

ANNUAL MEAN	960
HIGHEST ANNUAL MEAN	1860 1952
LOWEST ANNUAL MEAN	249 1924
HIGHEST DAILY MEAN	40000 Dec 23 1955
LOWEST DAILY MEAN	20 Aug 24 1931
ANNUAL SEVEN-DAY MINIMUM	30 Aug 19 1931
ANNUAL RUNOFF (AC-FT)	695700
10 PERCENT EXCEEDS	2660
50 PERCENT EXCEEDS	350
90 PERCENT EXCEEDS	120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

MEAN	46.7	81.8	124	313	213	119	118	308	275	78.5	35.1	35.1
MAX	453	1093	1112	4836	2709	1090	1402	2434	2619	936	45.1	48.2
(WY)	1968	1968	1984	1997	1986	1986	1971	1995	1995	1995	1980	1980
MIN	9.97	10.2	10.0	10.0	5.63	10.9	10.0	9.73	9.98	9.93	10.4	10.1
(WY)	1978	1978	1988	1988	1970	1992	1988	1977	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1968 - 2003

ANNUAL TOTAL	14771	13760	
ANNUAL MEAN	40.5	37.7	145
HIGHEST ANNUAL MEAN			608 1995
LOWEST ANNUAL MEAN			13.3 1977
HIGHEST DAILY MEAN	975 Feb 24	67 Jul 16	48900 Jan 2 1997
LOWEST DAILY MEAN	10 Jan 1	36 May 23	2.4 Feb 12 1970
ANNUAL SEVEN-DAY MINIMUM	10 Jan 1	37 Jul 26	2.6 Feb 9 1970
MAXIMUM PEAK FLOW		76 Jul 16	62300 Jan 2 1997
ANNUAL RUNOFF (AC-FT)	29300	27290	105300
ANNUAL DIVERSION (AC-FT) a	660700	797600	
10 PERCENT EXCEEDS	39	38	70
50 PERCENT EXCEEDS	37	38	36
90 PERCENT EXCEEDS	11	37	11

a Diversion, in acre-feet, to White Rock Powerplant (station 11443460), provided by Sacramento Municipal Utility District.

11444201 ROCK CREEK NEAR PLACERVILLE, CA

LOCATION.—Lat 38°47'39", long 120°46'28", in NE 1/4 NW 1/4 sec.20, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, on left bank, 500 ft downstream from Rock Creek Road, and 4.0 mi north of Placerville.

DRAINAGE AREA.—73.0 mi².

PERIOD OF RECORD.—October 1986 to current year.

GAGE.—Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 1,305 ft above NGVD of 1929, from topographic map.

REMARKS.—Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11444200) and flow over a sharp-crested weir (station 11444260). Water is diverted upstream from weirs through a tunnel to Rock Creek Powerplant (station 11444280), returning to Rock Creek at its confluence with the South Fork American River. Extremes also represent combined flows. See schematic diagram of [South Fork American River Basin](#).

COOPERATION.—Records provided by Sithe Energies, Inc., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 3189.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,690 ft³/s, Jan. 2, 1997; no flow Sept. 29 to Oct. 3, 1987.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	17	22	30	30	34	23	e37	e22	e15	e12
2	10	10	17	22	30	28	24	24	e36	e22	e18	e9.2
3	9.3	10	18	22	29	28	24	24	e35	e21	e20	e8.8
4	9.3	10	18	22	28	28	35	26	e34	e21	e16	e8.8
5	9.3	10	18	22	26	27	62	24	e34	e20	e15	e8.6
6	9.0	11	18	22	26	26	24	24	e33	e20	e16	e8.5
7	8.8	13	18	36	25	25	24	24	e33	e19	e16	e8.5
8	8.7	42	18	35	24	24	24	70	e32	e19	e16	e8.8
9	8.6	32	19	34	23	23	24	164	e32	e19	e16	e9.2
10	8.3	54	20	25	22	21	24	23	e31	e18	e16	e10
11	8.5	36	20	22	22	21	23	24	e31	e18	e16	e9.0
12	8.6	20	18	22	23	21	85	23	e30	e17	e16	e8.4
13	8.5	17	34	22	26	21	473	23	e30	e17	e16	e8.3
14	8.5	16	127	34	24	24	207	23	e29	e17	e16	e8.1
15	8.5	15	70	35	33	66	42	24	e28	e17	e15	e8.1
16	8.5	16	157	33	26	41	22	32	e27	e16	e15	e8.0
17	8.8	17	55	32	22	22	22	50	e27	e16	e15	e8.3
18	9.2	17	24	30	22	22	22	23	e27	e16	e13	e8.2
19	9.6	17	22	29	31	31	22	28	e27	e16	e12	e7.9
20	9.7	17	26	28	26	26	22	45	e28	e15	e12	e7.9
21	9.7	18	41	31	34	22	30	34	e26	e15	e12	e8.0
22	9.6	18	22	33	32	22	25	48	e26	e15	e18	e7.9
23	9.5	18	22	22	31	48	22	27	e25	e15	e18	e7.7
24	9.7	17	31	22	31	66	85	26	e25	e15	e16	e7.6
25	10	17	32	29	30	22	94	23	e24	e14	e15	e7.7
26	10	16	30	35	30	24	172	23	e24	e14	e13	e7.8
27	11	16	37	33	33	24	24	23	e23	e14	e12	e7.8
28	10	17	37	32	32	23	114	29	e23	e14	e10	e7.8
29	10	17	181	31	---	24	62	30	e22	e14	e9.8	e7.8
30	10	17	54	30	---	23	34	23	e22	e14	e9.6	e7.8
31	10	---	28	29	---	26	---	40	---	e14	e9.6	---
TOTAL	291.2	562	1249	876	771	879	1901	1047	861	524	453.0	252.5
MEAN	9.39	18.7	40.3	28.3	27.5	28.4	63.4	33.8	28.7	16.9	14.6	8.42
MAX	12	54	181	36	34	66	473	164	37	22	20	12
MIN	8.3	10	17	22	22	21	22	23	22	14	9.6	7.6
AC-FT	578	1110	2480	1740	1530	1740	3770	2080	1710	1040	899	501
a	0.00	0.00	1420	925	334	1230	4560	3820	0.00	0.00	0.00	0.00

e Estimated.

a Discharge, in acre-feet, through Rock Creek Powerplant (station 11444280) near Placerville, provided by Sithe Energies Inc.

SACRAMENTO RIVER BASIN

11444201 ROCK CREEK NEAR PLACERVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.4	21.0	54.2	129	108	87.3	39.9	32.4	19.9	14.5	12.3	10.4
MAX	25.0	36.6	403	737	326	454	99.6	127	31.5	35.2	39.2	25.7
(WY)	2001	1999	1997	1997	1998	1995	1995	1995	1995	1999	1999	1998
MIN	4.60	6.15	9.97	11.4	12.5	16.4	16.6	11.3	6.35	3.18	1.97	1.86
(WY)	1993	1993	1990	1991	1991	1988	1994	1992	1992	1988	1994	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1987 - 2003	
ANNUAL TOTAL	10663.1		9666.7			
ANNUAL MEAN	29.2		26.5		44.9	
ANNUAL MEAN a	46.4		43.5			
HIGHEST ANNUAL MEAN					118	1997
LOWEST ANNUAL MEAN					14.3	1988
HIGHEST DAILY MEAN	585	Feb 20	473	Apr 13	4660	Jan 2 1997
LOWEST DAILY MEAN	8.3	Oct 10	7.6	Sep 24	0.00	Sep 29 1987
ANNUAL SEVEN-DAY MINIMUM	8.5	Oct 10	7.7	Sep 23	0.35	Sep 28 1987
MAXIMUM PEAK FLOW			586	Apr 13	6690	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	21150		19170		32560	
TOTAL DIVERSION (AC-FT) b	12460		12300		11170	
ANNUAL RUNOFF (AC-FT) a	33610		31470			
10 PERCENT EXCEEDS	38		35		64	
50 PERCENT EXCEEDS	21		22		21	
90 PERCENT EXCEEDS	9.6		8.9		5.4	

a Adjusted for Rock Creek Powerplant near Placerville.

b Discharge, in acre-feet, through Rock Creek Powerplant (station 11444280) near Placerville, provided by Sithe Energies Inc.

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA

LOCATION.—Lat 38°46'16", long 120°48'55", in NE 1/4 SW 1/4 sec.25, T.11 N., R.10 E., [El Dorado County](#), Hydrologic Unit 18020129, on right bank, 700 ft downstream from Chili Bar Dam, 0.5 mi upstream from Big Canyon, and 2.5 mi north of Placerville.

DRAINAGE AREA.—598 mi².

PERIOD OF RECORD.—August 1911 to July 1920 (monthly discharge only for some periods, published in WSP 1315-A), July 1964 to current year.

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 925 ft above NGVD of 1929, from topographic map. Aug. 11, 1911, to July 31, 1920, nonrecording gage 0.6 mi downstream at different datum.

REMARKS.—Flow regulated by Chili Bar Reservoir, capacity, 3,700 acre-ft, Chili Bar Powerplant, and other storage and powerplants (see [station 11443500](#)). See schematic diagrams of [South Fork American River](#) and [lower Sacramento River Basins](#).

COOPERATION.—Records provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2155.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 71,000 ft³/s, Jan. 2, 1997, gage height unknown, on basis of computations of flow over dam, maximum gage height, 17.4 ft, from floodmarks, datum then in use, Dec. 23, 1964; minimum daily, 0.2 ft³/s, Nov. 12, 1964.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	489	974	663	629	1250	604	1270	2100	4210	1560	765	604
2	446	513	480	747	636	482	2060	2160	4020	1030	875	873
3	528	330	385	870	1270	512	1110	2180	3520	671	827	651
4	486	1200	537	822	1550	1430	868	1870	4270	1290	978	584
5	754	485	585	467	2250	820	702	2450	4050	1040	1530	595
6	515	485	339	1730	1060	727	1330	2820	3600	563	1300	721
7	941	489	458	1530	1260	1950	1580	2480	3430	210	1270	598
8	1370	960	655	1760	1330	522	1590	2590	3650	1170	595	668
9	1250	1250	1410	1290	1240	249	1820	3010	3070	1350	601	647
10	592	795	1120	1580	1890	967	926	2930	3160	1210	1110	594
11	468	905	450	353	2080	391	2020	2110	3360	922	746	590
12	521	1120	935	650	1370	879	1610	3110	1750	1020	1020	556
13	411	1140	1570	902	922	1140	3290	3390	1830	1110	577	648
14	905	1050	781	1080	468	1330	2220	3550	1750	1730	537	652
15	1230	846	1520	1390	753	771	1170	3770	1320	754	540	505
16	736	549	1900	1070	837	807	1740	3940	1690	1140	598	206
17	979	397	1480	1420	1120	832	1250	3320	1660	1340	591	201
18	608	203	1410	646	1610	746	985	3260	1100	990	204	185
19	197	465	2130	876	1570	1120	1370	3450	1150	1470	518	187
20	195	589	1550	2200	736	1020	1100	3730	675	1150	492	444
21	908	740	786	1740	229	519	1860	3520	814	706	659	575
22	446	299	796	1720	693	674	1370	3560	845	1360	575	602
23	630	409	858	1410	794	1100	1940	4090	865	961	567	686
24	1150	436	750	1480	972	1270	1830	3920	1040	1230	611	467
25	806	929	348	1090	1000	1590	2320	4040	940	1470	1080	554
26	485	791	991	840	625	1080	2360	3360	1460	1910	1210	525
27	345	549	655	1570	745	1810	2060	3920	1510	1180	689	532
28	910	258	672	1350	350	2030	2190	4000	1110	1310	627	755
29	678	309	509	1910	---	611	2660	2920	994	1040	717	942
30	650	580	1380	1810	---	763	1830	3910	1100	681	593	588
31	1140	---	1020	751	---	1380	---	4440	---	1090	621	---
TOTAL	21769	20045	29123	37683	30610	30126	50431	99900	63943	34658	23623	16935
MEAN	702	668	939	1216	1093	972	1681	3223	2131	1118	762	564
MAX	1370	1250	2130	2200	2250	2030	3290	4440	4270	1910	1530	942
MIN	195	203	339	353	229	249	702	1870	675	210	204	185
AC-FT	43180	39760	57770	74740	60710	59750	100000	198200	126800	68740	46860	33590

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	513	754	1255	1787	1774	1902	2026	2515	1972	1167	953	828
MAX	935	3806	5386	9673	6613	5561	5382	6159	6496	3648	1719	1401
(WY)	1984	1984	1965	1997	1986	1983	1982	1995	1983	1983	1998	1995
MIN	126	106	320	188	125	124	255	295	228	88.2	142	206
(WY)	2002	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	2001

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1965 - 2003
ANNUAL TOTAL	390085	458846	
ANNUAL MEAN	1069	1257	1452
HIGHEST ANNUAL MEAN			3275
LOWEST ANNUAL MEAN			224
HIGHEST DAILY MEAN	2840	May 21	4440
LOWEST DAILY MEAN	195	Oct 20	185
ANNUAL SEVEN-DAY MINIMUM	312	Sep 26	329
MAXIMUM PEAK FLOW			6320
MAXIMUM PEAK STAGE			8.23
ANNUAL RUNOFF (AC-FT)	773700	910100	1052000
10 PERCENT EXCEEDS	1910	2620	3250
50 PERCENT EXCEEDS	931	979	1000
90 PERCENT EXCEEDS	451	475	329

11446030 SOUTH FORK AMERICAN RIVER NEAR PILOT HILL, CA

LOCATION.—Lat 38°45'47", long 121°00'26", in SE 1/4 NE 1/4 sec.31, T.11 N., R.9 E., [El Dorado County](#), Hydrologic Unit 18020128, on left bank, 0.1 mi downstream from Weber Creek, and 5.0 mi south of Pilot Hill.

DRAINAGE AREA.—801 mi².

PERIOD OF RECORD.—Water year 1999 to current year.

WATER TEMPERATURE: Water year 1999 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: August 1999 to current year.

INSTRUMENTATION.—Water-temperature recorder since Aug. 4, 1999.

REMARKS.—Water-temperature records rated excellent. Periods of missing record due to malfunction of the recording instrument. Water temperature can be affected by upstream powerplant releases.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 25.5°C, Aug. 17, 2001, but may have been higher during periods of missing record; minimum recorded, 3.0°C, Jan. 23, 24, 30, 31, Feb. 2–5, 2002.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 24.5°C, July 8, 14; minimum recorded, 4.0°C, Feb. 8–11, but may have been lower during periods of missing record.

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

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

11446030 SOUTH FORK AMERICAN RIVER NEAR PILOT HILL, CA—Continued

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

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

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

DATE	TIME	Depth at sample locat- ion, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
AUG				
20...	1222	1.55	19.1	3.80
20...	1223	1.90	19.1	11.3
20...	1224	2.45	19.1	18.8
20...	1225	2.50	19.1	26.3
20...	1226	2.30	19.1	33.8
20...	1227	2.40	19.2	41.3
20...	1228	2.60	19.2	48.8
20...	1229	3.30	19.2	56.3
20...	1230	2.00	19.2	63.8
20...	1231	2.50	19.2	71.3

* Estimated discharge at time of cross-sectional measurement: 194 ft³/s.

11446200 FOLSOM LAKE NEAR FOLSOM, CA

LOCATION.—Lat 38°42'29", long 121°09'22", in NW 1/4 NE 1/4 sec.24, T.10 N., R.7 E., [Sacramento County](#), Hydrologic Unit 18020128, near center of dam on American River, 0.7 mi downstream from South Fork American River, and 2.3 mi northeast of Folsom.

DRAINAGE AREA.—1,861 mi².

PERIOD OF RECORD.—February 1955 to current year. Prior to October 1959, published as "Folsom Reservoir near Folsom".

REVISED RECORDS.—WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.—Reservoir is formed by concrete gravity-type dam with rolled-earth-wing dams, auxiliary dams, and dikes, completed May 14, 1956; storage began Feb. 25, 1955. Total capacity, 1,010,300 acre-ft, between elevations 205.5 ft, invert of lower tier of river outlets, and 466.0 ft gross pool elevation, all of which are available for release. Spillway design flood pool elevation, 475.4 ft, capacity, 1,120,200 acre-ft. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of [lower Sacramento River Basin](#).

COOPERATION.—Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 1,024,400 acre-ft, June 15, 1963, elevation, 467.23 ft; minimum since storage pool first filled, 140,600 acre-ft, Nov. 20, 21, 1977, elevation, 347.57 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 966,900 acre-ft, June 2, elevation, 465.10 ft; minimum, 432,100 acre-ft, Dec. 12, elevation, 407.59 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1992)

345	123,600	370	210,500	400	376,900	460	908,400
350	137,900	380	258,600	420	525,500	479	1,125,000
360	170,600	390	314,100	440	703,800		

RESERVOIR STORAGE, ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	507300	456600	444800	541600	599200	530200	624300	834000	965800	922300	793400	698400
2	505000	455700	443600	544000	597400	529100	629300	837600	966900	920400	786800	696200
3	502600	454100	442700	547400	596200	528000	633400	840900	965900	918600	780000	695000
4	500600	453700	441800	549300	594900	529500	637600	848600	965100	916200	772600	693700
5	498600	452500	440700	551000	595000	530100	640900	855100	964500	914100	767400	692000
6	496900	451000	439800	553600	593700	530300	644000	860900	963600	911100	762400	690300
7	494900	450800	437800	557100	591600	532500	648300	866000	963500	906700	758200	688800
8	494000	451300	435400	560900	588500	533100	652500	871000	964100	902100	754200	687900
9	493500	455400	434900	564500	585800	531800	657300	877200	963900	899100	750200	686200
10	492300	456000	434400	569000	582800	531900	661900	881600	963400	896600	746100	685200
11	490500	458400	433400	573300	579000	532000	666200	883900	964800	893100	742500	684500
12	488400	460200	432100	576400	574500	532300	673200	887400	962000	890000	739100	683300
13	486000	460800	434000	577900	570500	534300	695400	892400	959600	886000	736300	682200
14	483500	461400	444500	579300	566500	537100	711700	898200	958200	883800	733200	680700
15	482400	461800	452500	580700	560900	545500	720600	904200	955800	881200	731200	679100
16	480600	461800	468200	582100	558000	551900	727500	908700	953300	876900	728800	677000
17	479000	460500	478300	582100	554200	555900	734400	911300	952300	874600	726100	675500
18	477100	459800	484100	581200	551500	558600	740000	913900	951000	871800	723300	673500
19	474300	459800	489800	581200	548500	560600	744700	915700	949200	868500	720900	671800
20	471100	458200	494700	583100	545200	564600	749700	917200	946500	864600	718200	670500
21	468700	457400	500300	585400	541800	567300	756200	919700	943000	859100	716600	668600
22	467100	456300	503200	588200	539300	568800	762000	921900	939900	854800	714600	667000
23	464800	455900	505700	592500	537400	573800	767800	926700	936200	849400	712700	665700
24	463700	453400	507000	597100	535300	580100	775800	933000	933500	843200	710900	665100
25	463600	452200	507300	598900	534600	587100	787000	939000	931100	837900	709200	664100
26	462400	452000	507000	598900	532900	594200	797900	943000	929800	832400	708000	663100
27	460500	451100	508600	599500	532400	602700	806800	947300	930000	826700	706600	661800
28	459400	449700	513700	600600	531400	610100	818700	952600	928400	820100	704800	660300
29	458400	447800	524200	601400	---	613900	827000	955400	925600	813500	703700	659400
30	457400	446500	530600	601800	---	616300	830600	958000	924000	806700	701900	658100
31	456800	---	537500	601000	---	619700	---	962400	---	800100	699900	---
MAX	507300	461800	537500	601800	599200	619700	830600	962400	966900	922300	793400	698400
MIN	456800	446500	432100	541600	531400	528000	624300	834000	924000	800100	699900	658100
a	410.93	409.55	421.16	428.58	420.41	430.68	452.43	464.69	461.20	449.47	439.33	434.89
b	-53000	-10300	+91000	+63500	-69600	+88300	+210900	+131800	-38400	-123900	-100200	-41800
c	2614	1317	389	444	1214	2069	2065	4826	6920	7658	5391	4407

CAL YR 2002 +200200

WTR YR 2003 +148300

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Total evaporation, in acre-feet, provided by U.S. Bureau of Reclamation; not reviewed by U.S. Geological Survey.

11446220 AMERICAN RIVER BELOW FOLSOM DAM, NEAR FOLSOM, CA

LOCATION.—Lat 38°42'14", long 121°09'48", in NE 1/4 SE 1/4 sec.24, T.10 N., R.7 E., Sacramento County, Hydrologic Unit 18020111, on left bank, 0.3 mi downstream from Folsom Dam, and 1.5 mi north of Folsom.

DRAINAGE AREA.— 1,862 mi².

PERIOD OF RECORD.—October 1998 to current year.

WATER TEMPERATURE.—October 1998 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE.—October 1998 to current year.

INSTRUMENTATION.—Water-temperature recorder since Oct. 23, 1998.

REMARKS.—Water-temperature records rated excellent. Interruptions in record due to malfunction of the recording instrument. Water temperature is affected by upstream releases from Folsom Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 21.0°C, several days in October 2001, but may have been higher during period of missing record; minimum recorded, 6.5°C, Feb. 9, 2002.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 19.5°C, Oct. 1; minimum recorded, 8.5°C, many days in January, February and March.

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

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

SACRAMENTO RIVER BASIN

11446220 AMERICAN RIVER BELOW FOLSOM DAM, NEAR FOLSOM, CA—Continued

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.0	10.0	12.0	11.0	12.0	11.5	14.5	13.0	17.0	14.0	15.5	13.5
2	11.5	10.0	11.5	11.0	14.5	11.5	14.5	13.0	17.5	16.0	17.0	13.5
3	11.5	10.0	11.5	11.0	14.0	13.5	14.5	13.0	17.5	16.5	16.0	13.5
4	12.0	10.5	12.0	11.0	14.5	13.0	14.5	13.0	17.5	16.5	---	---
5	11.5	10.5	12.0	11.0	15.5	13.0	14.5	13.0	18.0	16.5	---	---
6	11.5	10.5	11.5	11.0	13.5	12.5	15.0	13.0	17.5	15.0	---	---
7	12.0	10.0	12.0	11.0	13.0	12.0	14.5	13.0	17.5	15.0	---	---
8	12.0	10.5	12.5	10.5	13.0	12.0	15.0	13.0	17.5	13.5	---	---
9	12.5	10.5	12.0	11.0	13.0	12.0	15.0	13.0	18.0	14.0	16.0	13.0
10	12.0	10.5	12.0	11.0	13.0	12.5	15.0	12.5	17.5	13.5	16.0	13.0
11	12.0	10.5	12.0	11.0	13.0	12.5	15.0	12.5	17.5	13.0	16.5	12.5
12	12.0	11.0	12.0	11.0	13.0	12.5	15.0	12.5	14.0	13.0	16.0	13.0
13	12.0	10.5	12.0	11.0	13.0	12.5	15.0	13.0	14.0	13.0	16.0	13.0
14	12.0	10.5	11.5	11.0	13.0	12.5	15.0	13.0	14.5	12.5	16.0	13.0
15	12.0	10.5	11.5	11.0	13.5	12.5	15.5	13.0	14.5	12.5	16.5	13.5
16	12.0	10.5	13.0	11.5	13.5	12.5	15.5	13.0	14.5	12.5	16.5	13.0
17	12.0	10.5	13.0	11.0	13.5	13.0	15.5	13.0	14.5	12.5	16.5	13.5
18	12.0	10.5	13.0	11.5	13.5	13.0	15.5	13.5	14.5	12.5	16.5	13.0
19	12.0	10.5	13.0	12.0	13.5	13.0	15.5	13.0	14.5	12.5	16.5	13.5
20	12.0	10.5	13.5	12.0	13.5	13.0	15.5	15.0	15.0	13.0	16.5	13.0
21	11.5	10.5	15.5	12.0	14.0	13.0	16.0	15.0	15.0	12.5	16.5	13.5
22	12.0	10.0	13.0	12.0	14.0	13.0	16.0	15.0	14.5	13.0	16.5	13.5
23	12.0	10.5	13.0	11.5	14.0	13.5	16.0	15.5	15.0	13.0	16.5	14.0
24	11.5	10.5	12.0	11.5	14.0	13.0	16.0	15.0	15.0	13.0	17.0	13.5
25	11.5	10.5	12.0	11.5	14.0	13.5	16.0	14.0	15.0	13.0	17.5	14.0
26	12.0	10.0	12.0	11.5	14.0	12.5	16.5	14.0	15.5	13.0	17.0	14.0
27	12.0	10.5	12.0	11.5	14.5	13.0	16.5	14.0	15.5	13.0	17.0	14.0
28	11.5	10.5	12.0	11.5	14.5	12.5	17.0	15.0	15.5	13.0	17.0	13.5
29	11.5	10.5	12.0	11.5	14.5	13.0	17.5	13.5	15.5	13.0	17.0	14.0
30	11.5	11.0	12.5	12.0	14.5	12.5	17.0	14.0	15.5	13.0	17.0	14.0
31	---	---	12.0	11.5	---	---	17.0	14.0	15.5	13.5	---	---
MONTH	12.5	10.0	15.5	10.5	15.5	11.5	17.5	12.5	18.0	12.5	---	---

11446500 AMERICAN RIVER AT FAIR OAKS, CA

LOCATION.—Lat 38°38'08", long 121°13'36", in SE 1/4 NE 1/4 sec.17, T.9 N., R.7 E., [Sacramento County](#), Hydrologic Unit 18020111, on right bank, 2,100 ft downstream from Nimbus Dam, 2.4 mi east of Fair Oaks, 8.1 mi downstream from South Fork, and at mile 22.2.

DRAINAGE AREA.—1,888 mi².

WATER-DISCHARGE RECORDS

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 above NGVD of 1929. See WSP 2131 for history of changes prior to July 15, 1970.

REMARKS.—Records good. Flow regulated by Folsom Lake (station 11446200) beginning Feb. 25, 1955. Some minor regulation of high flows by temporary pondage during period of construction January 1953 to February 1955. Diurnal fluctuations from Folsom Powerplant re-regulated by Nimbus Reservoir, capacity, 2,800 acre-ft, between normal operating elevations 118.5 and 125.0 ft, and by Nimbus Powerplant. Many diversions upstream from station for irrigation, municipal, and domestic water supply. Diversions for San Juan Suburban Water District, city of Folsom, city of Roseville, and State of California are made at Folsom Dam. Diversion to Folsom South Canal from Nimbus Reservoir started in June 1973. Some inflow from Bear and Yuba River Basins. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 180,000 ft³/s, Nov. 21, 1950, gage height, 31.85 ft, site and datum then in use; minimum, 3.6 ft³/s, Aug. 16, 1924. Maximum discharge since regulation by Folsom Lake in 1955, 134,000 ft³/s, Feb. 19, 1986, gage height, 27.96 ft; minimum daily, 160 ft³/s, Apr. 17, 1955.

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	1550	1860	1570	3980	2480	1880	4790	5430	2550	4510	2070
2	1480	1550	1860	1570	3990	2480	1880	5110	6210	2550	4490	2060
3	1460	1550	1850	1580	3980	2480	1840	5350	7000	2540	4500	2060
4	1460	1550	1840	1580	3980	2410	1850	5350	7000	2550	4350	2070
5	1460	1560	1840	1580	3980	2040	1850	5360	6700	2530	4050	2050
6	1460	1560	1840	1580	3970	2070	1860	5350	6100	2550	4040	1820
7	1470	1550	1850	1590	3980	2070	1860	5350	5590	2590	3700	1770
8	1460	1560	1840	1580	3980	2060	1860	5450	5430	3060	3220	1770
9	1460	1560	1840	1570	3980	2060	1850	5470	5430	3080	3110	1750
10	1470	1550	1840	1830	e5220	2070	1840	5460	5210	3100	3130	1780
11	1480	1550	1840	2100	e5540	2070	1840	5470	4860	3090	3120	1750
12	1480	1560	1850	2110	5370	2060	1850	5470	4740	3090	3010	1760
13	1480	1570	1840	2230	5380	2050	1850	5480	4330	3090	2550	1760
14	1480	1570	1830	2230	5370	2060	1850	5490	4020	3100	2540	1750
15	1480	1560	1840	2570	5350	2070	1840	5480	4000	3090	2200	1750
16	1470	1560	1870	2880	5350	2070	1840	e6220	3900	3090	2100	1750
17	1470	1560	1880	2880	5350	2060	1860	6480	3440	3110	2100	1580
18	1500	1560	1590	2870	5190	2070	1870	6450	3080	3110	2110	1740
19	1510	1560	1560	2910	4700	2060	1870	6400	3090	3110	2100	1740
20	1510	1570	1560	2900	4390	2060	1870	6420	3070	3580	2100	1740
21	1520	1560	1570	2880	3970	2050	1880	6430	3080	3590	2100	1730
22	1510	1560	1570	2890	3570	2040	1900	6430	3090	3580	2080	1730
23	1490	1790	1580	3130	3540	2050	1900	5890	3090	4040	2090	1730
24	1490	1850	1580	3850	3540	2070	1870	4890	3090	4040	2090	1720
25	1490	1830	1560	3990	3560	1940	1900	4870	2940	4050	2090	1720
26	1500	1840	1560	3980	3230	1880	e2420	4860	2520	4480	2090	1730
27	1500	1830	1570	3980	2630	1890	e2540	4880	2600	4510	2090	1730
28	1510	1820	1560	3990	2480	1870	e2520	4960	2520	4510	2090	1730
29	1530	1840	1570	3960	---	1850	e4070	5400	2540	4510	2080	1710
30	1540	1860	1570	3970	---	1870	4840	5420	2540	4510	2090	1730
31	1550	---	1570	3980	---	1880	---	5420	---	4570	2090	---
TOTAL	46140	48940	53380	82310	119550	64240	62950	171850	126640	104950	86010	53780
MEAN	1488	1631	1722	2655	4270	2072	2098	5544	4221	3385	2775	1793
MAX	1550	1860	1880	3990	5540	2480	4840	6480	7000	4570	4510	2070
MIN	1460	1550	1560	1570	2480	1850	1840	4790	2520	2530	2080	1580
AC-FT	91520	97070	105900	163300	237100	127400	124900	340900	251200	208200	170600	106700

e Estimated.

11446500 AMERICAN RIVER AT FAIR OAKS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	455	1327	2504	4483	5831	6647	8258	8656	5149	1293	342	269
MAX	1430	16450	17360	24290	15540	24710	15640	18200	17720	6336	1497	813
(WY)	1905	1951	1951	1909	1909	1907	1907	1952	1911	1906	1907	1907
MIN	100	85.0	254	284	650	879	1998	1488	206	26.8	15.8	24.4
(WY)	1930	1930	1906	1918	1920	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS

WATER YEARS 1905 - 1954

ANNUAL MEAN	3752
HIGHEST ANNUAL MEAN	7896 1907
LOWEST ANNUAL MEAN	731 1924
HIGHEST DAILY MEAN	132000 Nov 21 1950
LOWEST DAILY MEAN	4.6 Jul 29 1924
ANNUAL SEVEN-DAY MINIMUM	4.8 Jul 29 1924
MAXIMUM PEAK FLOW	180000 Nov 21 1950
MAXIMUM PEAK STAGE	31.85 Nov 21 1950
ANNUAL RUNOFF (AC-FT)	2718000
10 PERCENT EXCEEDS	9980
50 PERCENT EXCEEDS	1420
90 PERCENT EXCEEDS	216

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2003, BY WATER YEAR (WY)

MEAN	1917	2375	3804	5330	5678	5037	4184	4280	3756	3615	2724	2226
MAX	4102	11700	19360	31780	31140	19340	17760	14270	9828	10710	4500	4014
(WY)	1970	1984	1965	1997	1986	1983	1982	1995	1983	1995	1983	1998
MIN	284	272	252	350	408	273	258	520	1135	869	855	602
(WY)	1978	1978	1978	1962	1991	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1956 - 2003

ANNUAL TOTAL	810860	1020740	
ANNUAL MEAN	2222	2797	3736
HIGHEST ANNUAL MEAN			8854 1983
LOWEST ANNUAL MEAN			778 1977
HIGHEST DAILY MEAN	4020	Apr 19	7000 Jun 3 131000 Feb 19 1986
LOWEST DAILY MEAN	1400	Sep 16	1460 Oct 3 215 Apr 20 1977
ANNUAL SEVEN-DAY MINIMUM	1450	Jan 14	1460 Oct 3 237 Jan 7 1978
MAXIMUM PEAK FLOW			7050 Jun 5 134000 Feb 19 1986
MAXIMUM PEAK STAGE			8.22 Jun 5 27.96 Feb 19 1986
ANNUAL RUNOFF (AC-FT)	1608000	2025000	2706000
10 PERCENT EXCEEDS	3550	5350	7550
50 PERCENT EXCEEDS	1840	2070	2490
90 PERCENT EXCEEDS	1470	1550	948

11446500 AMERICAN RIVER AT FAIR OAKS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1960–65, October 1998 to current year.

WATER TEMPERATURE: Water years 1961–65, October 1998 to current year.

CHEMICAL DATA: Water years 1960–62.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Water years 1961–65, October 1998 to current year.

INSTRUMENTATION.—Water-temperature recorder since Oct. 29, 1998. Water-temperature probe was relocated 300 ft upstream on May 10, 2001, to obtain more representative stream temperatures.

REMARKS.—Water-temperature records rated excellent except for Oct. 15 to Nov. 19, Aug. 6 to Sept. 20, which are rated good; and Oct. 1–14, Sept. 21–30, which are rated fair. Water temperature is affected by upstream releases from Nimbus Dam. Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 21.5°C, Oct. 1–4, 2001; minimum recorded, 7.5°C, Jan. 10, 1999, Jan. 30 to Feb. 1, 2002.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 19.0°C, Oct. 7, 8; minimum recorded, 9.0°C, several days in January and February.

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

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

SACRAMENTO RIVER BASIN

11446500 AMERICAN RIVER AT FAIR OAKS, CA—Continued

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

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	11.5	12.5	12.0	13.5	12.5	15.5	15.5	18.0	17.0	17.5	16.5
2	12.0	11.0	12.5	11.5	14.0	12.5	16.0	15.0	17.0	16.5	18.0	16.5
3	11.5	11.0	12.0	11.5	14.5	13.0	15.5	15.5	17.5	17.0	17.5	16.5
4	11.5	11.0	12.0	11.5	14.5	13.5	---	---	18.0	17.0	17.0	16.5
5	12.0	11.5	12.5	11.5	14.5	13.5	---	---	18.0	17.0	17.0	16.5
6	12.0	11.5	12.5	12.0	14.5	13.5	---	---	18.0	17.0	17.0	16.0
7	---	---	12.5	11.5	14.0	13.5	---	---	18.0	17.0	17.0	16.5
8	---	---	12.0	11.5	14.0	13.0	---	---	17.5	17.0	17.0	16.5
9	---	---	12.5	11.5	14.0	13.0	16.0	16.0	18.0	17.0	17.0	16.5
10	---	---	12.5	12.0	14.0	13.0	16.0	15.5	18.0	17.0	17.0	16.5
11	13.5	---	12.5	11.5	14.0	13.5	16.0	15.5	18.0	17.5	17.0	16.5
12	13.0	12.5	13.0	12.0	14.0	13.0	16.0	15.5	17.5	14.5	17.5	16.5
13	12.5	12.0	13.0	11.5	14.0	13.5	16.5	16.0	15.0	14.5	18.0	17.0
14	12.5	12.0	13.0	11.5	14.0	13.5	16.5	16.0	15.5	14.5	17.5	16.5
15	12.5	12.0	12.5	12.0	14.5	13.5	16.5	15.5	15.0	14.5	17.5	16.5
16	13.0	12.5	12.5	12.0	14.5	14.0	16.5	16.0	15.5	15.0	17.5	17.0
17	13.0	12.5	13.0	12.0	14.5	14.0	17.0	16.5	15.5	14.5	17.5	17.0
18	13.0	12.0	13.0	11.5	15.0	14.0	17.0	16.0	15.5	14.5	17.0	17.0
19	13.0	12.5	13.0	12.0	15.0	14.0	16.5	16.0	15.5	14.5	17.5	17.0
20	13.0	12.5	13.5	12.0	15.0	14.0	17.0	16.5	16.0	15.0	18.0	17.0
21	12.5	12.0	14.0	12.0	15.0	14.5	17.0	16.5	16.0	14.5	18.0	17.0
22	13.0	11.5	14.0	12.5	15.0	14.5	17.5	16.5	16.0	15.0	18.0	17.0
23	12.5	11.5	13.5	12.5	15.0	14.5	17.0	16.5	16.0	15.0	18.0	17.0
24	14.0	12.0	13.5	12.5	15.5	14.5	17.0	16.0	16.5	15.5	17.5	16.5
25	12.5	11.0	13.0	12.5	15.5	14.5	17.5	16.5	17.0	15.0	17.5	17.0
26	12.0	11.5	13.0	12.0	15.0	14.5	17.5	17.0	16.5	15.0	17.5	17.0
27	12.5	12.0	13.0	12.5	15.5	15.0	17.5	16.5	16.0	15.0	17.5	17.5
28	13.0	12.0	13.5	12.5	15.5	14.5	17.5	16.5	16.5	15.0	17.5	17.0
29	12.5	12.0	13.5	12.0	15.5	15.0	18.0	17.0	16.5	16.5	17.5	17.0
30	12.5	11.5	13.5	12.5	16.0	15.0	18.0	16.5	17.0	16.0	17.5	17.0
31	---	---	13.5	12.5	---	---	18.0	17.0	17.5	16.0	---	---
MONTH	---	---	14.0	11.5	16.0	12.5	---	---	18.0	14.5	18.0	16.0

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

DATE	TIME	Locatn		
		Depth at sample locatn, feet (81903)	Temper- ature, deg C (00010)	in X-sect. looking dwnstrm ft from l bank (00009)
APR				
01...*	0950	8.30	11.4	247
01...*	0952	12.7	11.4	221
01...*	0955	11.2	11.4	195
01...*	1002	11.2	11.4	169
01...*	1006	11.1	11.4	143
01...*	1008	14.2	11.4	117
01...*	1010	14.2	11.5	91.0
01...*	1012	17.0	11.5	65.0
01...*	1014	17.0	11.5	39.0
01...*	1016	11.1	11.4	13.0
SEP				
09...*	1107	9.00	16.4	257
09...*	1110	12.9	16.4	230
09...*	1113	11.1	16.4	203
09...*	1115	10.8	16.5	176
09...*	1117	12.5	16.5	149
09...*	1119	14.3	16.6	122
09...*	1120	14.6	16.6	95.0
09...*	1122	16.3	16.6	68.0
09...*	1123	14.5	16.6	41.0
09...*	1125	4.20	16.7	14.0

* Instantaneous discharge at time of cross-sectional measurement: Apr. 1, 1,880 ft³/s; Sept.9, 1,760 ft³/s.

11446700 AMERICAN RIVER AT WILLIAM B. POND PARK, AT CARMICHAEL, CA

LOCATION.—Lat 38°35'29", long 121°19'54", in T.9 N., R.6.E., Rio de Los Americanos Grant, Sacramento County, Hydrologic Unit 18020111, on right bank, 20 ft downstream of the pedestrian bridge at William B. Pond Park on the American River Parkway, and 15.8 mi downstream of Folsom Dam.

DRAINAGE AREA.— 1,932 mi².

PERIOD OF RECORD.—October 2000 to current year.

WATER TEMPERATURE: October 2000 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: October 2000 to current year.

INSTRUMENTATION.—Water-temperature recorder since October 10, 2000.

REMARKS.—Water-temperature records rated excellent except for Sept. 9–14, which are rated good. Interruption in record due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 23.5°C, Aug. 24, 2001; minimum recorded, 7.0°C, several days January and February 2002.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 20.5°C, Oct. 7, 8, Aug. 9–11; minimum recorded, 9.0°C, many days in January, February and March.

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

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	17.0	15.5	13.5	14.0	13.0	10.5	9.0	10.0	9.0	11.5	9.0
2	19.0	16.5	15.5	13.0	14.0	13.0	10.5	9.5	10.0	9.0	11.5	9.5
3	19.0	16.0	15.5	13.0	14.0	12.5	10.5	9.5	10.5	9.0	11.0	9.5
4	19.5	16.5	15.0	13.0	14.0	12.5	11.0	9.5	10.5	9.0	11.5	9.5
5	20.0	17.0	15.0	13.0	14.0	12.5	11.0	9.5	10.5	9.0	12.0	9.0
6	20.0	17.5	15.0	13.0	14.0	12.5	11.0	10.0	10.5	9.0	12.0	9.5
7	20.5	17.0	14.5	13.5	13.5	12.5	10.5	9.0	10.5	9.0	12.5	9.5
8	20.5	17.5	15.0	14.0	13.5	12.0	10.0	9.5	10.5	9.0	12.5	9.5
9	20.0	17.5	14.5	13.5	13.0	12.0	10.0	9.5	10.5	9.0	12.5	9.5
10	19.0	17.5	14.5	14.0	13.0	12.5	10.5	10.0	10.5	9.0	12.5	10.0
11	19.5	17.0	15.5	14.0	13.0	12.0	10.5	10.0	10.0	9.5	13.0	10.0
12	19.5	17.0	15.5	13.5	13.0	12.5	10.5	10.0	9.5	9.0	12.5	10.0
13	19.5	17.0	15.5	14.0	12.5	12.5	11.0	10.0	9.5	9.0	12.0	10.5
14	19.5	17.0	15.5	13.5	12.5	12.0	10.5	10.0	10.0	9.5	12.5	10.5
15	19.5	17.0	15.5	13.5	12.5	12.0	10.5	9.5	10.0	9.0	13.0	11.0
16	19.0	16.5	15.0	14.0	12.5	11.5	10.5	9.5	10.0	9.0	11.5	10.5
17	19.0	16.5	15.0	13.5	12.5	11.5	10.0	9.5	10.0	9.0	13.0	10.0
18	18.5	16.5	15.0	13.5	12.5	11.0	10.0	9.5	10.5	9.0	13.0	10.0
19	19.0	16.5	15.0	13.5	11.5	11.0	9.5	9.5	10.0	9.0	13.0	10.5
20	19.0	16.5	15.0	13.5	11.0	11.0	9.5	9.5	10.5	9.0	13.5	11.0
21	19.0	16.5	15.0	13.5	11.5	10.5	10.0	9.5	11.0	9.0	13.5	10.5
22	19.0	16.5	15.0	13.5	11.0	10.0	10.0	9.5	11.0	9.0	13.0	11.0
23	18.5	16.5	15.0	14.0	11.0	9.5	10.0	10.0	11.0	9.0	13.0	11.0
24	17.5	16.5	14.5	14.0	11.0	10.0	10.5	9.5	10.5	9.5	13.5	10.5
25	18.0	16.5	14.5	13.5	10.5	10.0	10.5	9.5	11.0	9.5	14.5	10.5
26	18.0	16.0	14.5	13.0	10.5	10.0	10.0	9.5	11.0	9.5	13.5	11.5
27	17.5	15.5	14.5	13.0	11.0	10.5	10.0	9.5	10.5	9.5	14.0	11.0
28	17.0	15.0	14.5	13.0	10.5	10.0	10.0	9.5	10.5	9.0	14.0	11.0
29	16.5	14.0	14.5	13.0	10.5	10.0	10.0	9.0	---	---	14.5	11.0
30	16.0	14.0	14.0	13.0	10.5	9.5	10.0	9.5	---	---	14.5	11.5
31	16.0	13.5	---	---	10.5	9.5	10.0	9.5	---	---	14.5	11.5
MONTH	20.5	13.5	15.5	13.0	14.0	9.5	11.0	9.0	11.0	9.0	14.5	9.0

SACRAMENTO RIVER BASIN

11446700 AMERICAN RIVER AT WILLIAM B. POND PARK, AT CARMICHAEL, CA—Continued

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

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

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

DATE	TIME	Depth at sample location, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking downstrm ft from l bank (00009)
APR				
01...*	1332	.50	12.8	24.0
01...*	1336	1.70	12.2	71.0
01...*	1340	2.20	12.0	118
01...*	1348	2.00	12.0	165
01...*	1352	1.50	12.0	212
01...*	1357	2.00	12.1	259
01...*	1400	2.70	12.0	316
01...*	1412	7.30	12.0	363
01...*	1416	19.5	12.0	410
01...*	1421	17.5	12.1	457
SEP				
09...*	1318	2.00	17.8	20.0
09...*	1327	1.50	17.7	60.0
09...*	1329	2.20	17.6	100
09...*	1332	2.30	17.6	140
09...*	1334	2.30	17.7	180
09...*	1336	2.90	17.6	220
09...*	1338	3.50	17.6	260
09...*	1345	8.20	17.7	300
09...*	1352	19.9	17.7	340
09...*	1356	16.6	17.7	380

* Estimated discharge at time of cross-sectional measurement: Apr. 1, 1,880 ft³/s; Sept. 9, 1,760 ft³/s

11446980 AMERICAN RIVER BELOW WATT AVENUE BRIDGE, NEAR CARMICHAEL, CA

LOCATION.—Lat 38°34'32", long 121°23'14", in SE 1/4 NW 1/4 sec.12, T.8 N., R.5 E., [Sacramento County](#), Hydrologic Unit 18020111, on right bank, 19.8 mi downstream from Folsom Dam, and 5 mi southwest of Carmichael.

DRAINAGE AREA.—1,938 mi².

PERIOD OF RECORD.—November 1998 to current year.

WATER TEMPERATURE.—November 1998 to current year.

PERIOD OF DAILY RECORD.—

WATER TEMPERATURE.—November 1998 to current year.

INSTRUMENTATION.—Water-temperature recorder since Nov. 13, 1998.

REMARKS.—Water-temperature records rated excellent. Water temperature can be affected by releases from Folsom and Nimbus Dams.

EXTREMES FOR PERIOD OF DAILY RECORD.—

WATER TEMPERATURE: Maximum recorded, 24.0°C, Aug. 24, 2001; minimum recorded, 6.5°C, Jan. 30, 31, 2002.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 21.5°C, Aug. 10, 11; minimum recorded, 8.5°C, several days in February.

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

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.5	17.5	15.0	13.0	14.0	12.5	10.0	9.0	10.5	9.0	12.0	9.0
2	18.5	16.0	15.0	12.5	14.0	12.5	10.0	9.5	10.5	8.5	12.0	9.0
3	19.0	16.5	14.5	13.0	13.5	12.0	10.5	9.0	10.5	8.5	11.0	9.5
4	19.5	17.0	15.0	12.5	13.5	12.0	10.5	9.5	10.5	9.0	12.0	9.5
5	20.0	17.5	14.5	12.5	13.5	12.0	11.0	9.5	10.5	8.5	12.0	9.0
6	20.5	18.0	14.5	13.0	13.5	12.0	10.5	9.5	10.5	8.5	12.0	9.5
7	20.5	18.0	14.5	13.5	13.0	12.0	10.0	9.0	10.5	8.5	12.5	9.5
8	20.5	18.0	15.0	14.0	13.0	11.5	10.0	9.0	10.5	8.5	12.5	9.5
9	20.0	18.0	14.5	13.5	12.5	12.0	10.0	9.5	10.5	8.5	12.5	10.0
10	20.0	17.5	14.0	14.0	13.0	12.0	10.5	9.5	10.5	8.5	12.5	10.0
11	19.0	17.0	15.0	13.5	12.5	11.5	10.5	10.0	10.5	9.0	13.0	10.5
12	19.5	17.0	15.5	13.5	12.5	12.0	11.0	9.5	10.0	9.0	13.0	10.5
13	19.5	17.0	15.0	14.0	12.5	12.0	11.0	10.0	10.0	9.5	12.0	10.5
14	19.5	17.0	15.0	13.5	12.5	12.0	10.5	9.5	10.5	9.0	13.0	11.0
15	19.0	17.0	15.0	13.5	12.0	11.5	11.0	10.0	10.0	9.0	13.5	11.5
16	18.5	17.0	15.0	14.0	12.5	11.5	10.5	9.0	10.5	9.0	12.0	10.5
17	18.5	16.5	14.5	13.5	12.0	11.5	10.0	9.0	10.0	9.0	13.0	10.0
18	18.5	16.5	14.5	13.0	12.0	10.5	10.0	9.5	11.0	9.0	13.0	10.0
19	18.5	16.5	14.5	13.0	11.5	10.0	9.5	9.5	10.5	9.0	13.0	10.5
20	18.5	16.5	14.5	13.0	10.5	10.0	9.5	9.0	11.0	9.0	13.5	11.0
21	18.5	16.5	14.5	13.0	11.5	10.5	10.0	9.0	11.0	9.0	14.0	10.5
22	18.5	16.5	14.5	13.5	11.0	10.0	10.0	9.5	11.5	9.0	13.0	11.0
23	18.0	16.5	14.5	13.5	10.5	9.0	10.5	10.0	11.5	9.0	13.5	11.0
24	17.5	16.0	14.5	13.5	10.5	9.5	10.5	9.5	10.5	9.5	14.0	10.5
25	18.0	16.0	14.5	13.5	10.5	9.5	10.5	9.5	11.0	9.5	14.0	10.5
26	17.5	15.5	14.0	12.5	10.5	9.5	10.0	9.5	11.0	9.0	14.0	12.0
27	17.5	16.0	14.0	12.5	11.0	10.0	10.0	9.5	10.5	9.0	14.0	11.0
28	17.0	15.0	14.0	12.5	10.5	10.0	10.5	9.0	11.0	8.5	14.0	11.0
29	16.0	14.5	14.0	12.5	10.5	9.5	10.0	9.0	---	---	14.5	11.5
30	15.5	14.0	13.5	12.5	10.0	9.5	10.0	9.0	---	---	15.0	12.0
31	15.0	13.5	---	---	10.5	9.0	10.5	9.0	---	---	14.5	12.0
MONTH	20.5	13.5	15.5	12.5	14.0	9.0	11.0	9.0	11.5	8.5	15.0	9.0

SACRAMENTO RIVER BASIN

11446980 AMERICAN RIVER BELOW WATT AVENUE BRIDGE, NEAR CARMICHAEL, CA—Continued

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

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

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

DATE	TIME	Depth at sample location, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking downstrm ft from l bank (00009)
APR				
01...*	1552	.80	12.5	184
01...*	1555	5.80	12.5	165
01...*	1558	8.80	12.4	146
01...*	1601	6.60	12.4	127
01...*	1602	4.90	12.4	108
01...*	1603	2.40	12.4	89.0
01...*	1604	5.70	12.4	70.0
01...*	1605	4.90	12.7	51.0
01...*	1606	1.20	13.2	32.0
SEP				
09...*	1505	1.30	18.0	8.00
09...*	1507	2.60	17.9	24.0
09...*	1509	3.70	17.9	40.0
09...*	1512	5.30	17.9	56.0
09...*	1513	7.50	17.9	72.0
09...*	1514	5.10	18.0	88.0
09...*	1515	4.00	18.0	104
09...*	1516	3.70	18.0	120
09...*	1517	3.30	18.0	136
09...*	1518	1.50	18.2	152

* Estimated discharge at time of cross-sectional measurement: Apr. 1, 1,880 ft³/s; Sept. 9, 1,750 ft³/s.

11447293 DRY CREEK AT VERNON STREET BRIDGE, AT ROSEVILLE, CA

LOCATION.—Lat 38°44'00", long 121°18'03", in SE 1/4 SE 1/4 sec.10, T.10 N, R.6 E, Placer County, Hydrologic Unit 18020111, on left bank downstream side of bridge, and 0.5 mi below confluence of Cirby Creek at Roseville.

DRAINAGE AREA.—80.1 mi².

PERIOD OF RECORD.—October 1996 to September 1999 (no low-flow records), October 1999 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 99.86 ft above NGVD of 1929 (levels by City of Roseville). Prior to Nov. 10, 1999, at site 30 ft upstream at same datum.

REMARKS.—Records good. Low summer flow sustained by ground-water seepage and residential and industrial wastewater.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,950 ft³/s, Jan. 22, 1997, gage height, 24.39 ft; minimum daily, excluding no-flow records, 4.4 ft³/s, Oct. 27, 2001.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0745	1,730	15.04

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	6.8	23	123	56	46	39	102	30	13	19	21
2	29	6.6	24	97	54	44	44	92	29	14	46	e18
3	25	5.9	22	86	52	45	45	387	26	14	51	16
4	29	8.4	21	78	48	43	96	206	24	14	44	17
5	24	6.4	21	74	46	41	66	124	28	14	33	19
6	22	6.4	21	70	45	38	49	104	31	11	28	17
7	21	159	23	66	42	38	42	87	32	12	23	19
8	19	256	21	65	41	39	40	169	30	11	20	22
9	30	57	30	81	40	39	34	224	25	12	20	20
10	26	55	55	139	39	39	35	113	24	12	17	25
11	30	43	38	94	43	37	42	91	30	12	17	22
12	30	29	31	87	43	39	241	77	28	10	21	18
13	30	24	224	94	185	50	613	71	29	11	19	16
14	18	20	460	73	122	158	179	65	29	12	18	14
15	13	18	239	65	73	723	112	61	28	12	17	14
16	9.3	24	1060	61	387	161	92	58	27	11	15	13
17	7.8	22	244	57	117	112	96	55	24	9.9	16	15
18	7.4	21	98	53	85	79	122	51	20	9.1	14	14
19	8.2	22	170	54	83	86	75	47	22	8.3	13	19
20	9.7	22	353	52	76	144	62	44	24	9.1	14	15
21	13	20	364	83	66	82	90	45	21	8.5	17	12
22	10	18	137	93	63	68	97	42	21	7.3	138	13
23	8.4	23	93	168	59	90	67	38	19	7.7	44	14
24	7.8	20	78	108	58	73	192	35	20	11	36	12
25	8.7	20	72	81	61	61	140	37	18	10	28	13
26	9.0	20	69	74	53	58	132	37	18	9.1	23	17
27	9.6	19	73	71	50	62	88	33	19	10	23	21
28	8.9	17	184	68	49	52	431	32	18	12	19	22
29	8.6	16	499	62	---	45	168	31	17	11	17	21
30	6.3	20	163	59	---	41	138	27	13	11	19	21
31	5.9	---	236	57	---	40	---	35	---	11	19	---
TOTAL	515.6	1005.5	5146	2493	2136	2673	3667	2620	724	340.0	848	520
MEAN	16.6	33.5	166	80.4	76.3	86.2	122	84.5	24.1	11.0	27.4	17.3
MAX	31	256	1060	168	387	723	613	387	32	14	138	25
MIN	5.9	5.9	21	52	39	37	34	27	13	7.3	13	12
AC-FT	1020	1990	10210	4940	4240	5300	7270	5200	1440	674	1680	1030

e Estimated.

SACRAMENTO RIVER BASIN

11447293 DRY CREEK AT VERNON STREET BRIDGE, AT ROSEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.6	36.1	96.4	146	231	124	92.8	59.6	21.7	13.5	18.0	22.1
MAX	54.2	50.4	166	272	591	173	122	84.5	24.3	17.1	27.4	29.8
(WY)	2001	2002	2003	2000	2000	2000	2003	2003	2000	2000	2003	2000
MIN	16.6	27.7	26.7	80.4	76.3	86.2	52.4	33.2	18.8	11.0	12.6	17.3
(WY)	2003	2001	2000	2003	2003	2003	2002	2001	2002	2003	2001	2003

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL TOTAL	22902.2		22688.1			
ANNUAL MEAN	62.7		62.2		73.2	
HIGHEST ANNUAL MEAN					110 2000	
LOWEST ANNUAL MEAN					56.1 2001	
HIGHEST DAILY MEAN	1060	Dec 16	1060	Dec 16	3020	Jan 24 2000
LOWEST DAILY MEAN	5.9	Oct 31	5.9	Oct 31	4.4	Oct 27 2001
ANNUAL SEVEN-DAY MINIMUM	6.6	Oct 30	6.6	Oct 30	5.7	Oct 23 2001
MAXIMUM PEAK FLOW			1730 Dec 16		4010 Jan 24 2000	
MAXIMUM PEAK STAGE			15.04 Dec 16		19.04 Jan 24 2000	
ANNUAL RUNOFF (AC-FT)	45430		45000		53070	
10 PERCENT EXCEEDS	129		134		149	
50 PERCENT EXCEEDS	29		32		29	
90 PERCENT EXCEEDS	12		11		13	

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA

LOCATION.—Lat 38°38'01", long 121°22'54", in Del Paso Grant, [Sacramento County](#), Hydrologic Unit 18020111, on right bank, 500 ft upstream from bridge on Watt Avenue, at intersection with Longview Drive, and 1.3 mi east of Del Paso Heights.

DRAINAGE AREA.—31.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—July 1963 to June 1978, December 1995 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 50 ft above NGVD of 1929, from topographic map. Prior to December 1995, at site 0.3 mi upstream at different datum.

REMARKS.—Records good except for estimated daily discharge and discharges below 1 ft³/s, which are poor. Low summer flow sustained by residential and industrial wastewater. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,320 ft³/s, Feb. 3, 1998, gage height, 15.63; no flow for many days in most years.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0100	736	10.79	Apr. 13	1200	651	10.38
Dec. 16	0930	1,150	12.42	Apr. 28	0730	509	9.44
Mar. 15	0845	787	11.08	Aug. 22	1145	640	10.04

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.66	0.07	0.00	9.8	0.33	0.20	0.86	2.0	1.6	1.8	2.2	1.8
2	0.55	0.00	0.00	5.8	0.05	0.12	0.52	6.1	1.7	1.5	2.4	1.6
3	0.29	0.00	0.00	4.1	0.25	0.12	0.23	176	1.6	1.6	2.6	1.3
4	0.09	0.00	0.00	2.9	0.39	0.04	e40	40	1.4	1.8	2.0	1.3
5	0.72	0.00	0.00	2.2	0.14	0.12	7.9	4.3	1.7	1.7	1.8	1.5
6	0.60	0.00	0.00	1.4	0.00	0.02	1.9	1.7	1.6	1.7	1.6	1.5
7	0.85	118	0.00	0.96	0.14	0.01	0.97	0.98	1.7	1.9	1.6	1.2
8	0.88	263	0.00	0.64	0.01	0.88	0.74	35	1.7	1.8	1.7	1.3
9	0.81	12	4.0	14	0.00	0.39	0.74	34	1.6	1.8	1.7	1.3
10	0.43	14	19	57	0.00	0.40	0.54	2.0	1.5	2.0	1.8	1.2
11	0.42	6.8	3.1	14	0.00	0.23	0.58	1.1	1.4	1.8	1.7	1.2
12	0.31	1.8	1.3	7.2	1.3	0.52	165	0.92	1.6	1.9	1.6	1.1
13	0.58	0.92	193	15	77	0.59	275	0.81	1.6	2.1	1.7	1.2
14	0.64	0.65	334	1.4	7.0	46	14	0.76	1.8	1.9	1.6	1.1
15	0.74	0.34	108	0.56	2.1	349	3.2	0.73	2.1	2.1	1.6	1.1
16	0.70	0.01	578	0.39	166	19	1.5	0.66	2.0	1.8	1.7	0.95
17	0.52	0.00	41	0.21	5.3	11	20	0.57	2.2	2.0	1.8	0.82
18	0.94	0.00	18	0.09	2.2	2.4	36	0.64	2.0	2.2	1.6	0.72
19	0.52	0.00	116	0.12	5.7	10	2.1	0.59	1.7	2.2	1.7	0.78
20	0.77	0.00	184	0.00	3.6	42	1.1	0.67	1.6	2.1	1.6	0.89
21	1.4	0.00	146	7.7	1.3	2.3	35	0.94	1.5	2.1	2.2	1.0
22	1.8	0.00	19	12	0.70	1.1	24	1.0	1.7	2.1	210	1.3
23	1.7	0.00	10	45	0.52	9.1	2.2	1.1	1.7	2.1	8.4	1.0
24	0.99	0.00	7.7	6.5	0.76	1.9	79	1.1	1.5	2.2	3.5	0.93
25	0.25	0.00	5.7	1.4	0.88	0.72	10	1.2	1.8	2.2	2.4	1.3
26	0.05	0.00	5.2	0.73	0.40	0.59	9.8	1.1	1.8	2.3	1.8	0.88
27	0.39	0.00	13	0.53	0.26	0.46	1.5	1.1	1.8	2.1	1.6	1.1
28	0.38	0.00	103	0.44	0.45	0.30	184	1.4	2.1	2.0	1.6	1.2
29	0.29	0.00	221	0.49	---	0.12	34	1.5	1.9	1.9	1.6	1.1
30	0.18	0.00	21	0.53	---	0.30	24	1.3	1.7	1.9	2.0	1.1
31	0.00	---	100	0.24	---	0.46	---	1.6	---	1.8	2.0	---
TOTAL	19.45	417.59	2251.00	213.33	276.78	500.39	976.38	322.87	51.6	60.4	273.1	34.77
MEAN	0.63	13.9	72.6	6.88	9.88	16.1	32.5	10.4	1.72	1.95	8.81	1.16
MAX	1.8	263	578	57	166	349	275	176	2.2	2.3	210	1.8
MIN	0.00	0.00	0.00	0.00	0.00	0.01	0.23	0.57	1.4	1.5	1.6	0.72
AC-FT	39	828	4460	423	549	993	1940	640	102	120	542	69

e Estimated.

SACRAMENTO RIVER BASIN

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.00	21.5	34.7	64.5	51.2	18.8	12.6	6.47	3.04	3.22	3.19	3.21
MAX	16.9	76.0	92.4	227	232	64.0	34.7	27.6	5.90	10.0	8.81	14.0
(WY)	2001	1974	1997	1969	1998	1975	1996	1998	1975	1974	2003	1965
MIN	0.63	1.67	0.40	3.15	0.93	0.85	0.12	0.64	0.000	0.000	0.001	1.02
(WY)	2003	2001	2000	1976	1971	1966	1977	1965	1977	1977	1977	1996

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1963 - 2003	
ANNUAL TOTAL	5561.98		5397.66			
ANNUAL MEAN	15.2		14.8		17.9	
HIGHEST ANNUAL MEAN					38.2 1998	
LOWEST ANNUAL MEAN					2.64 1977	
HIGHEST DAILY MEAN	578	Dec 16	578	Dec 16	1910	Feb 3 1998
LOWEST DAILY MEAN	0.00	Oct 31	0.00	Oct 31	0.00	Oct 27 1963
ANNUAL SEVEN-DAY MINIMUM	0.00	Nov 17	0.00	Nov 17	0.00	Dec 31 1963
MAXIMUM PEAK FLOW			1150	Dec 16	3320	Feb 3 1998
MAXIMUM PEAK STAGE			12.42	Dec 16	15.63	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	11030		10710		13000	
10 PERCENT EXCEEDS	20		20		23	
50 PERCENT EXCEEDS	1.6		1.5		2.2	
90 PERCENT EXCEEDS	0.30		0.02		0.40	

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1996 to April 1999, January 2001 to current year.

CHEMICAL DATA: Water years 1996 to April 1999, January 2001 to current year.

SPECIFIC CONDUCTANCE: Water years 1996 to April 1999, January 2001 to current year.

WATER TEMPERATURE: Water years 1996 to April 1999, January 2001 to current year.

SEDIMENT DATA: Water years 1996 to April 1999, January 2001 to current year.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: July 1997 to September 1999.

WATER TEMPERATURE: July 1997 to September 1999.

INSTRUMENTATION.—Water-quality monitor July 1997 to September 1999.

REMARKS.—National Water-Quality Assessment (NAWQA) Program urban runoff study. Variability of chemical concentration result from fluctuations in discharge and storm-drain runoff.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, deg C (00010)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)
NOV									
15...	1130	.37	766	9.8	91	7.4	219	12.5	52.0
JAN									
17...	1220	.20	763	8.7	75	7.1	152	9.0	48.0
FEB									
13...	1120	72	756	9.2	84	7.6	92	11.0	24.0
MAR									
21...	1200	2.1	767	7.9	77	7.2	106	14.5	38.0
APR									
18...	1130	16	763	8.3	80	7.0	84	14.0	77.0
MAY									
21...	1320	1.2	761	8.5	97	7.6	309	22.0	70.0
JUN									
19...	1130	1.5	754	8.0	91	8.0	323	21.0	67.0
JUL									
15...	1030	2.0	759	9.4	111	7.4	223	23.5	70.0
SEP									
25...	1230	2.4	762	6.9	75	7.6	307	19.5	75.0

Date	Chloride, water, fltrd, mg/L (00940)	Sulfate, water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd, mg/L as N (00625)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd, mg/L (00665)	2,6-Diethyl-aniline, water, fltrd, 0.7u GF ug/L (82660)
NOV									
15...	17.9	10.9	.88	<.04	<.06	.008	.12	.27	<.006
JAN									
17...	9.90	8.3	.52	.11	.94	e.004	<.02	.130	<.006
FEB									
13...	3.60	5.1	1.2	.21	.61	.039	.09	.25	<.006
MAR									
21...	6.00	5.4	.72	.07	.52	.018	.08	.180	<.006
APR									
18...	5.18	4.6	1.0	.15	.82	.036	.07	.24	<.006
MAY									
21...	35.9	12.7	.75	<.04	.32	.021	.08	.187	<.006
JUN									
19...	37.1	12.6	1.2	<.04	.60	.047	1.33	1.61	<.006
JUL									
15...	21.9	8.1	.69	<.04	<.06	<.008	.28	.39	<.006
SEP									
25...	35.3	9.9	2.4	.09	.76	.032	.18	.29	<.006

< Actual value is known to be less than value shown.

e Estimated.

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	CIAT, water, fltrd, ug/L (04040)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- HCH, water, fltrd, ug/L (34253)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd, ug/L (82686)	Ben- flur- alin, water, fltrd, ug/L (82673)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd, ug/L (82680)
NOV									
15...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.070
JAN									
17...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.018
FEB									
13...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.062
MAR									
21...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.058
APR									
18...	<.006	<.006	<.004	<.005	.010	<.050	<.010	<.002	e.458
MAY									
21...	<.006	<.006	<.004	<.005	.007	<.050	<.010	<.002	e.118
JUN									
19...	<.006	<.006	<.004	<.005	.007	<.050	<.010	<.002	e.040
JUL									
15...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.046
SEP									
25...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041
Date	Carbo- furan, water, fltrd, ug/L (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water, fltrd, ug/L (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water, fltrd, ug/L (82682)	Desulf- inyl- fipro- nil, water, fltrd, ug/L (62170)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd, ug/L (82677)
NOV									
15...	<.020	<.005	<.006	<.018	e.003	.004	.274	<.005	<.02
JAN									
17...	<.020	.005	<.006	<.018	<.003	<.004	.168	<.005	<.02
FEB									
13...	<.020	<.010	<.006	<.018	<.003	<.004	.331	<.005	<.02
MAR									
21...	<.020	.013	<.006	<.018	.004	.006	.208	<.005	<.02
APR									
18...	<.020	.022	<.006	<.018	.010	.009	.588	<.005	e.01
MAY									
21...	<.020	.006	<.006	<.018	e.003	.010	.192	<.005	<.02
JUN									
19...	<.020	<.005	<.006	<.018	<.003	.008	.121	<.005	<.02
JUL									
15...	<.020	<.005	<.006	<.018	<.003	.006	.078	<.005	<.02
SEP									
25...	<.020	<.005	<.006	<.018	<.003	.008	.048	<.005	<.02
Date	EPTC, water, fltrd, ug/L (82668)	Ethal- flur- alin, water, fltrd, ug/L (82663)	Etho- prop, water, fltrd, ug/L (82672)	Desulf- inyl- fipro- nil amide, wat flt ug/L (62169)	Fipro- nil sulfide water, fltrd, ug/L (62167)	Fipro- nil sulfone water, fltrd, ug/L (62168)	Fipro- nil, water, fltrd, ug/L (62166)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)
NOV									
15...	<.002	<.009	<.005	<.009	e.004	.006	<.011	<.003	<.004
JAN									
17...	<.002	<.009	<.005	<.009	<.005	.007	e.013	<.003	<.004
FEB									
13...	<.002	<.009	<.005	<.009	<.005	<.005	<.020	<.003	.033
MAR									
21...	<.004	<.009	<.005	<.009	<.005	.009	e.031	<.003	<.004
APR									
18...	<.002	<.009	<.005	<.009	<.005	e.010	e.062	<.003	<.004
MAY									
21...	e.002	<.009	<.005	<.009	e.005	.008	e.023	<.003	<.004
JUN									
19...	<.002	<.009	<.005	<.009	.005	.009	e.018	<.003	<.004
JUL									
15...	<.002	<.009	<.005	<.009	e.004	.013	e.015	<.003	<.004
SEP									
25...	<.002	<.009	<.005	<.009	<.005	.009	e.030	<.003	<.004

< Actual value is known to be less than value shown.
e Estimated.

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Linuron water, fltrd 0.7u GF ug/L (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd 0.7u GF ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)
NOV									
15...	<.035	.034	<.006	.015	<.006	<.002	<.007	<.003	<.010
JAN									
17...	<.035	<.027	<.006	e.005	<.006	<.002	<.007	<.003	<.010
FEB									
13...	<.035	.121	<.006	.016	<.006	<.002	<.007	<.003	<.010
MAR									
21...	<.035	.062	<.006	.043	<.006	<.002	<.007	<.003	<.010
APR									
18...	<.035	.172	<.006	.020	<.006	<.002	<.007	<.003	<.010
MAY									
21...	<.035	<.027	<.006	e.004	<.006	<.002	<.007	<.003	<.010
JUN									
19...	<.035	<.027	<.006	e.002	<.006	<.002	<.007	<.003	<.010
JUL									
15...	<.035	<.027	<.006	<.013	<.006	<.002	<.007	<.003	<.010
SEP									
25...	<.035	<.027	<.006	<.013	<.006	<.002	<.007	<.003	<.010

Date	Peb- ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water, fltrd 0.7u GF ug/L (82664)	Prome- ton, water, fltrd, ug/L (04037)	Pron- amide, water, fltrd 0.7u GF ug/L (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd 0.7u GF ug/L (82679)	Propar- gite, water, fltrd 0.7u GF ug/L (82685)	Sima- zine, water, fltrd, ug/L (04035)
NOV									
15...	<.004	e.007	<.011	.15	<.004	<.010	<.011	<.02	.015
JAN									
17...	<.004	<.022	<.011	.12	<.004	<.010	<.011	<.02	.011
FEB									
13...	<.004	<.022	<.011	.15	<.004	<.010	<.011	<.02	.029
MAR									
21...	<.004	.041	<.011	.25	<.004	<.010	<.011	<.02	.019
APR									
18...	<.004	.045	<.011	.11	<.004	<.010	<.011	<.02	.045
MAY									
21...	<.004	<.022	<.011	.26	<.004	<.010	<.011	<.02	.010
JUN									
19...	<.004	<.022	<.011	.10	<.004	<.010	<.011	<.02	<.005
JUL									
15...	<.004	<.022	<.011	.07	<.004	<.010	<.011	<.02	<.005
SEP									
25...	<.004	<.022	<.011	.14	<.004	<.010	<.011	<.02	.009

Date	Tebu- thiuron water, fltrd 0.7u GF ug/L (82670)	Terba- cil, water, fltrd 0.7u GF ug/L (82665)	Terbu- fos, water, fltrd 0.7u GF ug/L (82675)	Thio- bencarb water, fltrd 0.7u GF ug/L (82681)	Tri- allate, water, fltrd 0.7u GF ug/L (82678)	tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)
NOV						
15...	<.02	<.034	<.02	<.005	<.002	<.009
JAN						
17...	<.02	<.034	<.02	<.005	<.002	<.009
FEB						
13...	<.02	<.034	<.02	<.005	<.002	<.009
MAR						
21...	<.02	<.034	<.02	<.005	<.002	e.004
APR						
18...	.03	<.034	<.02	<.005	<.002	.012
MAY						
21...	e.02	<.034	<.02	<.005	<.002	<.009
JUN						
19...	e.02	<.034	<.02	<.005	<.002	<.009
JUL						
15...	<.02	<.034	<.02	<.005	<.002	e.001
SEP						
25...	<.02	e.025	<.02	<.005	<.002	<.009

< Actual value is known to be less than value shown.
e Estimated.

SACRAMENTO RIVER BASIN

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)
NOV						
15...SS	1130	.37	12.5	11	.01	99
JAN						
17...SS	1220	.20	9.0	7	<.01	98
FEB						
13...SS	1120	72	11.0	109	21	90
MAR						
21...SS	1200	2.1	14.5	18	.10	86
APR						
18...SS	1130	16	14.0	77	3.3	93
MAY						
21...SS	1320	1.2	22.0	10	.03	77
JUN						
19...SS	1130	1.5	21.0	5	.02	83
JUL						
15...SS	1030	2.0	23.5	6	.03	98
SEP						
25...SS	1230	2.4	19.5	25	.16	93

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA

LOCATION.—Lat 38°35'12", long 121°30'16", in T.9 N., R.4 E., [Sacramento County](#), Hydrologic Unit 18020109, on left bank, 1,000 ft upstream from I Street Bridge, in city of Sacramento, 0.5 mi downstream from American River.

DRAINAGE AREA.—23,502 mi².

PERIOD OF RECORD.—January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to September 1979 (water discharge), October 1985 to September 1989 (peak elevation of year only, see [station 11447650](#)), October 1989 to September 1996, October 2001 to current year (elevation only). Gage heights collected in this vicinity November 1879 to May 1888, December 1890 to September 1963, are contained in reports of National Weather Service. Elevation for October 1979 to September 1989 in files of the U.S. Geological Survey.

SEDIMENT DATA: Water years 1957–79.

REVISED RECORDS.—WDR CA-76-4; Drainage area.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929. Prior to Oct. 15, 1912, nonrecording gage in vicinity of I Street Bridge. Oct. 15, 1912 to Nov. 16, 1956, water-stage recorder at various sites in vicinity of I Street Bridge. Prior to November 1956, datum of gage at low-water mark of Oct. 23, 1856, 0.12 ft above NGVD of 1929.

REMARKS.—Natural flow of stream affected by storage reservoirs, power development, diversions for irrigation, and return flow from irrigated areas. Floodflows bypass station through Sacramento Weir Spill to Yolo Bypass (stations 11426000 and 11453000). See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD (since 1949).—Maximum elevation, 30.58 ft, Feb. 19, 1986; minimum elevation prior to October 1989 is unknown. Minimum elevation since October 1989, 0.67 ft, Nov. 15, 1991.

EXTREMES FOR CURRENT YEAR.—Maximum elevation, 18.96 ft, Jan. 17, 18; minimum, 2.20 ft, Oct. 14.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.73	2.99	3.78	2.45	4.16	2.57	18.56	18.00	13.70	12.87	8.38	7.70
2	4.42	2.76	3.79	2.53	4.48	2.71	18.81	18.56	12.87	12.07	7.70	7.09
3	4.30	2.83	4.09	2.65	4.81	2.82	18.85	18.81	12.07	11.38	7.09	6.53
4	4.28	2.90	4.42	2.78	4.78	2.88	18.81	18.40	11.38	10.62	6.66	6.14
5	4.17	2.82	4.50	2.90	4.91	2.88	18.40	17.50	10.62	9.80	6.37	5.75
6	3.88	2.68	4.86	2.93	5.07	2.99	17.50	15.83	9.80	9.14	5.93	5.37
7	3.98	2.61	5.77	3.34	4.86	3.12	15.83	13.85	9.14	8.41	5.86	5.25
8	4.22	2.60	6.16	4.45	4.44	3.04	13.85	11.96	8.41	7.85	5.58	4.88
9	4.60	2.66	5.90	4.56	4.37	2.89	11.96	10.66	7.94	7.32	5.44	4.69
10	4.84	2.92	5.57	4.19	4.26	2.98	10.66	9.93	7.82	7.32	5.20	4.37
11	4.71	2.87	5.20	3.94	3.91	2.76	9.99	9.71	7.95	7.31	5.25	4.34
12	4.27	2.41	4.60	3.57	3.84	2.66	11.12	9.78	8.77	7.32	5.22	4.17
13	4.05	2.23	4.43	3.51	4.60	3.00	11.74	11.12	9.93	8.62	5.48	4.16
14	3.87	2.20	4.25	3.40	5.95	4.11	13.30	11.74	10.57	9.69	5.73	4.50
15	3.93	2.48	4.12	3.21	7.72	5.36	15.63	13.30	10.84	10.29	6.71	4.92
16	4.14	2.70	4.19	3.12	11.95	7.72	18.44	15.63	11.35	10.76	9.73	6.29
17	4.06	2.58	4.19	3.12	12.76	11.95	18.96	18.44	12.76	11.34	11.19	9.73
18	3.87	2.50	4.21	3.01	13.83	12.74	18.96	18.63	13.23	12.76	11.17	10.78
19	3.57	2.32	4.14	2.84	15.42	13.83	18.63	17.92	13.21	12.93	10.78	9.47
20	3.74	2.38	4.23	2.68	15.42	14.65	17.92	16.76	12.93	12.36	9.47	8.25
21	3.96	2.46	4.42	2.63	14.65	13.88	16.76	15.43	12.36	12.06	8.25	7.29
22	4.45	2.65	4.83	2.71	14.47	13.92	15.43	14.25	12.06	11.67	7.38	6.73
23	4.18	2.83	4.61	2.99	14.85	14.47	14.25	13.65	11.68	11.32	7.04	6.19
24	4.16	2.52	4.25	2.75	14.85	13.94	14.27	13.72	11.44	10.98	6.65	5.88
25	4.36	2.41	3.92	2.48	13.94	11.54	14.86	14.27	11.05	10.52	6.56	5.91
26	4.63	2.51	3.88	2.30	11.54	9.93	15.27	14.86	10.52	9.91	6.53	5.82
27	4.44	2.64	3.85	2.27	9.93	8.96	15.50	15.27	9.91	9.06	6.03	5.40
28	4.17	2.41	3.62	2.26	10.39	8.91	15.46	15.33	9.06	8.38	6.46	5.36
29	4.17	2.45	3.82	2.34	12.82	10.39	15.33	14.96	---	---	6.53	6.12
30	4.15	2.52	3.98	2.44	15.30	12.82	14.96	14.43	---	---	6.18	5.73
31	3.97	2.47	---	---	18.00	15.30	14.43	13.70	---	---	5.91	5.48
MONTH	4.84	2.20	6.16	2.26	18.00	2.57	18.96	9.71	13.70	7.31	11.19	4.16

11447650 SACRAMENTO RIVER AT FREEPORT, CA

LOCATION.—Lat 38°27'15", long 121°29'54", in SW 1/4 SW 1/4 sec.13, T.7 N., R.4 E., [Sacramento County](#), Hydrologic Unit 18020109, on left bank, 630 ft downstream from drawbridge at Freeport, and 11 mi south of Sacramento.

DRAINAGE AREA.—Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to current year. Prior to October 1979, published as "Sacramento River at Sacramento" (station 11447500).

REVISED RECORD.—WDR CA-96-4: 1994–1995 (P).

GAGE.—Water-stage recorder and acoustic-velocity system. Datum of gage is 100 ft below NGVD of 1929. Prior to Oct. 1, 2001, datum was NGVD of 1929. Prior to Nov. 16, 1956, nonrecording gage and water-stage recorder at various sites in vicinity of I Street Bridge in Sacramento, 13 mi upstream at datum of low-water mark of Oct. 23, 1856, 0.12 ft above NGVD of 1929. Nov. 17, 1956, to Sept. 20, 1979, at site 1,000 ft upstream from I Street Bridge.

REMARKS.—Records good. Natural flow of stream affected by storage reservoirs, power development, diversions for irrigation, return flow from irrigated areas, and tide. Floodflows bypass station through Sacramento Weir Spill to Yolo Bypass (stations 11426000 and 11453000). See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD (since 1949).—Maximum discharge, 117,000 ft³/s, Feb. 19, 1986, elevation, 125.00 ft, at present datum; minimum daily, 3,970 ft³/s, Oct. 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge known prior to Nov. 21, 1950, 103,000 ft³/s, Jan. 17, 1909, elevation, 129.6 ft, site then in use at present datum, from reports of California Department of Water Resources.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12300	10300	9930	63400	44900	27400	18400	42400	28200	19600	25100	16400
2	11900	10300	10000	64700	42400	25200	18000	44700	28100	19500	24900	16400
3	11300	10100	10200	65300	40200	23100	17800	48800	28300	19400	25000	16500
4	10900	10200	10300	63800	37900	21700	18200	53500	27700	19700	25400	17000
5	10700	10500	10500	61300	35400	20700	18200	56900	28000	19500	25700	17300
6	10300	11100	10700	57000	33000	19500	17800	59300	27700	19600	25400	16900
7	9940	11200	11000	50700	30900	19000	17800	61800	26700	19700	24800	16600
8	9470	13800	11300	44100	28800	18600	16700	62400	25800	20500	23300	16400
9	9180	15100	11300	38300	27200	18000	15800	61400	25700	21000	21700	16200
10	9090	15200	12000	34500	26100	17300	15100	58900	25900	21200	20300	16700
11	10200	15400	12100	33400	25700	16700	15100	55400	25300	21600	19200	17000
12	9900	15000	12200	35700	26900	16300	14400	51100	24600	21900	17900	16800
13	9830	14700	12100	39800	31100	15600	16000	45300	24200	22600	17400	16300
14	9620	14200	14500	43200	34100	15800	19600	39900	23300	23200	17100	15800
15	9340	13500	19600	50900	36000	18100	24800	36700	22200	23300	17000	15300
16	9470	12800	34600	60100	37700	26000	25900	35300	21900	23700	16900	15800
17	9410	12200	46300	64900	40900	37300	23300	34500	21500	23500	16700	16300
18	9410	11800	48400	64600	45300	39600	21500	33900	20700	22900	16700	16400
19	9250	11400	53200	62600	45200	35800	20400	33100	20100	22600	16300	15700
20	9120	10900	52400	59200	43400	31100	19800	32200	19500	23000	16500	15200
21	9190	10600	48800	54500	42300	27500	19000	30900	19100	23200	16700	14700
22	9010	9890	48900	50000	41100	24900	19000	29400	18400	23100	18200	14300
23	9500	10500	51200	47000	39900	23400	18400	28400	17200	23600	18700	13500
24	9190	10500	50700	47600	38700	22000	18600	27100	16700	23800	18600	13400
25	9030	10300	44700	49500	37200	22200	20300	27700	16200	23600	18400	13500
26	9160	10100	36800	51100	35200	21700	27100	28100	15000	24300	18100	13100
27	9790	10300	31800	52100	32900	20700	34400	27300	15200	24500	17500	12900
28	9830	10400	31400	52000	30000	21400	36900	26800	17400	24800	17300	12600
29	10100	10200	39800	51200	---	22800	38500	27200	18600	25300	17200	12800
30	10600	9900	48800	49700	---	21400	40800	28200	19100	25500	16600	12600
31	10600	---	57500	47800	---	19800	---	28100	---	25600	16500	---
TOTAL	306630	352390	903030	1610000	1010400	710600	647600	1256700	668300	695300	607100	460400
MEAN	9891	11750	29130	51940	36090	22920	21590	40540	22280	22430	19580	15350
MAX	12300	15400	57500	65300	45300	39600	40800	62400	28300	25600	25700	17300
MIN	9010	9890	9930	33400	25700	15600	14400	26800	15000	19400	16300	12600
AC-FT	608200	699000	1791000	3193000	2004000	1409000	1285000	2493000	1326000	1379000	1204000	913200

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12340	16190	26450	35210	40950	37710	29330	24700	18280	15290	14680	14860
MAX	28690	48820	74510	87110	81370	78290	76580	69820	55690	31000	25180	25320
(WY)	1963	1984	1984	1997	1998	1983	1982	1952	1998	1983	1998	1998
MIN	4494	6380	7208	8984	8003	6573	5961	6414	6865	6345	7061	6838
(WY)	1978	1993	1960	1991	1977	1977	1977	1992	1977	1949	1949	1977

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1949 - 2003	
ANNUAL TOTAL	6691790		9228450			
ANNUAL MEAN	18330		25280		23750	
HIGHEST ANNUAL MEAN					46900	
LOWEST ANNUAL MEAN					7608	
HIGHEST DAILY MEAN	65600	Jan 6	65300	Jan 3	115000	Feb 19 1986
LOWEST DAILY MEAN	9010	Oct 22	9010	Oct 22	3970	Oct 15 1977
ANNUAL SEVEN-DAY MINIMUM	9170	Oct 20	9170	Oct 20	4060	Oct 13 1977
MAXIMUM PEAK FLOW			65700	Jan 3	117000	Feb 19 1986
MAXIMUM PEAK STAGE			114.34	Jan 3	125.00	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	13270000		18300000		17200000	
10 PERCENT EXCEEDS	28700		48800		55400	
50 PERCENT EXCEEDS	15400		20700		16100	
90 PERCENT EXCEEDS	10100		10300		9060	

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1957 to current year.

CHEMICAL DATA: Water years 1959 to current year.

BIOLOGICAL DATA: Water years 1974–81.

SPECIFIC CONDUCTANCE: Water years 1974–75, 1989–98.

WATER TEMPERATURE: Water year 1960 to current year.

SEDIMENT DATA: Water year 1957 to current year (prior to water year 1980, published as 11447500 "Sacramento River at Sacramento").

PERIOD OF DAILY RECORD.—October 1956 to current year.

CHEMICAL DATA: June 1960 to June 1963.

SPECIFIC CONDUCTANCE: Water years 1974–75, 1989–94, 1996–98.

WATER TEMPERATURE: June 1960 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1956 to current year.

INSTRUMENTATION.—Water-temperature recorder June 1960 to November 1988. Water-quality monitor since November 1988.

REMARKS.—Water-temperature records rated excellent except for Jan. 25 to Feb. 14, July 31 to Sept. 23, which are rated good. Records of sediment discharge from 1957 to 1979 were obtained at "Sacramento River at Sacramento" (station 11447500) and are considered equivalent. Additional specific-conductance, monthly chemical, and trace-element data are available in files of the U.S. Geological Survey. Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 318 microsiemens, Nov. 22, 1974; minimum recorded, 32 microsiemens, Apr. 6, 1974.

WATER TEMPERATURE: Maximum recorded, 27.0°C, Sept. 8, 1977; minimum recorded, 3.0°C, Dec. 25–27, 1990.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,960 mg/L, Dec. 24, 1964; minimum daily, 1 mg/L, Sept. 22, 2003.

SEDIMENT LOAD: Maximum daily, 525,000 tons, Dec. 24, 1964; minimum daily, 35 tons, Jan. 31, 1991.

EXTREMES FOR CURRENT YEAR.—

WATER TEMPERATURE: Maximum recorded, 23.5°C, June 28, 29; minimum recorded, 8.0°C, Dec. 24–26, but may have been lower during periods of missing record.

SEDIMENT CONCENTRATION: Maximum daily mean, 512 mg/L, Dec. 17; minimum daily mean, 1 mg/L, Sept. 22.

SEDIMENT LOAD: Maximum daily, 73,300 tons, Dec. 19; minimum daily, 39 tons, Sept. 22.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)
OCT									
08...	1100	17200	763	9.5	98	7.9	129	17.0	47
NOV									
08...	1000	14400	766	8.9	88	7.7	148	15.0	54
DEC									
09...	1100	17400	765	10.6	92	7.7	157	9.5	36
JAN									
29...	1030	44000	764	10.0	89	7.6	123	10.5	47
FEB									
24...	1300	75700	763	10.8	96	7.7	101	10.0	39
MAR									
21...	1030	49600	761	10.4	97	7.7	140	12.0	56
APR									
24...	1140	28300	--	--	--	7.7	132	16.5	51
MAY									
17...	1130	20700	764	10.5	106	7.8	171	16.0	60
JUN									
27...	1300	19100	758	8.6	99	7.9	111	22.0	41
JUL									
18...	1100	22000	765	12.3	135	7.9	116	20.0	42
AUG									
29...	1100	19800	758	8.1	91	8.0	188	21.0	59
SEP									
22...	1100	17400	752	8.3	95	7.9	152	21.5	54

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)	Chloride, water, fltrd, mg/L (00940)
OCT									
08...	.0	10.1	5.32	1.02	.4	6.57	23	47.0	3.82

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

Date	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
NOV 08...	--	11.5	6.09	1.52	.5	8.65	25	54.0	5.35
DEC 09...	--	7.58	4.19	.94	.4	5.67	25	59.0	6.56
JAN 29...	1	10.1	5.35	1.29	.4	6.09	21	46.0	4.15
FEB 24...	--	8.62	4.28	1.28	.3	4.85	21	--	2.92
MAR 21...	2	12.3	6.15	.87	.4	6.57	20	54.0	4.72
APR 24...	2	11.2	5.61	.94	.4	7.01	23	49.0	4.51
MAY 17...	--	12.5	6.94	1.00	.6	10.7	28	64.0	6.65
JUN 27...	3	9.00	4.53	.77	.4	5.92	23	38.0	3.28
JUL 18...	--	9.09	4.79	.76	.4	5.86	23	49.0	3.29
AUG 29...	.0	12.2	6.98	.91	.6	9.87	26	59.0	5.62
SEP 22...	--	11.2	6.33	1.06	.5	8.60	25	64.0	4.85
OCT 08...	<.1	15.8	4.2	75	.12	89	e.10	.14	<.02
NOV 08...	<.1	17.5	6.7	90	.13	98	.13	.26	.02
DEC 09...	<.1	12.4	6.3	80	.14	104	e.08	.24	.02
JAN 29...	<.1	17.5	4.6	78	.12	87	e.10	.32	<.02
FEB 24...	<.1	15.6	3.7	--	--	69	.18	.32	<.02
MAR 21...	<.1	18.2	5.6	88	.12	85	.10	.33	<.02
APR 24...	<.1	15.9	5.9	81	.12	89	.12	.20	<.02
MAY 17...	<.1	16.6	11.7	105	.14	101	.13	.20	<.02
JUN 27...	<.1	15.2	4.2	66	.10	75	.12	.13	.02
JUL 18...	<.1	15.4	4.6	73	.11	78	.12	.14	<.02
AUG 29...	<.1	15.9	5.7	93	.14	102	.11	.18	<.02
SEP 22...	<.1	16.3	5.5	93	.13	97	e.09	.15	<.02

< Actual value is known to less than value shown.
e Estimated.

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Iron, water, fltrd, ug/L (01046)	Mangan- ese, water, fltrd, ug/L (01056)
OCT 08...	.07	<.010	.01	.027	.045	.4	1.6	e7	2.7
NOV 08...	.09	<.010	.03	.036	.057	.3	2.2	32	e2.1
DEC 09...	.14	<.010	.03	.041	.066	.2	2.2	14	2.8
JAN 29...	.19	<.010	.03	.033	.108	.6	2.2	26	6.4
FEB 24...	.12	<.010	.03	.037	.109	1.1	3.6	48	3.7
MAR 21...	.15	<.010	.02	.023	.145	.3	1.8	14	<2.2
APR 24...	.14	<.010	.02	<.006	.071	.2	1.7	33	e2.2
MAY 17...	.20	<.010	.03	.030	.066	.2	1.8	11	e1.8
JUN 27...	.05	<.010	.01	.019	.039	.2	1.4	e9	3.6
JUL 18...	<.05	<.010	.01	.019	.041	<.2	1.3	16	e2.1
AUG 29...	.05	<.010	.02	.028	.055	.3	1.7	<10	e1.3
SEP 22...	.07	<.010	.03	.032	.063	.3	2.3	12	e1.7

Date	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- HCH, water, fltrd, ug/L (34253)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	Butyl- ate, water, fltrd, ug/L (04028)
OCT 08...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
NOV 08...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
DEC 09...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
JAN 29...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
FEB 24...	<.003	<.002	<.002	<.002	<.002	e.003	<.001	<.002	<.002
MAR 21...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
APR 24...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
MAY 17...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
JUN 27...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
JUL 18...	<.003	<.002	<.002	<.002	<.002	e.003	<.001	<.002	<.002
AUG 29...	<.003	<.002	<.002	<.002	<.002	<.001	<.001	<.002	<.002
SEP 22...	<.002	<.006	<.004	<.002	<.005	<.007	<.050	<.010	<.002

< Actual value is known to less than value shown.

e Estimated.

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Carbaryl, water, fltrd 0.7u GF (82680)	Carbo- furan, water, fltrd 0.7u GF (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF (82682)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF (82677)
OCT 08...	<.003	<.003	<.004	<.005	<.004	<.002	<.002	<.001	<.02
NOV 08...	<.003	<.003	<.004	<.005	<.004	<.002	<.002	<.001	<.02
DEC 09...	<.003	<.020	<.004	<.005	<.004	<.002	<.002	<.001	<.02
JAN 29...	<.003	<.003	<.004	<.005	<.004	<.002	.011	<.001	<.02
FEB 24...	e.008	<.010	<.004	<.005	<.004	e.002	.016	<.001	<.02
MAR 21...	<.003	e.003	<.004	<.005	<.004	<.002	.004	<.001	<.02
APR 24...	<.003	<.003	<.004	<.005	<.004	<.002	e.003	<.001	<.02
MAY 17...	e.012	e.067	<.004	<.005	<.004	<.002	.010	<.001	<.02
JUN 27...	<.003	<.003	e.003	<.005	<.004	<.002	<.002	<.001	<.02
JUL 18...	e.040	<.003	.006	<.005	<.010	<.002	<.002	<.001	<.02
AUG 29...	e.005	<.003	<.004	<.005	.006	<.002	<.002	<.001	<.02
SEP 22...	<.041	<.020	<.005	<.006	<.018	<.003	<.005	<.005	<.02

Date	EPTC, water, fltrd 0.7u GF (82668)	Ethal- flur- alin, water, fltrd 0.7u GF (82663)	Etho- prop, water, fltrd 0.7u GF (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF (82667)	Metola- chlor, water, fltrd, ug/L (39415)
OCT 08...	<.002	<.004	<.003	<.003	<.004	<.002	<.010	<.006	<.002
NOV 08...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
DEC 09...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	<.002
JAN 29...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	.007
FEB 24...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	.005
MAR 21...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	.005
APR 24...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	.005
MAY 17...	<.002	<.004	<.003	<.003	<.004	<.002	.007	<.006	.020
JUN 27...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	.008
JUL 18...	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.006	.006
AUG 29...	<.002	<.004	<.003	<.003	<.004	<.002	.005	<.006	.005
SEP 22...	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	<.013

< Actual value is known to less than value shown.

e Estimated.

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd, 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd, 0.7u GF ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd, 0.7u GF ug/L (82669)	Pendi- meth- alin, water, fltrd, 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prome- ton, water, fltrd, ug/L (04037)
OCT									
08...	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.002	<.02
NOV									
08...	<.004	.019	<.003	<.006	<.004	<.004	<.004	<.002	<.02
DEC									
09...	<.004	.018	<.003	<.006	<.004	<.004	<.004	<.002	<.02
JAN									
29...	<.004	.011	<.003	<.006	<.004	<.004	<.004	<.002	<.02
FEB									
24...	<.004	.009	<.003	<.006	<.004	<.004	<.004	<.002	<.02
MAR									
21...	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.002	<.02
APR									
24...	<.004	.011	<.003	<.006	<.004	<.004	<.004	<.002	<.02
MAY									
17...	<.004	1.63	<.003	<.006	<.004	<.004	<.004	<.002	<.02
JUN									
27...	<.004	.078	<.003	<.006	<.004	<.004	<.004	<.002	<.02
JUL									
18...	<.004	.043	<.003	<.006	<.004	<.004	<.004	<.002	<.02
AUG									
29...	<.004	.037	<.003	<.006	<.004	<.004	<.004	<.002	<.02
SEP									
22...	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.011	<.01

Date	Pron- amide, water, fltrd, 0.7u GF ug/L (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd, 0.7u GF ug/L (82679)	Propar- gite, water, fltrd, 0.7u GF ug/L (82685)	Sima- zine, water, fltrd, ug/L (04035)	Tebu- thiuron water, fltrd, 0.7u GF ug/L (82670)	Terba- cil, water, fltrd, 0.7u GF ug/L (82665)	Terbu- fos, water, fltrd, 0.7u GF ug/L (82675)	Thio- bencarb water fltrd 0.7u GF ug/L (82681)
OCT									
08...	<.003	<.007	<.004	<.01	<.005	<.01	<.007	<.01	<.002
NOV									
08...	<.003	<.007	<.004	<.01	<.005	<.01	<.007	<.01	<.010
DEC									
09...	<.003	<.007	<.004	<.01	<.005	<.01	<.007	<.01	.009
JAN									
29...	<.003	<.007	<.004	<.01	.010	<.01	<.007	<.01	.009
FEB									
24...	<.003	<.007	e.003	<.01	.028	<.01	<.007	<.01	.006
MAR									
21...	<.003	<.007	<.004	<.01	.007	<.01	<.007	<.01	<.002
APR									
24...	<.003	<.007	<.004	<.01	<.005	<.01	<.007	<.01	e.003
MAY									
17...	<.003	<.007	<.004	<.01	.006	<.01	<.007	<.01	.611
JUN									
27...	<.003	<.007	.029	<.01	<.005	<.01	<.007	<.01	.024
JUL									
18...	<.003	<.007	.013	<.01	<.005	<.01	<.007	<.01	.017
AUG									
29...	<.003	<.007	<.004	<.01	<.005	<.01	<.007	<.01	.016
SEP									
22...	<.004	<.010	<.011	<.02	<.011	<.02	<.034	<.02	<.005

< Actual value is known to less than value shown.

e Estimated.

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Tri- allate, water, fltrd 0.7u GF ug/L (82678)	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)
OCT		
08...	<.001	<.002
NOV		
08...	<.001	<.002
DEC		
09...	<.001	<.002
JAN		
29...	<.001	<.002
FEB		
24...	<.001	e.002
MAR		
21...	<.001	e.003
APR		
24...	<.001	<.002
MAY		
17...	<.001	e.004
JUN		
27...	<.001	e.003
JUL		
18...	<.001	<.002
AUG		
29...	<.001	<.002
SEP		
22...	<.002	<.009

< Actual value is known to be less than value shown.
e Estimated.

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)	
NOV										
13...	1230	10500	766	10.1	98	7.5	215	14.0	70.0	
JAN										
21...	1320	54200	767	9.8	86	7.3	141	10.0	44.0	
FEB										
12...	1230	24400	756	10.8	95	7.6	158	9.5	65.0	
MAR										
19...	1230	36800	764	9.7	92	7.3	111	13.0	45.0	
APR										
14...	1230	21400	763	9.7	95	7.8	146	14.5	60.0	
MAY										
20...	1250	32800	767	10.9	111	7.8	115	16.5	46.0	
JUN										
17...	1340	24100	762	9.4	106	8.0	128	21.0	50.0	
JUL										
22...	1220	24100	766	11.9	135	7.8	110	22.0	43.0	
SEP										
23...	1330	16800	762	9.1	101	7.5	166	20.5	69.0	
Date	Time	Chloride, water, fltrd, mg/L (00940)	Sulfate, water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethyl-aniline, water, fltrd 0.7u GF (82660)
NOV										
13...	8.95	10.4	.35	<.04	.16	<.008	.05	.097	<.006	
JAN										
21...	3.81	5.9	.20	<.04	.20	<.008	.03	.088	<.006	
FEB										
12...	4.01	8.0	.17	<.04	.20	<.008	.02	.058	<.006	
MAR										
19...	3.73	5.0	.39	<.04	.11	<.008	.03	.166	<.006	
APR										
14...	5.53	6.5	.23	<.04	.16	e.004	.03	.073	<.006	
MAY										
20...	2.84	4.7	.18	<.04	<.06	<.008	<.02	.075	<.006	
JUN										
17...	3.79	5.9	.19	<.04	<.06	<.008	<.02	.051	<.006	
JUL										
22...	2.27	3.7	<.10	<.04	<.06	e.005	e.01	.034	<.006	
SEP										
23...	6.09	6.2	.17	<.04	<.06	<.008	e.01	.056	<.006	
Date	Time	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF (82686)	Benfluralin, water, fltrd 0.7u GF (82673)	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd 0.7u GF (82680)
NOV										
13...	<.006	<.006	<.004	<.005	e.004	<.050	<.010	<.002	e.007	
JAN										
21...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	
FEB										
12...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	
MAR										
19...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	
APR										
14...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.025	
MAY										
20...	<.006	<.006	<.004	<.005	e.006	<.050	<.010	<.002	<.041	
JUN										
17...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	
JUL										
22...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	e.019	
SEP										
23...	<.006	<.006	<.004	<.005	<.007	<.050	<.010	<.002	<.041	

< Actual value is known to be less than value shown.
e Estimated.

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Carbo- furan, water, fltrd 0.7u GF (82674)	Chloro- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water, fltrd 0.7u GF (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water, fltrd 0.7u GF (82682)	Desulf- inyl fipro- nil, water, fltrd, ug/L (62170)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u G (82677)
NOV									
13...	<.020	<.005	<.006	<.018	.004	<.004	.006	<.005	<.02
JAN									
21...	<.020	e.004	<.006	<.018	<.003	<.004	.011	<.005	<.02
FEB									
12...	<.020	<.005	<.006	<.018	<.003	<.004	.040	<.005	<.02
MAR									
19...	<.020	<.005	<.006	<.018	<.003	<.004	.011	<.005	<.02
APR									
14...	<.020	<.005	<.006	<.018	<.003	<.004	.018	<.005	<.02
MAY									
20...	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02
JUN									
17...	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02
JUL									
22...	<.020	<.015	<.006	<.018	<.003	<.004	<.005	<.005	<.02
SEP									
23...	<.040	<.010	<.006	<.018	<.003	<.004	<.007	<.005	<.02
Date	EPTC, water, fltrd 0.7u GF (82668)	Ethal- flur- alin, water, fltrd 0.7u GF (82663)	Etho- prop, water, fltrd 0.7u GF (82672)	Desulf- inyl- fipro- nil amide, wat flt ug/L (62169)	Fipro- nil sulfide water, fltrd, ug/L (62167)	Fipro- nil sulfone water, fltrd, ug/L (62168)	Fipro- nil, water, fltrd, ug/L (62166)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)
NOV									
13...	<.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
JAN									
21...	<.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
FEB									
12...	<.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
MAR									
19...	.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
APR									
14...	<.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
MAY									
20...	<.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
JUN									
17...	<.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
JUL									
22...	.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
SEP									
23...	<.002	<.009	<.005	<.009	<.005	<.005	<.007	<.003	<.004
Date	Linuron water, fltrd 0.7u GF (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF (82671)	Naprop- amide, water, fltrd 0.7u GF (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)
NOV									
13...	<.035	e.009	<.006	e.008	.011	.071	<.007	<.003	<.010
JAN									
21...	<.035	<.027	<.006	e.004	<.006	.006	<.007	<.003	<.010
FEB									
12...	<.035	<.027	<.006	<.013	<.006	.009	<.007	<.003	<.010
MAR									
19...	<.035	<.027	<.006	<.013	<.006	<.002	<.007	<.003	<.010
APR									
14...	<.035	e.005	<.006	e.009	<.006	<.002	<.007	<.003	<.010
MAY									
20...	<.035	<.027	<.006	e.001	<.006	.012	<.007	<.003	<.010
JUN									
17...	<.035	<.027	<.006	e.009	<.006	.394	<.007	<.003	<.010
JUL									
22...	<.035	<.027	<.006	e.005	<.006	.024	<.007	<.003	<.010
SEP									
23...	<.035	<.027	<.020	<.013	<.006	<.020	<.007	<.003	<.010

< Actual value is known to be less than value shown.
e Estimated.

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Peb- ulate, water, fltrd 0.7u GF (82669)	Pendi- meth- alin, water, fltrd 0.7u GF (82683)	Phorate water fltrd 0.7u GF (82664)	Prome- ton, water, fltrd, ug/L (04037)	Pron- amide, water, fltrd 0.7u GF (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd 0.7u GF (82679)	Propar- gite, water, fltrd 0.7u GF (82685)	Sima- zine, water, fltrd, ug/L (04035)
NOV									
13...	<.004	<.022	<.011	<.01	<.004	<.010	e.011	<.02	.007
JAN									
21...	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.008
FEB									
12...	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.010
MAR									
19...	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.045
APR									
14...	<.004	<.022	<.011	e.01	<.004	<.010	<.011	<.02	.012
MAY									
20...	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.007
JUN									
17...	<.004	<.022	<.011	<.01	<.004	<.010	.035	<.02	.010
JUL									
22...	<.004	<.022	<.011	<.01	<.004	<.010	.025	<.02	<.005
SEP									
23...	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.04	<.005

Date	Tebu- thiuron water fltrd 0.7u GF (82670)	Terba- cil, water, fltrd 0.7u GF (82665)	Terbu- fos, water, fltrd 0.7u GF (82675)	Thio- bencarb water fltrd 0.7u GF (82681)	Tri- allate, water, fltrd 0.7u GF (82678)	Tri- flur- alin, water, fltrd 0.7u GF (82661)
NOV						
13...	<.02	<.034	<.02	.026	<.002	<.009
JAN						
21...	<.02	<.034	<.02	e.004	<.002	<.009
FEB						
12...	<.02	<.034	<.02	<.010	<.002	<.009
MAR						
19...	<.02	<.034	<.02	<.005	<.002	<.009
APR						
14...	e.02	<.034	<.02	<.005	<.002	<.009
MAY						
20...	<.02	<.034	<.02	.007	<.002	<.009
JUN						
17...	<.02	<.034	<.02	.115	<.002	<.009
JUL						
22...	<.02	<.034	<.02	<.007	<.002	<.009
SEP						
23...	<.02	<.034	<.02	.008	<.002	<.009

< Actual value is known to be less than value shown.

e Estimated.

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concentra- tion mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
OCT						
07...	1132	13600	18.0	84	13	477
NOV						
12...	1108	10700	13.5	90	21	607
13...SS	1230	10500	14.0	98	15	424
DEC						
18...	1425	47400	10.5	82	490	62700
JAN						
21...SS	1320	54200	10.0	92	54	7900
FEB						
12...SS	1230	24400	9.5	90	12	791
14...	1033	34600	10.0	65	66	6170
MAR						
26...	1031	20100	14.5	90	41	2230
APR						
14...SS	1230	21400	14.5	82	40	2320
MAY						
16...	1045	36200	17.5	78	82	8010
20...SS	1250	32800	16.5	79	40	3540
JUN						
17...SS	1340	24100	21.0	85	25	1630
JUL						
07...	1108	19500	20.0	85	28	1470
22...SS	1220	24100	22.0	94	11	716
AUG						
18...	0915	16900	21.5	82	30	1370
SEP						
23...SS	1330	16800	20.5	93	14	635

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Bed sedi- ment, dry svd sve dia percent <.125mm (80165)	Bed sedi- ment, dry svd sve dia percent <.25mm (80166)	Bed sedi- ment, dry svd sve dia percent <.5 mm (80167)	Bed sedi- ment, dry svd sve dia percent <1 mm (80168)	Bed sedi- ment, dry svd sve dia percent <2 mm (80169)	Bed sedi- ment, dry svd sve dia percent <4 mm (80170)	Bed sedi- ment, dry svd sve dia percent <8 mm (80171)	Number of sam- pling points, count (00063)
FEB											
14...	1055	34600	10.0	3	6	48	86	96	98	100	1
14...	1057	34600	10.0	--	3	68	93	99	100	--	1
14...	1059	34600	10.0	1	22	91	99	100	--	--	1
14...	1101	34600	10.0	1	16	83	98	100	--	--	1
14...	1103	34600	10.0	3	35	97	100	--	--	--	1
MAY											
16...	1115	36400	17.5	1	6	62	94	99	100	--	1
16...	1120	36400	17.5	1	11	92	100	--	--	--	1
16...	1125	36400	17.5	1	19	91	99	100	--	--	1
16...	1126	36400	17.5	1	14	94	100	--	--	--	1
16...	1130	36400	17.5	4	54	99	100	--	--	--	1

SS Suspended-sediment data determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	12300	7	232	10300	5	139	9930	7	188
2	11900	7	225	10300	5	139	10000	8	216
3	11300	7	214	10100	6	164	10200	8	220
4	10900	8	235	10200	6	165	10300	8	222
5	10700	9	260	10500	6	170	10500	9	255
6	10300	11	306	11100	8	240	10700	9	260
7	9940	12	322	11200	11	333	11000	10	297
8	9470	9	230	13800	14	522	11300	10	305
9	9180	8	198	15100	15	612	11300	11	336
10	9090	8	196	15200	17	698	12000	11	356
11	10200	8	220	15400	19	790	12100	10	327
12	9900	8	214	15000	24	972	12200	9	296
13	9830	8	212	14700	26	1030	12100	17	555
14	9620	8	208	14200	22	843	14500	49	1920
15	9340	8	202	13500	19	693	19600	135	7140
16	9470	6	153	12800	17	588	34600	311	29100
17	9410	4	102	12200	14	461	46300	512	64000
18	9410	4	102	11800	12	382	48400	479	62600
19	9250	4	100	11400	10	308	53200	510	73300
20	9120	4	98	10900	9	265	52400	364	51500
21	9190	4	99	10600	10	286	48800	285	37600
22	9010	4	97	9890	11	294	48900	245	32300
23	9500	5	128	10500	12	340	51200	256	35400
24	9190	6	149	10500	13	369	50700	231	31600
25	9030	6	146	10300	14	389	44700	193	23300
26	9160	6	148	10100	13	355	36800	153	15200
27	9790	7	185	10300	11	306	31800	112	9620
28	9830	7	186	10400	9	253	31400	117	9920
29	10100	7	191	10200	7	193	39800	186	20000
30	10600	6	172	9900	7	187	48800	254	33500
31	10600	5	143	---	---	---	57500	262	40700
TOTAL	306630	---	5673	352390	---	12486	903030	---	582533
	JANUARY			FEBRUARY			MARCH		
1	63400	226	38700	44900	66	8000	27400	44	3260
2	64700	202	35300	42400	67	7670	25200	45	3060
3	65300	261	46000	40200	69	7490	23100	45	2810
4	63800	249	42900	37900	71	7270	21700	37	2170
5	61300	222	36700	35400	72	6880	20700	30	1680
6	57000	189	29100	33000	73	6500	19500	27	1420
7	50700	119	16300	30900	68	5670	19000	26	1330
8	44100	89	10600	28800	62	4820	18600	27	1360
9	38300	72	7450	27200	57	4190	18000	28	1360
10	34500	57	5310	26100	52	3660	17300	28	1310
11	33400	61	5500	25700	56	3890	16700	24	1080
12	35700	119	11500	26900	61	4430	16300	20	880
13	39800	191	20500	31100	65	5460	15600	19	800
14	43200	285	33200	34100	67	6170	15800	19	811
15	50900	372	51100	36000	75	7290	18100	34	1660
16	60100	388	63000	37700	82	8350	26000	87	6110
17	64900	342	59900	40900	90	9940	37300	138	13900
18	64600	279	48700	45300	94	11500	39600	150	16000
19	62600	216	36500	45200	80	9760	35800	148	14300
20	59200	153	24500	43400	64	7500	31100	109	9150
21	54500	95	14000	42300	58	6620	27500	70	5200
22	50000	78	10500	41100	54	5990	24900	57	3830
23	47000	73	9260	39900	49	5280	23400	48	3030
24	47600	71	9120	38700	44	4600	22000	40	2380
25	49500	70	9360	37200	40	4020	22200	37	2220
26	51100	70	9660	35200	40	3800	21700	39	2290
27	52100	69	9710	32900	42	3730	20700	48	2680
28	52000	68	9550	30000	43	3480	21400	56	3240
29	51200	65	8990	---	---	---	22800	55	3390
30	49700	63	8450	---	---	---	21400	54	3120
31	47800	64	8260	---	---	---	19800	51	2730
TOTAL	1610000	---	729620	1010400	---	173960	710600	---	118561

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	18400	43	2140	42400	160	18300	28200	42	3200
2	18000	37	1800	44700	192	23200	28100	39	2960
3	17800	35	1680	48800	176	23200	28300	33	2520
4	18200	35	1720	53500	153	22100	27700	28	2090
5	18200	34	1670	56900	132	20300	28000	28	2120
6	17800	32	1540	59300	121	19400	27700	29	2170
7	17800	30	1440	61800	114	19000	26700	33	2380
8	16700	25	1130	62400	116	19500	25800	38	2650
9	15800	21	896	61400	117	19400	25700	41	2840
10	15100	21	856	58900	104	16500	25900	41	2870
11	15100	23	938	55400	90	13500	25300	40	2730
12	14400	29	1130	51100	78	10800	24600	36	2390
13	16000	35	1510	45300	78	9540	24200	33	2160
14	19600	43	2280	39900	79	8510	23300	34	2140
15	24800	55	3680	36700	77	7630	22200	34	2040
16	25900	64	4480	35300	83	7910	21900	34	2010
17	23300	53	3330	34500	87	8100	21500	27	1570
18	21500	40	2320	33900	83	7600	20700	20	1120
19	20400	34	1870	33100	77	6880	20100	23	1250
20	19800	29	1550	32200	65	5650	19500	27	1420
21	19000	24	1230	30900	55	4590	19100	27	1390
22	19000	22	1130	29400	56	4450	18400	27	1340
23	18400	23	1140	28400	57	4370	17200	27	1250
24	18600	41	2060	27100	59	4320	16700	28	1260
25	20300	63	3450	27700	61	4560	16200	30	1310
26	27100	95	6950	28100	63	4780	15000	29	1170
27	34400	129	12000	27300	64	4720	15200	28	1150
28	36900	154	15300	26800	56	4050	17400	29	1360
29	38500	139	14400	27200	48	3530	18600	29	1460
30	40800	126	13900	28200	47	3580	19100	30	1550
31	---	---	---	28100	45	3410	---	---	---
TOTAL	647600	---	109520	1256700	---	333380	668300	---	57870
	JULY			AUGUST			SEPTEMBER		
1	19600	28	1480	25100	33	2240	16400	25	1110
2	19500	28	1470	24900	34	2290	16400	25	1110
3	19400	31	1620	25000	34	2300	16500	24	1070
4	19700	32	1700	25400	35	2400	17000	22	1010
5	19500	32	1680	25700	36	2500	17300	24	1120
6	19600	32	1690	25400	38	2610	16900	25	1140
7	19700	28	1490	24800	39	2610	16600	27	1210
8	20500	25	1380	23300	38	2390	16400	28	1240
9	21000	25	1420	21700	36	2110	16200	30	1310
10	21200	26	1490	20300	35	1920	16700	30	1350
11	21600	29	1690	19200	33	1710	17000	29	1330
12	21900	32	1890	17900	32	1550	16800	29	1320
13	22600	34	2070	17400	32	1500	16300	29	1280
14	23200	37	2320	17100	31	1430	15800	29	1240
15	23300	39	2450	17000	32	1470	15300	28	1160
16	23700	36	2300	16900	33	1510	15800	27	1150
17	23500	33	2090	16700	33	1490	16300	16	704
18	22900	34	2100	16700	30	1350	16400	5	221
19	22600	35	2140	16300	32	1410	15700	3	127
20	23000	37	2300	16500	29	1290	15200	2	82
21	23200	38	2380	16700	25	1130	14700	2	79
22	23100	40	2490	18200	25	1230	14300	1	39
23	23600	38	2420	18700	26	1310	13500	3	109
24	23800	37	2380	18600	26	1310	13400	12	434
25	23600	38	2420	18400	27	1340	13500	21	765
26	24300	38	2490	18100	27	1320	13100	22	778
27	24500	39	2580	17500	26	1230	12900	21	731
28	24800	39	2610	17300	24	1120	12600	21	714
29	25300	39	2660	17200	24	1110	12800	20	691
30	25500	36	2480	16600	24	1080	12600	18	612
31	25600	33	2280	16500	25	1110	---	---	---
TOTAL	695300	---	63960	607100	---	51370	460400	---	25236
YEAR	9228450		2264169						

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	Depth at sample loca- tion, feet (81903)	Temper- ature, water, deg C (00010)	Locatn in X-sect. looking dwnstrm ft from l bank (00009)
MAY				
01...*	0927	26.5	13.2	172
01...*	0918	27.5	13.2	274
01...*	0915	29.5	13.2	377
01...*	0913	31.4	13.1	462
01...*	0911	33.8	13.1	547
AUG				
18...*	1000	20.1	21.0	172
18...*	1003	22.0	21.0	274
18...*	1006	24.0	21.0	377
18...*	1009	26.0	21.0	462
18...*	1012	27.0	21.1	547

* Instantaneous discharge at time of cross-sectional measurement: May 1, 42,200 ft³/s; Aug. 18, 16,400 ft³/s.

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA

LOCATION.—Lat 38°55'39", long 122°50'33", in SE 1/4 SE 1/4 sec.34, T.13 N., R.9 W., [Lake County](#), Hydrologic Unit 18020116, on left bank, 1.6 mi downstream from Widow Creek, and 3.5 mi south of Kelseyville.

DRAINAGE AREA.—36.6 mi².

PERIOD OF RECORD.—October 1946 to current year.

REVISED RECORDS.—WSP 1285: 1947–48(M), 1950–52(P). WSP 1931: Drainage area. WDR CA-96-4: 1956–93(P).

GAGE.—Water-stage recorder. Datum of gage is 1,475.44 ft above NGVD of 1929. Prior to July 16, 1955, at site 600 ft upstream at different datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. Some minor diversions upstream from station. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,600 ft³/s, Mar. 9, 1995, gage height, 13.80 ft; minimum daily, 0.13 ft³/s, Sept. 6–11, 1992.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,400 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0330	6,420	13.19	Mar. 15	0445	3,230	10.00

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.9	7.4	374	67	43	45	265	31	11	5.2	3.7
2	1.8	4.0	7.4	242	63	41	45	211	30	10	5.3	3.6
3	1.9	3.9	7.4	181	59	41	45	224	28	10	5.1	3.6
4	2.0	4.1	7.3	146	57	40	68	171	27	9.8	4.6	3.7
5	2.0	4.1	7.3	123	54	38	49	144	25	9.4	4.4	3.6
6	2.1	4.1	7.3	107	53	38	44	129	25	9.3	4.1	3.6
7	2.2	20	7.3	94	50	37	42	117	24	9.4	3.8	4.0
8	2.1	74	7.2	85	49	36	41	106	23	9.3	3.4	4.3
9	2.1	47	8.1	99	47	35	40	95	23	8.9	3.2	4.4
10	2.1	78	11	224	46	35	39	87	22	8.5	3.0	4.9
11	2.3	33	9.6	186	45	34	38	81	22	8.1	2.9	4.6
12	2.4	17	8.6	242	46	34	445	77	21	7.8	2.8	4.0
13	2.5	13	e765	448	80	36	706	71	21	7.8	4.8	3.7
14	2.5	11	e2260	272	67	378	321	67	20	7.8	4.7	3.5
15	2.5	9.9	e1420	194	86	1390	188	63	19	7.4	4.6	3.6
16	2.6	9.3	e3110	154	422	329	146	59	18	7.0	4.5	3.7
17	2.7	8.8	448	129	140	191	126	56	17	6.4	4.5	3.8
18	2.8	8.5	208	113	100	140	105	53	16	6.1	4.3	3.8
19	2.9	8.2	339	101	80	117	91	51	16	6.1	4.1	3.8
20	3.0	8.1	1150	90	71	106	82	49	16	6.1	4.2	3.8
21	3.1	7.9	695	88	64	90	77	46	16	5.8	4.1	3.7
22	2.9	7.8	294	203	59	80	71	45	15	5.4	4.1	3.7
23	3.1	7.8	185	227	56	75	67	43	15	5.3	4.7	3.6
24	3.3	7.7	135	146	53	69	226	41	15	5.6	4.6	3.3
25	3.6	7.6	109	123	50	62	366	40	14	e6.0	4.3	3.4
26	3.6	7.4	144	108	48	61	272	39	13	e5.6	4.1	3.4
27	3.6	7.4	481	97	46	57	190	38	12	e5.3	3.9	3.2
28	3.5	7.3	1040	88	44	53	537	36	11	e5.0	3.9	3.4
29	3.4	7.4	779	80	---	50	756	35	11	e4.8	3.8	3.7
30	3.5	7.4	392	74	---	48	420	34	11	e4.9	3.8	3.9
31	3.6	---	1020	70	---	46	---	33	---	e5.0	3.8	---
TOTAL	83.5	445.6	15069.9	4908	2102	3830	5688	2606	577	224.9	128.6	113.0
MEAN	2.69	14.9	486	158	75.1	124	190	84.1	19.2	7.25	4.15	3.77
MAX	3.6	78	3110	448	422	1390	756	265	31	11	5.3	4.9
MIN	1.8	3.9	7.2	70	44	34	38	33	11	4.8	2.8	3.2
AC-FT	166	884	29890	9740	4170	7600	11280	5170	1140	446	255	224

e Estimated.

SACRAMENTO RIVER BASIN

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.9	44.9	131	203	210	149	78.2	32.1	13.1	5.69	3.54	3.71
MAX	154	334	688	929	919	640	429	163	64.1	19.2	9.40	16.3
(WY)	1963	1974	1956	1995	1986	1983	1982	1983	1998	1998	1998	1957
MIN	1.22	3.55	4.19	4.83	8.97	11.4	5.67	6.12	1.98	0.46	0.20	0.16
(WY)	1992	1991	1991	1991	1977	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1947 - 2003	
ANNUAL TOTAL	24609.8		35776.5			
ANNUAL MEAN	67.4		98.0		73.1	
HIGHEST ANNUAL MEAN					206 1983	
LOWEST ANNUAL MEAN					4.78 1977	
HIGHEST DAILY MEAN	3110	Dec 16	3110	Dec 16	6020	Feb 17 1986
LOWEST DAILY MEAN	1.3	Aug 13	1.8	Oct 1	0.13	Sep 6 1992
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 13	2.0	Oct 1	0.13	Sep 5 1992
MAXIMUM PEAK FLOW			6420	Dec 16	8600	Mar 9 1995
MAXIMUM PEAK STAGE			13.19	Dec 16	13.80	Mar 9 1995
ANNUAL RUNOFF (AC-FT)	48810		70960		52980	
10 PERCENT EXCEEDS	75		216		154	
50 PERCENT EXCEEDS	8.8		23		13	
90 PERCENT EXCEEDS	1.6		3.5		2.5	

11450000 CLEAR LAKE AT LAKEPORT, CA

LOCATION.—Lat 39°02'21", long 122°54'44", in NE 1/4 NE 1/4 sec.25, T.14 N., R.10 W., [Lake County](#), Hydrologic Unit 18020116, on pier behind 410 Esplanade Street in Lakeport.

DRAINAGE AREA.—528 mi².

PERIOD OF RECORD.—1874–1900 (incomplete), January 1913 to April 1982, October 1984 to current year.

GAGE.—Water-stage recorder. Datum of gage is 1,318.26 ft above NGVD of 1929 (California State Land Commission Benchmark). Prior to July 8, 1947, nonrecording gage, and July 8, 1947, to Mar. 17, 1949, at municipal wharf at foot of Third Street in Lakeport at datum 0.33 ft higher. Mar. 18, 1949, to Sept. 30, 1967, at private pier at foot of Fourth Street at datum 0.33 ft higher. Gage relocated at same datum, Apr. 20, 1982, and published as "at Clearlake" for 1982–84.

REMARKS.—This natural lake is regulated by gates on a dam at outlet, completed in 1915. Capacity between gage heights 0.00 and 7.56 ft, limits stipulated by court decree of 1920, about 319,000 acre-ft. Water is released down natural channel of Cache Creek ([station 11451000](#)), from which it is diverted for irrigation. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum gage height, 11.44 ft, Feb. 24, 1998, minimum observed, –3.50 ft, Sept. 24–27, 1920.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 4, 1983, reached a stage of 11.24 ft, present datum, from floodmarks.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.20	0.83	0.95	6.04	6.35	7.04	7.51	7.85	7.33	6.19	4.82	3.67
2	1.18	0.82	0.95	6.13	6.39	7.04	7.52	7.85	7.31	6.14	4.79	3.63
3	1.15	0.80	0.95	6.15	6.41	7.05	7.53	7.80	7.30	6.10	4.74	3.59
4	1.14	0.80	0.94	6.13	6.43	7.06	7.56	7.73	7.28	6.05	4.68	3.56
5	1.13	0.79	0.94	6.11	6.42	7.06	7.55	7.66	7.25	6.00	4.62	3.50
6	1.12	0.79	0.93	6.08	6.43	7.06	7.54	7.58	7.22	5.96	4.57	3.45
7	1.11	0.84	0.93	6.03	6.43	7.06	7.54	7.51	7.18	5.91	4.53	3.42
8	1.11	0.91	0.94	5.99	6.43	7.07	7.54	7.50	7.15	5.88	4.47	3.40
9	1.09	0.98	0.95	5.97	6.43	7.07	7.55	7.52	7.12	5.83	4.43	3.36
10	1.07	1.00	0.93	5.97	6.44	7.08	7.54	7.55	7.09	5.78	4.37	3.35
11	1.06	1.03	0.93	5.95	6.45	7.08	7.55	7.57	7.05	5.73	4.33	3.33
12	1.05	1.03	0.95	5.96	6.48	7.09	7.62	7.59	7.00	5.68	4.29	3.32
13	1.04	1.03	1.08	6.11	6.53	7.10	7.71	7.60	6.95	5.62	4.26	3.29
14	1.03	1.03	1.48	6.23	6.56	7.17	7.70	7.59	6.90	5.59	4.22	3.27
15	1.02	1.04	1.97	6.29	6.59	7.39	7.65	7.57	6.86	5.55	4.18	3.20
16	1.01	1.02	2.68	6.31	6.73	7.48	7.60	7.57	6.83	5.53	4.15	3.15
17	1.00	1.02	3.07	6.30	6.80	7.43	7.53	7.56	6.80	5.48	4.12	3.13
18	0.99	1.01	3.25	6.28	6.84	7.48	7.55	7.56	6.73	5.43	4.09	3.10
19	0.97	1.01	3.41	6.24	6.86	7.52	7.58	7.55	6.68	5.40	4.06	3.08
20	0.96	1.01	3.69	6.21	6.90	7.55	7.58	7.55	6.63	5.34	4.05	3.07
21	0.96	1.01	4.08	6.19	6.93	7.54	7.57	7.56	6.59	5.30	4.02	3.05
22	0.94	1.00	4.31	6.19	6.95	7.53	7.57	7.56	6.55	5.25	3.98	3.06
23	0.93	1.00	4.43	6.22	6.97	7.56	7.56	7.56	6.49	5.20	3.95	3.03
24	0.92	0.99	4.52	6.22	6.99	7.55	7.55	7.52	6.47	5.16	3.92	3.00
25	0.91	1.01	4.57	6.21	7.00	7.52	7.54	7.50	6.44	5.12	3.89	2.98
26	0.90	0.98	4.63	6.22	7.00	7.48	7.56	7.48	6.40	5.08	3.85	2.95
27	0.89	0.97	4.74	6.25	7.02	7.52	7.56	7.46	6.37	5.03	3.83	2.90
28	0.87	0.95	4.97	6.28	7.02	7.54	7.63	7.44	6.33	4.99	3.82	2.88
29	0.85	0.95	5.26	6.31	---	7.55	7.74	7.42	6.27	4.95	3.78	2.85
30	0.85	0.96	5.49	6.34	---	7.55	7.83	7.38	6.24	4.92	3.77	2.82
31	0.84	---	5.79	6.37	---	7.55	---	7.35	---	4.88	3.69	---
MEAN	1.01	0.95	2.73	6.17	6.67	7.32	7.59	7.56	6.83	5.52	4.20	3.21
MAX	1.20	1.04	5.79	6.37	7.02	7.56	7.83	7.85	7.33	6.19	4.82	3.67
MIN	0.84	0.79	0.93	5.95	6.35	7.04	7.51	7.35	6.24	4.88	3.69	2.82

11451000 CACHE CREEK NEAR LOWER LAKE, CA

LOCATION.—Lat 38°55'27", long 122°33'53", in sec.6, T.12 N., R.6 W., Lake County, Hydrologic Unit 18020116, on left bank, 500 ft downstream from Cache Creek Dam, 1.9 mi downstream from Copsey Creek, and 2.5 mi northeast of Lower Lake.

DRAINAGE AREA.—528 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—May 1944 to current year.

GAGE.—Water-stage recorder and rain gage (station 385525122335501). Datum of gage is 1,279.34 ft above NGVD of 1929. Prior to Oct. 2, 1987, at datum 1.00 ft higher.

REMARKS.—Records fair. Flow regulated by Clear Lake (station 11450000) from Cache Creek Dam, 500 ft upstream. See schematic diagram of lower Sacramento River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,200 ft³/s, Feb. 17, 1998, gage height, 11.01 ft, present datum; no flow Nov. 8–20, 1977, Apr. 5, 6, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	4.9	4.2	1510	16	20	426	3000	609	504	442	362
2	6.0	4.7	4.3	1770	16	20	83	2990	302	522	458	397
3	5.7	4.5	4.4	1770	16	21	21	3030	231	532	487	408
4	5.8	4.3	107	1760	16	21	365	3050	537	518	520	392
5	5.8	4.1	102	1760	17	21	495	2950	586	494	518	378
6	5.6	4.0	6.5	1750	18	24	491	2670	560	461	507	379
7	5.5	4.1	5.6	1740	19	24	154	985	548	443	508	379
8	5.5	4.0	5.5	1730	21	21	22	488	534	498	485	379
9	5.5	4.0	5.5	1730	19	21	22	196	506	551	436	372
10	5.5	4.1	5.5	1780	16	21	21	20	479	552	405	365
11	5.4	4.0	5.3	1760	17	21	22	20	484	587	396	407
12	5.5	3.9	5.2	1750	17	21	1000	60	490	627	398	403
13	5.5	3.8	5.5	1810	17	20	2710	194	457	637	419	320
14	5.6	3.8	7.6	1790	17	20	2770	281	451	612	443	319
15	5.5	3.8	5.6	1800	17	2240	2780	322	451	635	457	323
16	5.4	3.8	981	1800	18	2800	2730	273	453	644	463	299
17	5.3	3.9	9.1	1800	18	1070	1110	229	482	642	460	231
18	5.3	4.0	8.1	1790	18	23	41	229	504	660	420	134
19	5.1	4.0	8.2	1790	18	20	362	118	502	621	388	141
20	5.0	3.9	7.9	1770	18	721	483	18	491	587	390	151
21	4.8	3.9	7.1	1760	18	893	485	18	469	576	390	138
22	4.7	4.1	7.1	1780	19	345	857	18	458	580	443	132
23	4.6	4.1	7.2	1820	19	250	989	266	458	603	480	134
24	4.7	4.2	7.4	1800	19	797	2230	515	454	603	447	133
25	4.6	4.0	7.6	1190	19	724	2640	581	459	561	344	122
26	4.6	3.9	7.6	626	19	138	2430	560	482	501	314	99
27	4.4	4.0	7.6	199	19	20	1670	559	498	473	347	75
28	4.5	4.1	7.9	14	20	20	2640	576	499	464	370	40
29	4.7	4.0	8.0	15	---	20	3050	583	497	440	369	73
30	4.7	4.1	465	15	---	21	3020	589	502	424	369	161
31	4.8	---	1210	16	---	383	---	590	---	422	352	---
TOTAL	161.9	122.0	3036.5	44395	501	10781	36119	25978	14433	16974	13225	7646
MEAN	5.22	4.07	98.0	1432	17.9	348	1204	838	481	548	427	255
MAX	6.3	4.9	1210	1820	21	2800	3050	3050	609	660	520	408
MIN	4.4	3.8	4.2	14	16	20	21	18	231	422	314	40
AC-FT	321	242	6020	88060	994	21380	71640	51530	28630	33670	26230	15170
a	0.00	3.71	17.90	2.71	2.00	3.73	5.36	0.85	0.00	0.02	0.56	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2003, BY WATER YEAR (WY)

MEAN	32.5	15.3	107	626	812	804	537	340	382	401	322	169
MAX	191	683	2584	3047	4988	4919	3538	951	702	651	514	325
(WY)	1996	1984	1984	1997	1998	1983	1958	1983	2000	1998	1999	1995
MIN	0.40	0.17	0.14	0.18	0.17	0.32	0.42	0.40	0.29	0.41	0.71	0.55
(WY)	1978	1978	1991	1991	1991	1955	1990	1990	1991	1977	1977	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1945 - 2003

ANNUAL TOTAL	82219.8	173372.4	
ANNUAL MEAN	225	475	
HIGHEST ANNUAL MEAN			1342 1983
LOWEST ANNUAL MEAN			0.67 1990
HIGHEST DAILY MEAN	1920	Jan 6	3050 Apr 29
LOWEST DAILY MEAN	3.8	Nov 13	3.8 Nov 13
ANNUAL SEVEN-DAY MINIMUM	3.9	Nov 11	3.9 Nov 11
MAXIMUM PEAK FLOW			4810 Dec 16
MAXIMUM PEAK STAGE			8.97 Dec 16
ANNUAL RUNOFF (AC-FT)	163100	343900	273000
10 PERCENT EXCEEDS	518	1750	633
50 PERCENT EXCEEDS	16	302	60
90 PERCENT EXCEEDS	4.6	4.7	1.2

a Precipitation, in inches.

11451000 CACHE CREEK NEAR LOWER LAKE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—January 2000 to September 2000.

CHEMICAL DATA: February 2000 to September 2000.

SEDIMENT DATA: January 2000 to September 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat un- f uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
FEB 29...	0920	1910	7.6	185	9.0	74.0	.48	.59	.02
MAR 17...	0940	--	7.8	255	--	106	.28	.52	.04

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
FEB 29...	<.05	<.010	.02	.035	.111	.5	3.7
MAR 17...	<.05	<.010	<.01	.011	.048	.4	3.2

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
JAN						
07...	SS 1345	3.6	7.0	18	.17	71
20...	SS 1815	4.3	7.5	7	.08	84
26...	SS 1330	4.7	10.0	25	.32	77
FEB						
08...	SS 1610	6.3	9.5	26	.44	91
17...	SS 1650	7.9	9.5	26	.55	85
29...	SS 0920	1910	9.0	53	273	95
MAR						
08...	SS 1000	--	8.5	40	--	88
17...	SS 0940	--	--	31	--	97
APR						
05...	SS 1740	18	15.5	11	.53	84
MAY						
11...	SS 1720	468	16.5	8	10	72
JUN						
14...	SS 0940	730	22.5	36	71	47

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA

LOCATION.—Lat 39°09'56", long 122°37'08", in SE 1/4 NW 1/4 sec.10, T.15 N., R.7 W., Lake County, Hydrologic Unit 18020116, on right bank, 0.5 mi upstream from Spanish Creek, 0.9 mi upstream from Hough Springs, and 10 mi northeast of Clearlake Oaks.

DRAINAGE AREA.—60.2 mi².

PERIOD OF RECORD.—October 1971 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,534.13 ft above NGVD of 1929. Prior to Jan. 13, 1980, at datum 2.0 ft higher. Recording rain gage (station 391056122420801) 4.7 mi northwest of gage. Elevation of rain gage is 2,050 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good. No regulation or diversion upstream from station. See schematic diagram of lower Sacramento River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 13,200 ft³/s, Jan. 1, 1997, gage height, 14.14 ft, from rating curve extended above 3,900 ft³/s, on basis of slope-area measurement at gage height 11.23 ft; no flow at times in 1972, 1976–77, 1987–88, 1990–92, 1994.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0315	8,920	12.60	Jan. 13	0815	1,940	7.46
Dec. 21	0145	1,760	7.28	Mar. 15	0600	2,870	8.45
Dec. 31	0315	4,020	9.47				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.54	1.1	5.2	1150	133	71	86	528	45	11	3.1	1.2
2	0.50	1.2	5.2	712	122	68	87	449	43	11	3.3	1.1
3	0.49	1.3	5.1	516	114	69	84	413	40	11	3.5	1.2
4	0.49	1.3	5.0	403	107	69	106	343	38	9.7	3.2	1.3
5	0.51	1.3	5.1	333	100	63	95	290	36	9.3	3.1	1.2
6	0.51	1.3	5.2	278	95	60	88	258	35	8.8	3.2	1.1
7	0.46	6.0	5.1	236	89	58	84	228	33	8.5	3.2	1.2
8	0.41	39	5.0	204	86	57	81	206	32	8.3	2.9	1.3
9	0.40	27	5.7	207	81	55	78	184	31	8.0	2.7	1.4
10	0.42	86	6.7	319	78	54	77	163	29	7.2	2.5	1.6
11	0.40	30	6.4	328	75	53	75	146	29	7.0	2.4	1.5
12	0.43	14	5.9	486	76	52	243	134	28	6.7	2.3	1.3
13	0.50	14	544	1330	100	53	514	125	27	6.6	2.2	1.1
14	0.56	11	2170	942	91	193	390	114	25	6.5	2.1	1.0
15	0.57	8.9	1700	652	87	1320	282	106	24	6.3	2.0	1.0
16	0.60	7.6	3770	485	367	492	262	99	23	5.8	1.9	0.99
17	0.60	6.9	960	384	192	330	250	92	21	5.5	1.8	1.0
18	0.63	6.4	453	312	150	256	215	87	21	5.2	1.7	1.1
19	0.65	6.1	322	260	135	223	188	81	20	4.9	1.6	1.1
20	0.74	5.9	897	226	121	202	167	77	20	4.7	1.5	1.1
21	0.76	5.9	1360	213	109	171	156	73	19	4.5	1.5	1.0
22	0.75	5.8	674	339	102	155	143	70	18	4.1	1.9	0.99
23	0.76	5.8	424	472	97	145	131	67	17	3.8	1.9	0.93
24	0.82	5.6	295	338	95	133	261	64	16	4.0	1.9	0.92
25	0.93	5.5	227	292	88	120	391	64	15	4.2	1.7	0.86
26	0.96	5.3	433	252	83	123	437	61	14	4.3	1.6	0.76
27	0.96	5.3	1110	227	78	113	350	57	14	3.7	1.4	0.76
28	0.88	5.4	1440	198	74	104	682	54	12	3.3	1.4	0.86
29	0.90	5.4	1210	171	---	96	1000	52	12	3.1	1.4	0.92
30	0.96	5.4	1040	154	---	91	734	51	11	3.0	1.3	0.96
31	1.0	---	2440	142	---	88	---	47	---	3.0	1.2	---
TOTAL	20.09	331.7	21534.6	12561	3125	5137	7737	4783	748	193.0	67.4	32.75
MEAN	0.65	11.1	695	405	112	166	258	154	24.9	6.23	2.17	1.09
MAX	1.0	86	3770	1330	367	1320	1000	528	45	11	3.5	1.6
MIN	0.40	1.1	5.0	142	74	52	75	47	11	3.0	1.2	0.76
AC-FT	40	658	42710	24910	6200	10190	15350	9490	1480	383	134	65
a	0.00	6.02	25.26	5.95	2.11	4.42	8.62	0.93	0.01	0.00	0.00	0.00

a Precipitation, in inches.

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.09	53.1	160	310	337	274	118	49.3	16.1	4.70	1.64	1.25
MAX	12.4	405	738	1750	1382	1258	631	242	90.9	26.7	10.8	6.75
(WY)	1980	1982	1997	1995	1998	1995	1982	1995	1998	1998	1998	1998
MIN	0.19	1.11	1.17	4.74	9.59	9.88	5.13	3.93	1.69	0.19	0.000	0.000
(WY)	1992	1977	1977	1991	1991	1977	1977	1977	1977	1977	1977	1994

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1972 - 2003	
ANNUAL TOTAL	39755.98		56270.54			
ANNUAL MEAN	109		154		110	
HIGHEST ANNUAL MEAN					335	
LOWEST ANNUAL MEAN					3.67	
HIGHEST DAILY MEAN	3770	Dec 16	3770	Dec 16	8340	Feb 17 1986
LOWEST DAILY MEAN	0.11	Aug 17	0.40	Oct 9	0.00	Aug 27 1972
ANNUAL SEVEN-DAY MINIMUM	0.14	Aug 15	0.43	Oct 7	0.00	Aug 27 1972
MAXIMUM PEAK FLOW			8920	Dec 16	13200	Jan 1 1997
MAXIMUM PEAK STAGE			12.60	Dec 16	14.14	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	78860		111600		79430	
10 PERCENT EXCEEDS	137		396		267	
50 PERCENT EXCEEDS	8.5		29		12	
90 PERCENT EXCEEDS	0.26		0.96		0.54	

11451290 INDIAN VALLEY RESERVOIR NEAR CLEARLAKE OAKS, CA

LOCATION.—Lat 39°04'50", long 122°32'02", in SE 1/4 SW 1/4 sec.4, T.14 N., R.6 W., Lake County, Hydrologic Unit 18020116, 8.6 mi northeast of Clearlake Oaks.

DRAINAGE AREA.—120.3 mi².

PERIOD OF RECORD.—December 2002 to September 2003.

GAGE.—Water-stage recorder. Datum of gage is 1,500 ft above NGVD of 1929.

REMARKS.—Reservoir is formed by earthfill dam; storage began October 1983. Storage capacity is 300,000 acre-ft. Water is released down North Fork Cache Creek for agricultural use.

EXTREMES FOR PERIOD OF RECORD.—Maximum recorded gage height, 1458.91 ft, May 16, 2003, minimum, 1406.31 ft, Dec. 5, 2002.

ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	1433.79	1432.78	1444.15	1444.01	1446.93	1446.86
2	---	---	---	---	---	---	1434.46	1433.78	1444.26	1444.14	1446.98	1446.92
3	---	---	---	---	---	---	1434.91	1434.43	1444.35	1444.25	1447.04	1446.95
4	---	---	---	---	---	---	1435.27	1434.90	1444.46	1444.34	1447.09	1447.03
5	---	---	---	---	---	1406.31	1435.58	1435.25	1444.50	1444.42	1447.14	1447.08
6	---	---	---	---	---	1406.32	1435.79	1435.54	1444.60	1444.50	1447.18	1447.12
7	---	---	---	---	---	1406.32	1436.00	1435.79	1444.65	1444.58	1447.23	1447.17
8	---	---	---	---	---	1406.40	1436.18	1435.99	1444.72	1444.64	1447.27	1447.23
9	---	---	---	---	1406.74	1406.50	1436.43	1436.17	1444.79	1444.71	1447.32	1447.26
10	---	---	---	---	1406.64	1406.34	1436.73	1436.43	1444.86	1444.78	1447.36	1447.31
11	---	---	---	---	1406.83	1406.45	1437.02	1436.73	1444.91	1444.84	1447.41	1447.35
12	---	---	---	---	1406.75	---	1437.55	1437.01	1445.06	1444.91	1447.44	1447.39
13	---	---	---	---	---	---	1438.71	1437.55	1445.17	1445.04	1447.52	1447.43
14	---	---	---	---	---	---	1439.51	1438.71	1445.25	1445.16	1447.76	1447.52
15	---	---	---	---	---	---	1440.07	1439.51	1445.41	1445.25	1448.81	1447.73
16	---	---	---	---	---	---	1440.47	1440.06	1445.72	1445.40	1449.17	1448.79
17	---	---	---	---	1420.73	1419.72	1440.80	1440.47	1445.89	1445.72	1449.41	1449.16
18	---	---	---	---	1421.11	1420.61	1441.07	1440.80	1446.02	1445.88	1449.58	1449.40
19	---	---	---	---	1421.57	1421.11	1441.31	1441.07	1446.14	1446.00	1449.76	1449.58
20	---	---	---	---	1422.86	1421.57	1441.53	1441.31	1446.24	1446.13	1449.91	1449.75
21	---	---	---	---	1424.34	1422.86	1441.72	1441.50	1446.33	1446.22	1450.03	1449.90
22	---	---	---	---	1425.06	1424.34	1442.06	1441.72	1446.42	1446.33	1450.15	1450.03
23	---	---	---	---	1425.49	1425.06	1442.45	1442.06	1446.51	1446.41	1450.26	1450.14
24	---	---	---	---	1425.82	1425.49	1442.74	1442.45	1446.60	1446.50	1450.35	1450.26
25	---	---	---	---	1426.09	1425.82	1442.99	1442.73	1446.67	1446.59	1450.44	1450.35
26	---	---	---	---	1426.49	1426.09	1443.20	1442.98	1446.74	1446.67	1450.54	1450.43
27	---	---	---	---	1427.43	1426.49	1443.41	1443.20	1446.81	1446.73	1450.62	1450.53
28	---	---	---	---	1428.65	1427.43	1443.58	1443.40	1446.87	1446.80	1450.70	1450.61
29	---	---	---	---	1429.66	1428.65	1443.75	1443.57	---	---	1450.74	1450.66
30	---	---	---	---	1430.64	1429.66	1443.89	1443.73	---	---	1450.80	1450.73
31	---	---	---	---	1432.78	1430.61	1444.01	1443.87	---	---	1450.86	1450.79
MONTH	---	---	---	---	---	---	1444.01	1432.78	1446.87	1444.01	1450.86	1446.86

11451290 INDIAN VALLEY RESERVOIR NEAR CLEARLAKE OAKS, CA—Continued

ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, FEET

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1450.92	1450.85	1456.72	1456.36	1456.26	1456.12	1450.99	1450.82	1447.28	1447.16	1444.86	1444.83
2	1451.00	1450.91	1457.07	1456.71	1456.13	1455.82	1450.82	1450.64	1447.18	1447.10	1444.84	1444.80
3	1451.05	1450.98	1457.39	1457.07	1455.82	1455.43	1450.64	1450.48	1447.10	1446.99	1444.83	1444.76
4	1451.17	1451.03	1457.63	1457.38	1455.43	1455.17	1450.48	1450.32	1447.00	1446.88	1444.77	1444.69
5	1451.22	1451.15	1457.85	1457.63	1455.18	1455.02	1450.32	1450.11	1446.89	1446.78	1444.70	1444.65
6	1451.28	1451.21	1458.06	1457.85	1455.02	1454.89	1450.11	1449.95	1446.78	1446.67	1444.66	1444.62
7	1451.33	1451.27	1458.23	1458.05	1454.89	1454.75	1449.95	1449.77	1446.67	1446.56	1444.63	1444.59
8	1451.38	1451.32	1458.38	1458.21	1454.76	1454.62	1449.77	1449.61	---	---	1444.61	1444.57
9	1451.43	1451.38	1458.52	1458.38	1454.62	1454.46	1449.61	1449.49	---	---	1444.59	1444.54
10	1451.48	1451.42	1458.64	1458.51	1454.46	1454.30	1449.49	1449.39	---	---	1444.58	1444.52
11	1451.52	1451.48	1458.69	1458.64	1454.30	1454.15	1449.40	1449.29	---	---	1444.55	1444.49
12	1451.76	1451.52	1458.64	1458.62	1454.15	1453.99	1449.30	1449.19	---	---	1444.50	1444.45
13	1452.17	1451.76	1458.70	1458.63	1453.99	1453.83	1449.19	1449.09	---	---	1444.49	1444.34
14	1452.43	1452.16	1458.78	1458.70	1453.83	1453.67	1449.10	1448.99	---	---	1444.34	1444.23
15	1452.62	1452.43	1458.87	1458.78	1453.68	1453.52	1449.00	1448.89	1445.79	1445.69	1444.24	1444.13
16	---	---	1458.91	1458.86	1453.52	1453.36	1448.89	1448.79	1445.69	1445.58	1444.14	1444.03
17	---	---	1458.87	1458.78	1453.36	1453.20	1448.80	1448.70	1445.59	1445.48	1444.04	1443.87
18	---	---	1458.82	1458.74	1453.21	1453.04	1448.70	1448.60	1445.49	1445.38	1443.87	1443.68
19	---	---	1458.75	1458.58	1453.04	1452.87	1448.61	1448.50	1445.38	1445.27	1443.68	1443.50
20	---	---	1458.58	1458.30	1452.88	1452.70	1448.49	1448.38	1445.28	1445.17	1443.50	1443.35
21	---	---	1458.30	1457.94	1452.71	1452.54	1448.40	1448.29	1445.17	1445.07	1443.35	1443.19
22	---	---	1457.94	1457.57	1452.54	1452.37	1448.29	1448.19	1445.12	1445.04	1443.19	1443.03
23	---	---	1457.57	1457.28	1452.37	1452.20	1448.19	1448.09	1445.05	1445.02	1443.04	1442.89
24	---	---	1457.28	1457.11	1452.20	1452.02	1448.10	1447.99	1445.04	1445.01	1442.90	1442.75
25	---	---	1457.11	1456.97	1452.03	1451.85	1448.00	1447.89	1445.02	1444.98	1442.76	1442.60
26	---	---	1457.00	1456.88	1451.85	1451.69	1447.90	1447.80	1445.00	1444.96	1442.60	1442.44
27	---	---	1456.89	1456.76	1451.69	1451.52	1447.80	1447.69	1444.97	1444.93	1442.45	1442.29
28	---	---	1456.77	1456.64	1451.52	1451.34	1447.70	1447.59	1444.95	1444.91	1442.29	1442.14
29	---	---	1456.64	1456.50	1451.35	1451.16	1447.59	1447.49	1444.93	1444.89	1442.14	1442.03
30	---	---	1456.51	1456.38	1451.16	1450.99	1447.49	1447.38	1444.90	1444.87	1442.04	1441.99
31	---	---	1456.39	1456.25	---	---	1447.39	1447.26	1444.93	1444.84	---	---
MONTH	---	---	1458.91	1456.25	1456.26	1450.99	1450.99	1447.26	---	---	1444.86	1441.99

11451300 NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS, CA

LOCATION.—Lat 39°04'32", long 122°31'59", in SE 1/4 NW 1/4 sec.9, T.14 N., R.6 W., [Lake County](#), Hydrologic Unit 18020116, on right bank, 1,900 ft downstream from Indian Valley Dam, and 8 mi northeast of Clearlake Oaks.

DRAINAGE AREA.—121 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1983 to September 1985 (operated as a low-flow station only), October 1985 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,320 ft above NGVD of 1929, from topographic map. Recording rain gage (station 390500122321601) located on top of Indian Valley Dam.

REMARKS.—Records good. Flow completely regulated by Indian Valley Reservoir, capacity 300,000 acre-ft. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,950 ft³/s, Feb. 11, 1998, gage height, 10.61 ft, maximum gage height, 10.62 ft, Jan. 2, 1997; minimum daily, 0.37 ft³/s, Oct. 15, 1994.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Jan. 26, 1983, reached a stage of 12.74 ft, present datum, discharge about 9,500 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	17	15	7.7	6.9	7.2	6.8	8.0	261	259	133	9.7
2	36	17	15	7.6	6.9	7.2	6.9	8.0	569	260	133	9.7
3	58	17	15	7.5	6.9	7.2	6.9	8.0	760	259	133	56
4	58	17	15	7.1	7.0	7.2	7.4	8.0	478	258	133	81
5	58	17	15	6.9	11	7.2	7.7	7.9	260	257	134	45
6	58	17	15	7.0	7.3	7.2	7.7	7.9	259	257	134	9.3
7	58	17	15	6.9	7.2	7.2	7.6	7.9	260	258	134	9.2
8	58	18	15	6.9	7.2	7.1	7.6	7.9	252	238	134	9.3
9	57	17	15	7.1	7.1	7.1	7.6	8.1	260	165	134	9.0
10	57	17	15	7.2	7.5	7.1	7.6	8.3	260	133	134	8.9
11	56	17	15	7.1	8.3	7.1	7.6	189	261	134	134	8.8
12	56	16	15	7.6	8.3	7.5	7.7	189	263	134	134	6.4
13	56	16	17	7.9	7.5	6.9	8.2	54	263	134	134	111
14	34	16	19	7.2	7.4	7.5	7.8	7.9	263	133	134	128
15	23	16	18	7.1	7.5	9.2	7.6	7.9	263	133	134	128
16	23	15	19	7.1	7.9	8.1	7.9	144	261	133	135	128
17	23	15	16	7.0	7.5	8.0	8.0	234	260	133	134	189
18	23	15	16	7.0	7.4	8.0	7.9	166	261	133	135	246
19	23	15	28	6.9	7.4	7.9	7.9	390	261	134	135	227
20	23	15	30	6.9	7.4	7.8	7.9	612	261	133	134	210
21	23	15	9.0	6.9	7.4	7.9	8.0	777	261	133	128	209
22	23	15	7.5	7.2	7.3	7.9	7.9	803	261	133	50	209
23	23	15	6.9	7.1	7.3	7.8	7.9	607	261	133	9.4	187
24	23	15	7.6	7.1	7.3	7.9	8.0	359	260	133	9.3	196
25	37	15	7.2	7.0	7.4	7.9	8.1	261	259	134	9.3	196
26	27	16	7.2	7.0	7.2	7.9	8.1	261	259	134	9.4	196
27	18	16	7.3	6.9	7.2	8.1	8.1	261	258	134	9.6	196
28	18	16	7.6	7.0	7.2	6.8	8.4	261	259	133	9.6	199
29	18	16	7.8	6.9	---	6.8	8.5	261	259	133	9.7	140
30	18	15	7.7	6.9	---	6.7	8.2	261	259	133	9.7	29
31	18	---	8.6	6.9	---	6.8	---	261	---	133	9.7	---
TOTAL	1092.1	481	427.4	220.6	209.9	232.2	233.5	6446.8	8832	5144	2942.7	3386.3
MEAN	35.2	16.0	13.8	7.12	7.50	7.49	7.78	208	294	166	94.9	113
MAX	58	18	30	7.9	11	9.2	8.5	803	760	260	135	246
MIN	8.1	15	6.9	6.9	6.9	6.7	6.8	7.9	252	133	9.3	6.4
AC-FT	2170	954	848	438	416	461	463	12790	17520	10200	5840	6720
a	0.00	3.07	10.87	2.88	1.62	1.85	3.98	0.43	0.00	0.00	0.39	0.02

a Precipitation in inches.

11451300 NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.1	14.3	21.9	132	300	184	206	204	254	228	134	96.0
MAX	172	35.5	187	1675	1964	849	557	717	659	559	342	348
(WY)	1998	1997	1999	1997	1998	1986	1987	1987	2001	2001	1996	1996
MIN	6.65	6.96	7.21	7.02	4.63	1.90	7.78	6.98	8.10	8.16	8.17	9.10
(WY)	1994	1995	1994	1994	1994	1994	2003	1993	1993	1993	1990	1990

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1986 - 2003
ANNUAL TOTAL	55372.8	29648.5	
ANNUAL MEAN	152	81.2	150
HIGHEST ANNUAL MEAN			326
LOWEST ANNUAL MEAN			8.54
HIGHEST DAILY MEAN	762	Apr 29	803
LOWEST DAILY MEAN	6.4	Aug 27	6.4
ANNUAL SEVEN-DAY MINIMUM	6.5	Aug 26	6.8
MAXIMUM PEAK FLOW			851
MAXIMUM PEAK STAGE			4.85
ANNUAL RUNOFF (AC-FT)	109800	58810	108500
10 PERCENT EXCEEDS	435	259	392
50 PERCENT EXCEEDS	51	15	13
90 PERCENT EXCEEDS	12	7.1	7.4

11451300 NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—January 2000 to September 2000.

CHEMICAL DATA: January 2000 to September 2000.

SEDIMENT DATA: January 2000 to September 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat un- f uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	
FEB									
29...	1350	2310	8.1	221	9.5	98.0	e.06	e.08	
MAR									
17...	1400	272	8.0	226	9.5	100	e.07	.15	
Date		Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspond sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
FEB									
29...		<.02	.05	<.010	<.01	.009	.017	.2	1.8
MAR									
17...		<.02	<.05	<.010	<.01	.011	.015	<.2	1.6

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
JAN						
06...	1345	9.5	10.5	11	.28	87
06...	1400	9.5	10.5	10	.26	76
20...	1430	9.5	10.0	7	.18	100
20...	1500	9.5	10.0	6	.15	100
26...	1020	9.7	9.0	9	.24	69
FEB						
08...	1410	10	9.5	10	.27	70
17...	1450	13	10.5	11	.39	86
29...	1350	2310	9.5	6	37	98
MAR						
07...	1340	1080	9.0	14	41	82
17...	1400	272	9.5	8	5.9	97
22...	1250	9.2	13.0	8	.20	90
APR						
05...	1400	353	10.0	6	5.7	100
MAY						
11...	1540	12	14.0	16	.52	53
JUN						
14...	1320	142	10.5	23	8.8	66

e Estimated.

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11451500 NORTH FORK CACHE CREEK AT HIGHWAY 20, NEAR LOWER LAKE, CA

LOCATION.—Lat 39°01'10", long 122°34'00", in NE 1/4 sec.4, T.14 N., R.6 W., Lake County, Hydrologic Unit 18020116, on right bank, 2,500 ft downstream from Indian Valley Dam and 8 mi northeast of Clearlake Oaks.

DRAINAGE AREA.—197 mi².

PERIOD OF RECORD.—February 2000 to March 2000.

CHEMICAL DATA: February 2000 to March 2000.

SEDIMENT DATA: February 2000 to March 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unfl- trd uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
FEB 28...	0945	--	--	--	8.0	225	--	92.0	.11
MAR 16...	1030	739	10.3	96	8.2	237	11.0	97.0	e.06

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
FEB 28...	.30	<.02	.09	<.010	.01	.012	.169	.2	1.8
MAR 16...	.10	<.02	<.05	<.010	<.01	.010	.035	.8	1.7

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
FEB 28...SS	0945	--	205	75
MAR 16...SS	1030	11.0	24	85
MAR 16...SS	1050	12.0	26	88

e Estimated.

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11451540 HARLEY GULCH NEAR WILBUR SPRINGS, CA

LOCATION.—Lat 39°00'33", long 122°26'04", in sec.5, T.13 N., R.5 W., [Lake County](#), Hydrologic Unit 18020116, on right bank, 500 ft downstream of Highway 20, and 2.2 mi southwest of Wilbur Hot Springs Resort.

DRAINAGE AREA.—2.90 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—December 1999 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 1,530 ft above NGVD of 1929, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 357 ft³/s, Dec. 16, 2002, gage height, 4.58 ft; no flow at times each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 60 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0145	357	4.58	Dec. 31	0030	141	3.23
Dec. 20	1300	106	2.97	Feb. 16	0130	66	2.66

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.01	0.01	0.10	1.4	0.31	0.31	0.37	0.31	0.06	0.03	0.00	0.00
2	0.01	0.01	0.10	0.82	0.28	0.31	0.39	0.43	0.05	0.03	0.00	0.00
3	0.01	0.01	0.10	0.60	0.27	0.33	0.33	0.76	0.05	0.03	0.00	0.00
4	0.01	0.01	0.10	0.53	0.29	0.32	0.51	0.35	0.03	0.03	0.00	0.01
5	0.01	0.01	0.10	0.50	0.30	0.31	0.32	0.26	0.03	0.03	0.00	0.01
6	0.01	0.01	0.10	0.50	0.29	0.30	0.31	1.3	0.04	0.03	0.00	0.01
7	0.01	0.78	0.10	0.49	0.28	0.30	0.28	0.58	0.04	0.03	0.00	0.02
8	0.01	0.46	0.10	0.48	0.28	0.29	0.28	0.32	0.02	0.03	0.00	0.02
9	0.01	0.32	0.14	0.67	0.27	0.30	0.27	0.26	0.02	0.03	0.00	0.02
10	0.01	0.23	0.17	1.2	0.28	0.30	0.26	0.22	0.02	0.02	0.00	0.02
11	0.01	0.15	0.15	0.93	0.28	e0.29	0.24	0.20	0.02	0.02	0.00	0.01
12	0.01	0.14	0.13	6.1	0.66	e0.29	0.95	0.18	0.02	0.02	0.00	0.01
13	0.01	0.14	2.7	4.5	2.0	e0.30	0.93	0.17	0.02	0.02	0.00	0.01
14	0.01	0.14	34	1.1	0.69	e1.1	0.40	0.15	0.02	0.02	0.00	0.01
15	0.01	0.13	28	0.67	1.5	e21	0.30	0.14	0.02	0.02	0.00	0.00
16	0.01	0.12	48	0.52	11	e2.2	0.40	0.13	0.02	0.02	0.00	0.00
17	0.01	0.13	0.97	0.44	0.92	e1.1	0.37	0.12	0.01	0.02	0.00	0.00
18	0.01	0.13	0.51	0.39	0.63	e0.78	0.25	0.12	0.03	0.01	0.00	0.00
19	0.01	0.13	2.2	0.35	0.58	0.79	0.22	0.12	0.03	0.01	0.00	0.00
20	0.01	0.12	35	0.33	0.48	0.70	0.22	0.11	0.03	0.00	0.00	0.00
21	0.01	0.12	5.1	0.41	0.44	0.61	0.24	0.11	0.03	0.00	0.00	0.00
22	0.01	0.12	1.6	0.97	0.41	0.61	0.22	0.10	0.03	0.00	0.00	0.00
23	0.01	0.12	1.2	0.85	0.40	0.60	0.20	0.09	0.03	0.00	0.00	0.00
24	0.01	0.11	0.99	0.50	0.40	0.53	0.59	0.09	0.03	0.00	0.00	0.00
25	0.01	0.11	0.90	0.44	0.35	0.51	0.54	0.09	0.03	0.00	0.00	0.00
26	0.01	0.12	1.3	0.39	0.34	0.52	0.36	0.09	0.03	0.00	0.00	0.00
27	0.01	0.12	1.8	0.38	0.32	0.46	0.30	0.10	0.03	0.00	0.00	0.00
28	0.01	0.11	13	0.34	0.32	0.41	0.68	0.10	0.03	0.00	0.00	0.00
29	0.01	0.11	3.9	0.32	---	0.40	0.93	0.10	0.03	0.00	0.00	0.00
30	0.01	0.11	2.5	0.32	---	0.40	0.49	0.09	0.03	0.00	0.00	0.00
31	0.01	---	22	0.32	---	0.38	---	0.08	---	0.00	0.00	---
TOTAL	0.31	4.33	207.06	27.76	24.57	37.05	12.15	7.27	0.88	0.45	0.00	0.15
MEAN	0.010	0.14	6.68	0.90	0.88	1.20	0.41	0.23	0.029	0.015	0.000	0.005
MAX	0.01	0.78	48	6.1	11	21	0.95	1.3	0.06	0.03	0.00	0.02
MIN	0.01	0.01	0.10	0.32	0.27	0.29	0.20	0.08	0.01	0.00	0.00	0.00
AC-FT	0.6	8.6	411	55	49	73	24	14	1.7	0.9	0.00	0.3

e Estimated.

11451540 HARLEY GULCH NEAR WILBUR SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.027	0.19	2.48	1.21	1.72	1.09	0.27	0.14	0.028	0.009	0.005	0.008
MAX	0.070	0.27	6.68	2.32	3.19	1.95	0.41	0.23	0.046	0.017	0.021	0.022
(WY)	2001	2002	2003	2002	2000	2001	2003	2003	2000	2000	2000	2000
MIN	0.000	0.14	0.065	0.63	0.35	0.23	0.16	0.071	0.017	0.001	0.000	0.000
(WY)	2002	2003	2000	2000	2002	2002	2002	2002	2002	2002	2001	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL TOTAL	308.12		321.98			
ANNUAL MEAN	0.84		0.88		0.64	
HIGHEST ANNUAL MEAN					0.88	
LOWEST ANNUAL MEAN					0.49	
HIGHEST DAILY MEAN	48	Dec 16	48	Dec 16	48	Dec 16 2002
LOWEST DAILY MEAN	0.00	Jul 3	0.00	Jul 20	0.00	Jul 12 2001
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 3	0.00	Jul 20	0.00	Jul 12 2001
MAXIMUM PEAK FLOW			357		357	
MAXIMUM PEAK STAGE			4.58		4.58	
ANNUAL RUNOFF (AC-FT)	611		639		463	
10 PERCENT EXCEEDS	0.57		0.91		0.69	
50 PERCENT EXCEEDS	0.07		0.11		0.10	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11451540 HARLEY GULCH NEAR WILBUR SPRINGS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—February 2000 to June 2000.

CHEMICAL DATA: February 2000 to June 2000.

SEDIMENT DATA: February 2000 to June 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, deg C (00010)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
FEB 27...	1600	2.8	--	--	--	8.4	824	9.0	262	.32
MAR 15...	1750	.54	720	9.2	88	8.3	2260	10.5	588	.19

Date	Ammonia + org-N, water, unfltrd, mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd, mg/L (00665)	Organic carbon, suspnd, sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
FEB 27...	.48	<.02	.20	<.010	.03	.036	.063	<.2	6.3
MAR 15...	.24	<.02	<.05	<.010	<.01	.014	.020	.3	3.9

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)
JAN						
06...	SS 1615	.08	10.5	29	.01	48
20...	SS 1030	.30	9.0	19	.02	67
25...	SS 1640	.64	10.5	15	.03	57
FEB						
08...	SS 1210	.24	16.0	45	.03	76
17...	SS 1330	.81	11.0	18	.04	94
27...	SS 1600	2.8	9.0	24	.18	92
MAR						
07...	SS 1130	1.3	9.0	26	.09	78
15...	SS 1750	.54	10.5	6	.01	68
APR						
05...	SS 1210	.27	20.0	8	.01	45
MAY						
12...	SS 1140	.13	19.0	133	.05	9
JUN						
13...	SS 1550	.02	26.5	44	<.01	21

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11451600 DAVIS CREEK AT DAM, NEAR KNOXVILLE, CA

LOCATION.—Lat 38°51'51", long 122°21'11", in sec.30, T.12 N., R.6 W., Yolo County, Hydrologic Unit 18020116, on left bank of Davis Creek Dam spillway, and 2.5 mi northwest of Knoxville.

DRAINAGE AREA.—10.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—December 1999 to current year.

REVISED RECORDS.—WDR CA-03-4: 2000 and 2002 (M).

GAGE.—Water-stage recorder. Datum of gage is 1,480 ft above NGVD of 1929, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Flow is completely regulated by Davis Creek Reservoir. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 425 ft³/s (revised), Dec. 16, 2002, gage height, 28.65 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 425 ft³/s, Dec. 16, gage height, 28.64 ft; no flow for many days.

REVISIONS.—The maximum discharges for water years 2000 and 2002 have been revised to 176 ft³/s, Feb. 27, 2000, gage height, 27.87 ft, and 354 ft³/s, Jan. 2, 2002, gage height, 28.44 ft; revised daily discharges, in cubic feet per second, for high-water period in water year 2002 are given below. These figures supersede those published in the reports 2000 and 2002.

	Dec. 29 . . . 71	Jan. 1 55			
	30 . . . 55	2 270			
	31 . . . 85	3 107			
	TOTAL	MEAN	MAX	MIN	AC-FT
December 2001	396.42	12.8	85	0.00	786
January 2002	908.0	29.3	270	5.6	1800
Wtr Yr 2002	1505.54	4.12	270	0.00	2990
Cal Yr 2001	619.56	1.70	85	0.00	1230

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	e66	e5.2	3.2	3.1	17	1.0	0.00	0.00	0.00
2	0.00	0.00	0.00	e44	e4.8	3.2	3.5	13	0.92	0.00	0.00	0.00
3	0.00	0.00	0.00	e32	e4.1	3.1	3.8	16	0.83	0.00	0.00	0.00
4	0.00	0.00	0.00	e20	e3.6	3.1	5.5	13	0.62	0.00	0.00	0.00
5	0.00	0.00	0.00	e16	e3.2	2.8	4.2	10	0.53	0.00	0.00	0.00
6	0.00	0.00	0.00	e14	2.9	2.7	3.3	8.6	0.43	0.00	0.00	0.00
7	0.00	0.00	0.00	e11	2.8	2.7	3.2	8.1	0.32	0.00	0.00	0.00
8	0.00	0.00	0.00	e9.2	2.8	2.6	3.1	7.5	0.33	0.00	0.00	0.00
9	0.00	0.00	0.00	e12	2.8	2.6	2.7	6.2	0.34	0.00	0.00	0.00
10	0.00	0.00	0.00	e46	2.9	2.6	3.0	6.1	0.27	0.00	0.00	0.00
11	0.00	0.00	0.00	e24	2.8	2.5	2.6	5.6	0.19	0.00	0.00	0.00
12	0.00	0.00	0.00	e53	3.7	2.6	15	5.4	0.16	0.00	0.00	0.00
13	0.00	0.00	0.00	e84	13	3.0	29	5.2	0.11	0.00	0.00	0.00
14	0.00	0.00	e0.00	e42	9.0	7.3	20	4.5	0.09	0.00	0.00	0.00
15	0.00	0.00	e18	e19	6.7	111	10	3.9	0.07	0.00	0.00	0.00
16	0.00	0.00	e317	e14	40	40	6.7	3.5	0.06	0.00	0.00	0.00
17	0.00	0.00	e121	e11	19	15	5.2	3.1	0.04	0.00	0.00	0.00
18	0.00	0.00	e54	e10	9.8	8.5	4.4	2.6	0.02	0.00	0.00	0.00
19	0.00	0.00	e60	e9.2	7.0	6.8	3.8	2.3	0.00	0.00	0.00	0.00
20	0.00	0.00	e238	e8.6	5.7	6.4	3.5	2.5	0.00	0.00	0.00	0.00
21	0.00	0.00	e102	e8.3	4.9	5.5	3.9	2.4	0.00	0.00	0.00	0.00
22	0.00	0.00	e63	e19	4.5	5.3	4.1	2.2	0.00	0.00	0.00	0.00
23	0.00	0.00	e38	e24	4.1	4.7	4.0	2.1	0.00	0.00	0.00	0.00
24	0.00	0.00	e23	e10	4.1	4.6	7.2	1.9	0.00	0.00	0.00	0.00
25	0.00	0.00	e20	e8.3	4.0	4.5	13	1.7	0.00	0.00	0.00	0.00
26	0.00	0.00	e18	e7.2	3.9	4.3	15	1.5	0.00	0.00	0.00	0.00
27	0.00	0.00	e21	e7.0	3.4	3.9	9.1	1.5	0.00	0.00	0.00	0.00
28	0.00	0.00	e46	e6.6	3.3	3.3	28	1.6	0.00	0.00	0.00	0.00
29	0.00	0.00	e62	e6.1	---	2.8	52	1.9	0.00	0.00	0.00	0.00
30	0.00	0.00	e34	e5.6	---	3.2	30	1.2	0.00	0.00	0.00	0.00
31	0.00	---	e128	e5.6	---	3.3	---	1.2	---	0.00	0.00	---
TOTAL	0.00	0.00	1363.00	652.7	184.0	277.1	301.9	163.3	6.33	0.00	0.00	0.00
MEAN	0.000	0.000	44.0	21.1	6.57	8.94	10.1	5.27	0.21	0.000	0.000	0.000
MAX	0.00	0.00	317	84	40	111	52	17	1.0	0.00	0.00	0.00
MIN	0.00	0.00	0.00	5.6	2.8	2.5	2.6	1.2	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	2700	1290	365	550	599	324	13	0.00	0.00	0.00

e Estimated.

SACRAMENTO RIVER BASIN

11451600 DAVIS CREEK AT DAM, NEAR KNOXVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.000	0.000	18.9	12.6	10.4	8.80	3.87	1.49	0.053	0.000	0.000	0.000
MAX	0.000	0.000	44.0	29.3	29.6	18.9	10.1	5.27	0.21	0.000	0.000	0.000
(WY)	2001	2001	2003	2002	2000	2000	2003	2003	2003	2000	2000	2000
MIN	0.000	0.000	0.000	0.000	0.17	2.08	0.14	0.000	0.000	0.000	0.000	0.000
(WY)	2001	2001	2001	2000	2001	2002	2002	2001	2000	2000	2000	2000

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL TOTAL	2472.12		2948.33			
ANNUAL MEAN	6.77		8.08		4.27	
HIGHEST ANNUAL MEAN					8.08 2003	
LOWEST ANNUAL MEAN					0.61 2001	
HIGHEST DAILY MEAN	317	Dec 16	317	Dec 16	317	Dec 16 2002
LOWEST DAILY MEAN	0.00	Apr 13	0.00	Oct 1	0.00	Dec 8 1999
ANNUAL SEVEN-DAY MINIMUM	0.00	Apr 13	0.00	Oct 1	0.00	Dec 8 1999
MAXIMUM PEAK FLOW			425 Dec 16		425 Dec 16 2002	
MAXIMUM PEAK STAGE			28.64 Dec 16		28.64 Dec 16 2002	
ANNUAL RUNOFF (AC-FT)	4900		5850		3090	
10 PERCENT EXCEEDS	8.1		18		8.2	
50 PERCENT EXCEEDS	0.00		0.07		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11451600 DAVIS CREEK AT DAM, NEAR KNOXVILLE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—February 2000 to September 2000.

CHEMICAL DATA: February 2000 to September 2000.

SEDIMENT DATA: February 2000 to September 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat un- f uS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
FEB									
28...	1600	51	8.3	500	--	202	--	.23	<.02
MAR									
16...	1630	13	8.5	545	13.5	211	.17	.30	<.02

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
FEB							
28...	.06	<.010	<.01	.010	.025	<.2	3.6
MAR							
16...	<.05	<.010	<.01	e.003	e.006	.3	3.3

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
FEB						
18...SS	1050	14	9.5	13	.49	62
18...SS	1120	14	9.5	12	.45	76
28...SS	1600	51	--	11	1.5	99
MAR						
07...SS	1640	26	8.5	14	.98	78
16...SS	1630	13	13.5	9	.32	94
16...SS	1640	13	13.5	5	.18	89
APR						
06...SS	0910	2.8	16.0	2	.02	89

< Actual value is known to be less than value shown.

e Estimated.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11451690 SULPHUR CREEK AT WILBUR SPRINGS, CA

LOCATION.—Lat 39°02'19", long 122°25'08", in sec.28, T.14 N., R.5 W., Colusa County, Hydrologic Unit 18020116, on right bank, 0.85 mi upstream from mouth at Bear Creek, and at Wilbur Springs.

DRAINAGE AREA.—9.87 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1999 to current year.

GAGE.—Water-stage recorder. Datum of gage is 1,315 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. See schematic diagram of lower Sacramento River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 564 ft³/s, Dec. 14, 2002, gage height, 6.10 ft; minimum daily, 0.05 ft³/s, Aug. 14, 15, 2001.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 180 ft³/s, or maximum.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	1600	564	6.10	Mar. 15	0530	200	4.39
Dec. 20	1330	298	4.94				

CORRECTION.—The maximum discharges reported for water year 2002 are 329 ft³/s, Dec. 2, 2001, gage height, 5.10 ft, and Jan. 2, 2002, 353 ft³/s, gage height, 5.22 ft; the previously published date was incorrect.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.29	0.17	0.40	17	4.4	3.6	2.4	5.6	1.2	0.33	0.17	0.16
2	0.28	0.16	0.43	11	3.9	3.4	2.6	5.4	1.1	0.31	0.20	0.16
3	0.28	0.16	0.44	8.8	3.3	3.3	2.5	9.2	1.0	0.31	0.18	0.17
4	0.28	0.16	0.45	7.3	3.0	3.2	3.9	5.3	0.97	0.25	0.13	0.18
5	0.28	0.15	0.49	6.3	2.8	3.0	2.6	4.1	0.95	0.24	0.12	0.16
6	0.28	0.16	0.54	5.4	2.7	3.0	2.4	4.4	0.96	0.22	0.14	0.19
7	0.28	0.62	0.50	4.9	2.6	2.9	2.3	4.0	0.98	0.21	0.15	0.21
8	0.28	0.43	0.51	4.1	2.6	2.9	2.2	3.3	0.98	0.21	0.15	0.22
9	0.24	0.50	0.83	5.2	2.5	2.9	2.2	3.0	0.96	0.20	0.13	0.19
10	0.23	0.80	1.0	13	2.5	2.6	2.1	2.8	0.94	0.20	0.11	0.21
11	0.23	0.57	0.83	11	2.5	2.5	2.1	2.6	0.99	0.20	0.12	0.18
12	0.23	0.41	0.73	41	3.1	2.5	3.8	2.5	0.97	0.21	0.12	0.18
13	0.24	0.40	14	61	8.0	2.5	6.4	e2.3	0.92	0.17	0.12	0.21
14	0.24	0.36	130	24	3.9	5.8	4.7	e2.2	0.89	0.17	0.15	0.21
15	0.26	0.33	57	16	4.4	56	3.2	e2.1	0.84	0.17	0.15	0.21
16	0.25	0.33	142	12	40	9.5	3.1	e2.1	0.79	0.17	0.16	0.22
17	0.21	0.33	19	10	9.4	5.4	3.1	e2.0	0.72	0.16	0.16	0.21
18	0.21	0.32	7.4	9.2	6.8	4.1	2.6	e1.9	0.71	0.16	0.16	0.22
19	0.22	0.32	21	8.4	6.0	4.0	2.3	e1.8	0.72	0.17	0.16	0.18
20	0.22	0.35	132	8.0	5.2	3.8	2.3	e1.7	0.70	0.16	0.16	0.18
21	0.22	0.36	59	7.8	4.7	3.4	2.3	e1.6	0.69	0.16	0.19	0.17
22	0.23	0.38	18	12	4.5	3.3	2.2	e1.5	0.70	0.15	0.19	0.18
23	0.22	0.37	9.8	13	4.3	3.2	2.2	1.5	0.67	0.17	0.18	0.19
24	0.21	0.36	7.0	8.8	4.3	3.0	3.2	1.4	0.62	0.17	0.19	0.18
25	0.19	0.37	5.6	8.0	4.0	2.9	3.7	1.4	0.57	0.15	0.18	0.18
26	0.18	0.35	6.5	7.3	3.9	2.9	4.9	1.4	0.53	0.15	0.18	0.19
27	0.18	0.36	9.3	6.7	3.8	2.7	3.3	1.4	0.48	0.15	0.18	0.19
28	0.18	0.35	34	5.7	3.6	2.5	6.5	1.3	0.41	0.15	0.17	0.20
29	0.18	0.38	35	5.1	---	2.4	18	1.3	0.36	0.16	0.14	0.21
30	0.18	0.40	18	5.0	---	2.4	11	1.3	0.33	0.16	0.15	0.21
31	0.18	---	57	4.9	---	2.4	---	1.3	---	0.16	0.16	---
TOTAL	7.18	10.71	788.75	367.9	152.7	158.0	116.1	83.7	23.65	5.95	4.85	5.75
MEAN	0.23	0.36	25.4	11.9	5.45	5.10	3.87	2.70	0.79	0.19	0.16	0.19
MAX	0.29	0.80	142	61	40	56	18	9.2	1.2	0.33	0.20	0.22
MIN	0.18	0.15	0.40	4.1	2.5	2.4	2.1	1.3	0.33	0.15	0.11	0.16
AC-FT	14	21	1560	730	303	313	230	166	47	12	9.6	11

e Estimated.

11451690 SULPHUR CREEK AT WILBUR SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.28	1.03	11.7	8.93	9.04	5.93	2.25	1.35	0.44	0.20	0.17	0.21
MAX	0.32	2.56	25.4	16.8	19.1	9.10	3.87	2.70	0.79	0.22	0.19	0.26
(WY)	2001	2002	2003	2002	2000	2000	2003	2003	2003	2001	2002	2002
MIN	0.23	0.36	0.63	3.39	2.70	1.72	1.14	0.66	0.21	0.16	0.14	0.15
(WY)	2003	2003	2000	2001	2002	2002	2002	2002	2002	2000	2001	2000

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL TOTAL	1536.52		1725.24			
ANNUAL MEAN	4.21		4.73		3.56	
HIGHEST ANNUAL MEAN					4.73	
LOWEST ANNUAL MEAN					1.99	
HIGHEST DAILY MEAN	156	Jan 2	142	Dec 16	156	Jan 2 2002
LOWEST DAILY MEAN	0.14	Jun 7	0.11	Aug 10	0.05	Aug 14 2001
ANNUAL SEVEN-DAY MINIMUM	0.15	Jun 6	0.13	Aug 7	0.07	Aug 10 2001
MAXIMUM PEAK FLOW			564		564	
MAXIMUM PEAK STAGE			6.10		6.10	
ANNUAL RUNOFF (AC-FT)	3050		3420		2580	
10 PERCENT EXCEEDS	5.5		8.8		6.3	
50 PERCENT EXCEEDS	0.40		0.94		0.62	
90 PERCENT EXCEEDS	0.18		0.16		0.18	

11451690 SULPHUR CREEK AT WILBUR SPRINGS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—January 2000 to June 2000.

CHEMICAL DATA: January 2000 to June 2000.

SEDIMENT DATA: January 2000 to June 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, deg C (00010)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
FEB 27...	1400	32	--	--	--	8.8	1280	--	247	2.1
MAR 15...	1550	6.3	725	8.7	99	8.4	3510	18.5	652	7.7

Date	Ammonia + org-N, water, unfltrd, mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, fltrd, mg/L (00666)	Phosphorus, unfltrd, mg/L (00665)	Organic carbon, suspnd, total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
FEB 27...	2.6	1.65	.70	.065	.03	.044	.073	<.2	6.1
MAR 15...	7.5	<.02	<.05	<.010	<.01	.045	.054	.3	3.9

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)
JAN						
07...SS	1600	.51	12.5	67	.09	80
19...SS	1700	14	12.5	235	8.9	93
25...SS	1530	5.6	12.5	40	.60	88
FEB						
09...SS	1320	1.6	13.5	41	.18	61
18...SS	1510	6.5	13.5	42	.74	91
27...SS	1400	32	--	32	2.8	96
MAR						
08...SS	1230	13	8.5	22	.77	94
15...SS	1550	6.3	18.5	9	.15	89
15...SS	1600	6.5	19.0	8	.14	93
APR						
06...SS	1320	2.4	22.5	12	.08	80
MAY						
11...SS	1310	1.5	22.0	48	.19	36
JUN						
13...SS	1500	.61	31.0	13	.02	14

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11451715 BEAR CREEK ABOVE HOLSTEN CHIMNEY CANYON, NEAR RUMSEY, CA

LOCATION.—Lat 38°57'28", long 122°20'30", in NW 1/4 SE 1/4 sec.19, T.13 N., R.4 W., Colusa County, Hydrologic Unit 18020116, on the left bank downstream side of Highway 16 bridge, 2.9 mi upstream from confluence with Cache Creek, and 7.4 mi northwest of Rumsey.

DRAINAGE AREA.—94.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—November 1997 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 920 ft above NGVD of 1929, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are fair. Some minor diversions upstream from station. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,510 ft³/s, Feb. 2, 1998, gage height, 13.57 ft, from rating curve extended above 3,000 ft³/s; minimum daily, 0.56 ft³/s, Aug. 15, 2002.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge, 9,200 ft³/s, Jan. 5, 1965.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 2,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0330	4,670	11.69	Dec. 31	0630	2,150	9.64

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.6	2.2	240	49	34	29	57	15	3.9	2.4	2.1
2	1.2	1.6	2.2	152	45	33	28	51	14	3.9	2.4	2.0
3	1.1	1.6	2.2	118	42	32	29	139	13	3.9	2.6	2.1
4	1.2	1.6	2.3	99	40	32	39	92	12	4.0	2.5	2.4
5	1.3	1.7	2.2	86	38	31	35	60	11	3.7	2.4	2.3
6	1.3	e1.8	2.3	74	37	29	29	56	11	3.6	2.4	2.2
7	1.2	e2.1	2.3	66	35	29	27	60	11	3.6	2.5	2.2
8	1.1	e9.6	2.3	62	34	28	25	53	10	3.4	2.4	2.3
9	1.1	6.8	2.7	62	33	27	24	46	10	3.5	2.4	2.4
10	1.2	5.2	3.7	124	33	27	24	43	9.7	3.3	2.3	2.4
11	1.2	4.0	3.5	119	33	27	23	40	9.6	3.2	2.2	2.3
12	1.2	3.2	2.8	273	34	26	34	38	9.3	3.1	2.1	2.1
13	1.2	2.9	7.2	609	119	26	66	35	8.9	3.0	2.2	2.0
14	1.2	2.7	1090	208	66	84	69	33	8.5	3.0	2.2	1.9
15	1.3	2.4	540	139	47	813	43	31	7.9	3.1	2.1	2.0
16	1.3	2.3	1980	108	428	148	36	29	7.6	3.0	2.0	2.1
17	1.4	2.3	244	94	101	114	42	28	7.2	3.0	2.0	2.1
18	1.4	2.3	88	84	68	65	35	27	6.7	2.9	2.0	2.1
19	1.4	2.2	204	76	58	54	30	25	6.7	3.0	1.9	2.1
20	1.5	2.2	851	70	52	52	28	24	6.6	2.9	1.9	2.2
21	1.4	2.2	558	72	46	46	28	24	6.4	2.8	1.9	2.3
22	1.4	2.3	166	109	45	43	27	23	6.3	2.7	2.5	2.2
23	1.4	2.3	97	173	43	42	27	22	6.0	2.8	2.7	2.2
24	1.5	2.3	72	93	43	40	32	20	5.7	3.0	2.6	2.2
25	1.6	2.2	59	80	42	37	34	19	5.3	3.2	2.4	2.2
26	1.6	2.1	69	72	38	36	52	19	5.1	3.2	2.2	2.2
27	1.6	2.0	162	67	37	34	39	18	5.0	3.0	2.1	2.3
28	1.6	2.1	338	62	35	32	46	18	4.6	2.8	2.2	2.4
29	1.5	2.1	337	57	---	30	97	17	4.4	2.5	2.2	2.4
30	1.5	2.2	162	53	---	29	89	16	4.1	2.5	2.2	2.4
31	1.5	---	986	50	---	29	---	16	---	2.5	2.2	---
TOTAL	41.7	81.9	8040.9	3751	1721	2109	1166	1179	248.6	98.0	70.1	66.1
MEAN	1.35	2.73	259	121	61.5	68.0	38.9	38.0	8.29	3.16	2.26	2.20
MAX	1.6	9.6	1980	609	428	813	97	139	15	4.0	2.7	2.4
MIN	1.1	1.6	2.2	50	33	26	23	16	4.1	2.5	1.9	1.9
AC-FT	83	162	15950	7440	3410	4180	2310	2340	493	194	139	131

e Estimated.

SACRAMENTO RIVER BASIN

11451715 BEAR CREEK ABOVE HOLSTEN CHIMNEY CANYON, NEAR RUMSEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.79	9.99	88.7	105	269	96.2	46.9	34.6	13.9	4.37	2.50	2.33
MAX	5.48	26.1	259	252	1029	180	126	124	56.6	14.2	5.97	5.34
(WY)	1999	2002	2003	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	1.35	2.73	3.33	13.6	35.1	20.9	10.1	4.93	2.64	1.01	0.75	1.03
(WY)	2003	2003	2001	1999	2002	2002	2002	2001	2002	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL TOTAL	16399.17		18573.3			
ANNUAL MEAN	44.9		50.9		36.7	
HIGHEST ANNUAL MEAN					50.9	
LOWEST ANNUAL MEAN					19.1	
HIGHEST DAILY MEAN	1980	Dec 16	1980	Dec 16	2660	Feb 3 1998
LOWEST DAILY MEAN	0.56	Aug 15	1.1	Oct 3	0.56	Aug 15 2002
ANNUAL SEVEN-DAY MINIMUM	0.60	Aug 11	1.2	Oct 7	0.60	Aug 11 2002
MAXIMUM PEAK FLOW			4670		8510	
MAXIMUM PEAK STAGE			11.69		13.57	
ANNUAL RUNOFF (AC-FT)	32530		36840		26590	
10 PERCENT EXCEEDS	67		93		72	
50 PERCENT EXCEEDS	3.2		8.9		5.4	
90 PERCENT EXCEEDS	0.84		1.8		1.5	

11451715 BEAR CREEK ABOVE HOLSTEN CHIMNEY CANYON, NEAR RUMSEY, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—January 2000 to June 2000.

CHEMICAL DATA: January 2000 to June 2000.

SEDIMENT DATA: January 2000 to June 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
FEB 27...	1115	600	--	--	--	8.8	428	--	149	.29
MAR 15...	1220	90	741	10.3	102	8.5	1060	13.5	378	.21

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
FEB 27...	.88	.05	.14	.011	.04	.045	.165	1.0	5.7
MAR 15...	.24	<.02	<.05	<.010	<.01	.010	.015	.3	2.9

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

Date	Time	Instan- taneous dis- charge, cfs (00061)	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
JAN						
05...	SS 1515	4.0	6.5	28	.30	67
05...	SS 1530	3.8	6.5	21	.22	70
19...	SS 1415	23	11.5	47	2.9	67
25...	SS 1750	69	10.5	18	3.4	82
FEB						
09...	SS 1520	28	12.0	30	2.3	91
18...	SS 1720	97	11.0	14	3.7	95
27...	SS 1115	600	--	223	361	97
MAR						
08...	SS 1420	156	8.0	14	5.9	96
15...	SS 1220	90	13.5	11	2.7	65
APR						
06...	SS 1450	37	21.0	11	1.1	--
MAY						
12...	SS 1310	13	18.0	52	1.8	17
JUN						
13...	SS 1350	5.1	27.5	49	.67	35

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11451800 CACHE CREEK AT RUMSEY, CA

LOCATION.—Lat 38°53'26", long 122°14'14", in Canada de Capay Grant, **Yolo County**, Hydrologic Unit 18020110, midstream on Arbuckle Bridge at Rumsey.

DRAINAGE AREA.—964 mi².

PERIOD OF RECORD.—Water years 1976, 1996 to 2000.

CHEMICAL DATA: February 1996 to June 2000.

SEDIMENT DATA: December 1975 to September 1976, February 1996 to June 2000.

REMARKS.—Records of sediment discharge from December 1975 to September 1976 were obtained from the California Department of Water Resources. California Department of Water Resources has provided discharge data since December 1975. This station replaced former station 11451760 (Cache Creek above Rumsey) in September 1976 and was reestablished February 1996 for NAWQA water-quality and sediment sampling purposes.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, wat unf, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt Gran, field, mg/L as CaCO ₃ (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
FEB 28...	1425	e1740	--	--	--	8.1	318	10.0	--	.12
MAR 16...	1350	e1550	752	10.0	96	8.4	352	13.0	159	.16

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd, mg/L (00665)	Organic carbon, suspnd, total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
FEB 28...	.38	<.02	.12	<.010	.01	.017	.189	.6	2.4
MAR 16...	.27	<.02	<.05	<.010	<.01	.007	.036	.5	2.6

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)	Suspended sediment, sieve diameter percent <.063mm (70331)
JAN						
05...	SS	1245	--	8.0	8	--
19...	SS	1145	e13	10.5	29	e1.0
26...	SS	1640	e40	11.0	29	e3.1
FEB						
09...	SS	1700	e17	13.0	19	e.87
18...	SS	1820	e210	11.0	48	e27
28...	SS	1425	e1740	10.0	215	e1010
28...	SS	1740	e1660	10.0	210	e941
MAR						
16...	SS	1350	e1550	13.0	43	e180
MAY						
12...	SS	1520	e831	18.0	44	e99
JUN						
13...	SS	1230	e1220	23.0	36	e119

e Estimated.

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11452500 CACHE CREEK AT YOLO, CA

LOCATION.—Lat 38°43'38", long 121°48'22", in Rio Jesus Maria Grant, [Yolo County](#), Hydrologic Unit 18020110, on left bank, 35 ft upstream from Interstate Highway 5 bridge, 0.5 mi south of Yolo, and 7.3 mi downstream from Moore Dam.

DRAINAGE AREA.—1,139 mi².

PERIOD OF RECORD.—January 1903 to current year. Records for water year 1903 incomplete; yearly estimate published in WSP 1315-A.

WATER TEMPERATURE: Water years 1959–65, November 1966 to February 1967.

SEDIMENT DATA: Water years 1959–65, November 1966 to February 1967 (daily record), 1986 (periodic record).

REVISED RECORDS.—WSP 1315-A: 1914(M). WSP 1345: 1906. WSP 1445: 1955. WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929. See WSP 2131 for history of changes prior to Apr. 25, 1969. Apr. 25, 1969, to July 1976, at site 765 ft upstream at same datum.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Some regulation by Clear Lake (station 11450000) beginning in 1915 and Indian Valley Reservoir beginning in 1974, capacity, 300,000 acre-ft. Diversions for irrigation of about 30,000 acres between Capay and Yolo, from data furnished by Clear Lake Water Co. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 41,400 ft³/s, Feb. 25, 1958, gage height, 85.35 ft, present datum, maximum stage observed, 86.4 ft, present datum, Mar. 10, 1904; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	0.00	0.00	3570	284	157	378	3410	176	9.2	2.3	1.3
2	69	0.00	0.00	2830	267	153	490	3180	99	4.8	0.00	0.91
3	70	0.00	0.00	2550	249	149	325	3250	26	12	15	0.00
4	23	0.00	0.00	2350	236	145	224	3360	35	4.3	32	0.00
5	16	0.00	0.00	2220	223	142	398	3070	109	11	23	16
6	19	0.00	32	2120	204	139	548	2940	48	41	43	39
7	17	0.00	62	2040	192	135	546	2410	36	47	42	14
8	14	41	15	1990	196	132	378	815	46	26	27	0.07
9	13	37	4.5	1970	185	133	212	520	60	37	32	3.7
10	9.1	25	3.3	2210	179	130	181	273	54	61	35	3.5
11	9.4	15	2.6	2630	170	128	147	117	43	20	29	2.6
12	9.4	8.9	2.6	2250	169	124	141	118	48	1.5	12	0.80
13	9.5	10	7.0	3580	254	121	1340	192	54	0.00	4.8	0.00
14	9.5	6.6	e638	3540	312	128	3120	157	48	0.00	0.44	4.5
15	9.2	3.9	e4810	2800	246	2700	2830	121	52	0.00	0.00	14
16	9.3	3.7	e12500	2510	905	3870	2800	78	53	0.00	1.1	57
17	6.6	3.7	e5880	2360	714	3020	2730	65	29	0.00	2.0	60
18	2.2	2.6	e1710	2250	366	995	973	189	23	0.77	1.9	39
19	0.28	1.2	e1010	2170	288	486	411	102	17	1.9	0.17	45
20	0.05	0.14	e2410	2110	252	407	504	46	15	6.7	0.39	31
21	0.00	0.00	e5360	2090	204	900	593	39	23	23	0.00	17
22	0.00	0.00	e2260	2100	134	947	573	36	44	6.3	23	19
23	0.00	0.00	e1060	2630	125	582	885	41	38	1.3	29	4.6
24	0.00	0.00	e660	2450	127	440	1000	60	34	0.00	25	2.4
25	0.00	0.00	e477	2260	176	877	2500	88	39	9.7	20	1.2
26	0.00	0.00	e379	1410	172	754	2750	70	33	18	5.1	0.26
27	0.00	0.00	444	938	169	420	2320	50	15	1.9	0.51	2.2
28	0.00	0.00	1100	588	162	265	1890	41	3.2	0.87	0.00	1.7
29	0.00	0.00	2590	384	---	235	3480	42	3.6	e0.00	0.00	22
30	0.00	0.00	1300	334	---	219	3880	36	10	e0.00	0.00	17
31	0.00	---	3930	304	---	208	---	29	---	0.00	0.00	---
TOTAL	356.53	158.74	48647.00	65538	7160	19241	38547	24945	1313.8	345.24	405.71	419.74
MEAN	11.5	5.29	1569	2114	256	621	1285	805	43.8	11.1	13.1	14.0
MAX	70	41	12500	3580	905	3870	3880	3410	176	61	43	60
MIN	0.00	0.00	0.00	304	125	121	141	29	3.2	0.00	0.00	0.00
AC-FT	707	315	96490	130000	14200	38160	76460	49480	2610	685	805	833

e Estimated.

SACRAMENTO RIVER BASIN

11452500 CACHE CREEK AT YOLO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.5	60.2	439	1392	1975	1507	860	201	62.3	26.6	12.9	7.97
MAX	335	1593	5644	7446	12750	10930	6353	1655	784	421	189	105
(WY)	1963	1984	1984	1914	1998	1983	1958	1904	1906	1907	1907	1998
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1904	1906	1906	1920	1920	1920	1924	1919	1913	1912	1910	1903

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1903 - 2003	
ANNUAL TOTAL	113114.43		207077.76			
ANNUAL MEAN	310		567		538	
HIGHEST ANNUAL MEAN					2449	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	12500	Dec 16	12500	Dec 16	29300	Feb 25 1958
LOWEST DAILY MEAN	0.00	May 10	0.00	Oct 21	0.00	Aug 7 1903
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 12	0.00	Oct 21	0.00	Aug 7 1903
MAXIMUM PEAK FLOW			22300	Dec 16	41400	Feb 25 1958
MAXIMUM PEAK STAGE			76.04	Dec 16	86.40	Mar 10 1904
ANNUAL RUNOFF (AC-FT)	224400		410700		389800	
10 PERCENT EXCEEDS	418		2350		1410	
50 PERCENT EXCEEDS	10		44		3.7	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

11453000 YOLO BYPASS NEAR WOODLAND, CA

LOCATION.—Lat 38°40'40", long 121°38'35", unsurveyed, [Yolo County](#), Hydrologic Unit 18020109, on left bank, 300 ft upstream from Sacramento and Woodland Railroad Bridge, 6 mi upstream from Sacramento Bypass, 6 mi downstream from Fremont Weir, and 7 mi east of Woodland.

PERIOD OF RECORD.—October 1939 to current year (since October 1977, high-flow records only). Monthly discharge only for some periods, published in WSP 1315-A.

SEDIMENT DATA: Water years 1957–61, 1980.

REVISED RECORDS.—WDR CA-96-4: 1995(M).

GAGE.—Water-stage recorder. Datum of gage is 3.41 ft below NGVD of 1929. Prior to Dec. 17, 1941, nonrecording gage, and Dec. 18–31, 1941, water-stage recorder, at datum 0.73 ft higher. Prior to Sept. 30, 1977, a supplementary water-stage recorder 6 mi downstream at different datum recorded low flow.

REMARKS.—Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont Weir. Beginning October 1977, only flows above 1,000 ft³/s are computed. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 374,000 ft³/s, Feb. 20, 1986, gage height, 34.87 ft; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 26,500 ft³/s, Jan. 3, gage height, 25.52 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	10400	3370	---	---	4490	---	---	---	---
2	---	---	---	17200	3280	---	---	4510	---	---	---	---
3	---	---	---	25500	3130	---	---	4520	---	---	---	---
4	---	---	---	19500	3070	---	---	4570	---	---	---	---
5	---	---	---	9030	2960	---	---	4660	---	---	---	---
6	---	---	---	5700	2620	---	---	4670	---	---	---	---
7	---	---	---	5200	1890	---	---	4590	---	---	---	---
8	---	---	---	4980	1200	---	---	4240	---	---	---	---
9	---	---	---	4800	---	---	---	3230	---	---	---	---
10	---	---	---	4740	---	---	---	2420	---	---	---	---
11	---	---	---	4640	---	---	---	1910	---	---	---	---
12	---	---	---	4590	---	---	---	1580	---	---	---	---
13	---	---	---	4640	---	---	---	1310	---	---	---	---
14	---	---	---	5050	1130	---	---	1060	---	---	---	---
15	---	---	---	5110	1870	---	2310	---	---	---	---	---
16	---	---	2090	5500	2240	1670	3500	---	---	---	---	---
17	---	---	7320	16800	2810	4170	3620	---	---	---	---	---
18	---	---	5710	17900	3130	4230	3320	---	---	---	---	---
19	---	---	4980	8700	3120	3230	1990	---	---	---	---	---
20	---	---	4930	5500	2900	2540	1220	---	---	---	---	---
21	---	---	5700	5070	2590	2000	---	---	---	---	---	---
22	---	---	6340	4900	2210	1540	---	---	---	---	---	---
23	---	---	5610	4850	1820	1500	---	---	---	---	---	---
24	---	---	5250	4890	1530	1320	---	---	---	---	---	---
25	---	---	5010	4810	1370	1100	1500	---	---	---	---	---
26	---	---	4730	4670	1240	1080	3140	---	---	---	---	---
27	---	---	4310	4380	1120	1150	3560	---	---	---	---	---
28	---	---	4110	4080	---	1030	3400	---	---	---	---	---
29	---	---	4710	3830	---	---	3550	---	---	---	---	---
30	---	---	5130	3560	---	---	4230	---	---	---	---	---
31	---	---	5150	3430	---	---	---	---	---	---	---	---
TOTAL	---	---	---	233950	---	---	---	---	---	---	---	---
MEAN	---	---	---	7547	---	---	---	---	---	---	---	---
MAX	---	---	---	25500	---	---	---	---	---	---	---	---
MIN	---	---	---	3430	---	---	---	---	---	---	---	---
AC-FT	---	---	---	464000	---	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1977, BY WATER YEAR (WY)

	441	738	5638	13230	11240	3398	3849	430	144	20.7	26.1	51.0
MEAN	441	738	5638	13230	11240	3398	3849	430	144	20.7	26.1	51.0
MAX	13420	10890	48790	86470	92890	27910	37310	4546	1420	107	84.9	155
(WY)	1963	1951	1956	1970	1958	1958	1958	1952	1967	1958	1958	1954
MIN	1.01	2.19	0.92	2.43	0.88	3.55	0.083	0.55	0.53	0.000	0.000	0.63
(WY)	1977	1960	1977	1977	1977	1977	1976	1977	1977	1966	1966	1977

SUMMARY STATISTICS

WATER YEARS 1946 - 1977

ANNUAL MEAN	3230
HIGHEST ANNUAL MEAN	13020
LOWEST ANNUAL MEAN	1.53
HIGHEST DAILY MEAN	259000
LOWEST DAILY MEAN	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00
MAXIMUM PEAK FLOW	265000
MAXIMUM PEAK STAGE	32.48
ANNUAL RUNOFF (AC-FT)	2340000
10 PERCENT EXCEEDS	3080
50 PERCENT EXCEEDS	35
90 PERCENT EXCEEDS	1.9

11453120 YOLO BYPASS AT INTERSTATE HIGHWAY 80, NEAR WEST SACRAMENTO, CA

LOCATION.—Lat 38°34'04", long 121°36'51", in SE 1/4 NW 1/4 sec.2, T.8 N., R.3 E., Yolo County, Hydrologic Unit 18020109, at center of bike path bridge on Interstate Highway 80, 1.9 mi west of West Capitol Avenue, and approximately 2.8 mi west of West Sacramento.

DRAINAGE AREA.—Indeterminate.

PERIOD OF RECORD.—January 1997 to March 2000.

CHEMICAL DATA: January 1997 to March 2000.

SEDIMENT DATA: January 1997 to March 2000.

INSTRUMENTATION.—None.

REMARKS.—Discharge values were determined by combining discharge at U.S. Geological Survey gage 11453000 (Yolo Bypass Near Woodland) and California Department of Water Resources gage at Sacramento Weir.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfltrd, uS/cm 25 degC (00095)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarb hard-ness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	
MAR										
02...	1200	e45500	7.7	160	67	4	12.8	8.47	1.17	
18...	1300	e3280	8.0	440	--	--	--	--	--	
Date		Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt Gran, field, mg/L as CaCO3 (29802)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents (70301)
MAR										
02...	.5	8.89	22	63.0	6.15	<.1	19.3	7.4	103	
18...	--	--	--	146	--	--	--	--	--	
Date		Residue water, at fltrd, tons/acre-ft (70303)	Residue evap. at 180degC, wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, unfltrd, mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)
MAR										
02...	.14	106	.11	.24	<.02	.13	<.010	.03	.034	
18...	--	--	.26	.57	<.02	.17	<.010	.04	.055	
Date		Phosphorus, water, unfltrd, mg/L (00665)	Organic carbon, suspnd sediment total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)	2,6-Diethyl-aniline water fltrd, 0.7u GF, ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)
MAR										
02...	.109	.5	2.2	82	6.2	<.003	<.002	<.002	<.002	
18...	.126	.4	3.9	--	--	--	--	--	--	
Date		alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl, water, fltrd, 0.7u GF, ug/L (82686)	Ben-flur-alin, water, fltrd, ug/L (82673)	Butyl-ate, water, fltrd, ug/L (04028)	Car-baryl, water, fltrd, ug/L (82680)	Carbo-furan, water, fltrd, ug/L (82674)	Chlor-pyrifos, water, fltrd, ug/L (38933)	cis-Per-methrin, water, fltrd, 0.7u GF, ug/L (82687)
MAR										
02...	<.002	<.001	<.001	<.002	<.002	<.003	<.003	<.004	<.005	
18...	--	--	--	--	--	--	--	--	--	

e Estimated.

< Actual value is known to be less than the value shown.

11453120 YOLO BYPASS AT INTERSTATE HIGHWAY 80, NEAR WEST SACRAMENTO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water, fltrd 0.7u GF ug/L (82682)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethal- flur- alin, water, fltrd 0.7u GF ug/L (82663)	Etho- prop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)
MAR 02... 18...	<.004 --	<.002 --	e.004 --	<.001 --	<.02 --	<.002 --	<.004 --	<.003 --	<.003 --
Date	Lindane water, fltrd, ug/L (39341)	Linuron water, fltrd 0.7u GF ug/L (82666)	Mala- thion, water, fltrd, ug/L (39532)	Methyl para- thion, water, fltrd 0.7u GF ug/L (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF ug/L (82671)	Naprop- amide, water, fltrd 0.7u GF ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)
MAR 02... 18...	<.004 --	<.002 --	<.005 --	<.006 --	.007 --	<.004 --	<.004 --	<.003 --	<.006 --
Date	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water, fltrd 0.7u GF ug/L (82664)	Prome- ton, water, fltrd, ug/L (04037)	Pron- amide, water, fltrd 0.7u GF ug/L (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd 0.7u GF ug/L (82679)	Propar- gite, water, fltrd 0.7u GF ug/L (82685)
MAR 02... 18...	<.004 --	<.004 --	<.004 --	<.002 --	<.02 --	<.003 --	<.007 --	<.004 --	<.01 --
Date	Sima- zine, water, fltrd, ug/L (04035)	Tebu- thiuron water, fltrd 0.7u GF ug/L (82670)	Terba- cil, water, fltrd 0.7u GF ug/L (82665)	Terbu- fos, water, fltrd 0.7u GF ug/L (82675)	Thio- bencarb water, fltrd 0.7u GF ug/L (82681)	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82678)	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)		
MAR 02... 18...		.014 --	<.01 --	<.007 --	<.01 --	<.002 --	<.001 --	.004 --	

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

Date	Time	Instan- taneous dis- charge, cfs (00061)	Sus- pended sedi- ment con- cen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
MAR 02...SS 18...SS	1200 1300	e45500 e3280	76 49	e9340 e434	99 95

< Actual value is known to be less than value shown.
e Estimated.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

11453500 PUTAH CREEK NEAR GUENOC, CA

LOCATION.—Lat 38°46'44", long 122°30'59", in Guenoc Grant, Lake County, Hydrologic Unit 18020117, on right bank just upstream from Coyote Valley dam site, 2.8 mi upstream from Soda Creek, and 3.2 mi downstream from highway bridge at Guenoc.

DRAINAGE AREA.—113 mi².

PERIOD OF RECORD.—February 1904 to September 1906, July 1930 to September 1976, and April 1998 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

CHEMICAL DATA.—Water year 1978.

WATER TEMPERATURE.—Water years 1960–1973.

SEDIMENT DATA.—Water years 1962–1973.

REVISED RECORDS.—WSP 1285: 1937(M), 1938, 1940, 1943(M), 1951(M).

GAGE.—Water-stage recorder. Datum of gage is 911.18 ft above NGVD of 1929. February 1904 to September 1906, nonrecording gage 0.2 mi upstream at different datum, July 1930 to September 1976, at datum 3.00 ft higher.

REMARKS.—Records good except for estimated daily discharges, which are fair. Some regulation by Hartmann Dam on Coyote Creek since 1969, capacity, 3,000 acre-ft; diversions and ground-water withdrawals for domestic use and irrigation of about 1,600 acres above station. See schematic diagram of lower Sacramento River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 32,000 ft³/s, Dec. 11, 1937, gage height, 22.7 ft, from rating curve extended above 13,000 ft³/s; no flow many days in 1964, 1970, 1974–76.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 5,000 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 16	0430	19,800	21.18	Mar. 15	0600	6,090	13.64
Dec. 31	0345	5,040	12.83				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	7.9	1120	214	123	121	650	69	22	2.6	1.4
2	0.00	0.00	e7.7	779	194	117	117	541	65	21	3.0	0.64
3	0.00	0.00	e7.8	593	180	113	111	850	61	20	2.8	0.56
4	0.00	0.00	9.3	472	169	112	150	587	58	20	3.4	1.1
5	0.00	0.00	e8.5	390	157	105	126	457	56	19	4.0	0.58
6	0.00	0.00	9.5	328	148	101	114	390	52	18	2.9	0.47
7	0.00	0.03	9.3	282	140	97	108	344	51	18	3.4	0.79
8	0.00	104	9.3	251	133	93	103	301	49	17	4.9	0.60
9	0.00	113	12	291	127	90	99	267	47	16	5.3	0.63
10	0.00	100	18	1270	122	87	96	240	45	15	4.9	1.2
11	0.00	88	14	1020	118	85	92	220	46	13	4.5	1.5
12	0.00	43	13	1000	119	83	324	201	44	13	4.1	1.6
13	0.00	27	2700	1870	355	82	734	184	43	13	4.0	1.4
14	0.00	18	7230	1030	242	741	528	172	41	12	3.7	1.4
15	0.00	13	3210	722	183	2780	330	160	39	12	3.4	1.2
16	0.00	11	7980	559	1020	851	269	151	37	9.9	2.9	0.20
17	0.00	8.9	1460	457	449	532	233	142	36	9.0	2.6	0.02
18	0.00	7.7	e792	385	320	389	200	132	35	8.4	2.4	0.01
19	0.00	7.2	e867	332	272	322	177	125	34	8.3	2.3	0.01
20	0.00	7.0	2610	292	235	313	162	118	33	8.0	0.24	0.11
21	0.00	7.2	1900	302	207	259	153	112	32	7.3	0.22	0.08
22	0.00	7.4	919	777	189	230	145	106	32	7.3	1.8	0.32
23	0.00	7.6	598	1180	176	223	136	101	31	6.0	1.4	0.50
24	0.00	7.6	437	652	165	202	500	95	30	5.3	1.2	0.63
25	0.00	7.2	341	501	155	183	602	92	29	6.3	1.2	0.73
26	0.00	7.1	802	418	144	172	583	90	27	4.9	1.2	0.63
27	0.00	7.1	2360	363	137	161	396	85	25	4.7	1.3	0.66
28	0.00	7.2	2880	317	129	149	908	80	23	5.2	1.5	0.68
29	0.00	e7.4	2340	279	---	138	1460	77	22	4.4	1.7	0.73
30	0.00	e7.6	1230	251	---	131	955	76	22	3.4	1.7	0.67
31	0.00	---	2550	231	---	126	---	74	---	0.92	1.7	---
TOTAL	0.00	621.23	43332.3	18714	6199	9190	10032	7220	1214	348.32	82.26	21.05
MEAN	0.000	20.7	1398	604	221	296	334	233	40.5	11.2	2.65	0.70
MAX	0.00	113	7980	1870	1020	2780	1460	850	69	22	5.3	1.6
MIN	0.00	0.00	7.7	231	118	82	92	74	22	0.92	0.22	0.01
AC-FT	0.00	1230	85950	37120	12300	18230	19900	14320	2410	691	163	42

e Estimated.

SACRAMENTO RIVER BASIN

495

11453500 PUTAH CREEK NEAR GUENOC, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 2003, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.2	88.3	401	621	654	398	219	71.1	27.0	7.80	3.65	2.59
MAX	329	1005	1684	2288	2107	1326	906	264	165	36.8	12.0	10.0
(WY)	1963	1974	1956	1970	1958	1938	1958	1998	1906	1998	1906	1905
MIN	0.000	1.35	2.34	15.2	36.7	55.9	26.6	9.48	1.57	0.47	0.000	0.000
(WY)	2003	1932	1937	1976	1976	1976	1931	1976	1976	1976	1976	1976

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1905 - 2003	
ANNUAL TOTAL	75491.65		96974.16			
ANNUAL MEAN	207		266		207	
HIGHEST ANNUAL MEAN					467	
LOWEST ANNUAL MEAN					21.8	
HIGHEST DAILY MEAN	7980	Dec 16	7980	Dec 16	16500	Dec 10 1937
LOWEST DAILY MEAN	0.00	Jul 8	0.00	Oct 1	0.00	Aug 20 1964
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 23	0.00	Oct 1	0.00	Jul 26 1976
MAXIMUM PEAK FLOW			19800	Dec 16	32000	Dec 11 1937
MAXIMUM PEAK STAGE			21.18	Dec 16	22.70	Dec 11 1937
ANNUAL RUNOFF (AC-FT)	149700		192300		149600	
10 PERCENT EXCEEDS	284		651		452	
50 PERCENT EXCEEDS	15		47		25	
90 PERCENT EXCEEDS	0.00		0.00		1.4	

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, and 7.4 mi west of Winters.

DRAINAGE AREA.—566 mi².

PERIOD OF RECORD.—January 1957 to current year.

REVISED RECORDS.—WSP 1735: 1958–60. WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is NGVD of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.—Reservoir is formed by concrete arch-gravity dam completed November 1956. Usable capacity, 1,592,000 acre-ft, between elevations 253.25 ft, invert of outlet valves, and 440 ft, crest of glory-hole spillway. Dead storage, 10,340 acre-ft. Water is released down Putah Creek and is diverted into Putah South Canal (station 11454210) for irrigation of about 46,000 acres in the lower Sacramento Valley. Total diverted during current year was 180,700 acre-ft. Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours. See schematic diagram of lower Sacramento River Basin.

COOPERATION.—Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 1,733,500 acre-ft, Mar. 2, 1983, elevation, 446.67 ft; minimum since irrigation pool first filled, 422,130 acre-ft, Dec. 1, 1992, elevation, 361.73 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,619,900 acre-ft, May 3, elevation, 440.91 ft; minimum, 1,261,500 acre-ft, Dec. 12, elevation, 421.47 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1956)

360	404,550	390	765,730	410	1,068,100	430	1,414,200
370	511,760	400	911,200	420	1,236,000	450	1,799,900
380	632,360						

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1285500	1265700	1264000	1499700	1571900	1587100	1604200	1617900	1595400	1554200	1504400	1463600
2	1284000	1265200	1263600	1503100	1572300	1587300	1604000	1617600	1594200	1552600	1502700	1462500
3	1283400	1264700	1263500	1505100	1572900	1587500	1603200	1619900	1592800	1551100	1501600	1461200
4	1282600	1264300	1263300	1507200	1573800	1587700	1604000	1619700	1591500	1549600	1500300	1459900
5	1281900	1264200	1263100	1509100	1574000	1588200	1604000	1618700	1590300	1547900	1498200	1458400
6	1281200	1263800	1262800	1509700	1574600	1588600	1603200	1617800	1589000	1546400	1496900	1457000
7	1280600	1268900	1262800	1510800	1574600	1588800	1602900	1617000	1587500	1544800	1495600	1455700
8	1279700	1268900	1262400	1511700	1575000	1589000	1602900	1615400	1586300	1543100	1494100	1454500
9	1279200	1269000	1262400	1514000	1575200	1589000	1602700	1614100	1585200	1541800	1492400	1452900
10	1278500	1269200	1262800	1519300	1575400	1589200	1604200	1613500	1583400	1540100	1491300	1451600
11	1277300	1269000	1262200	1524200	1575600	1589400	1602100	1612500	1582100	1538600	1489800	1450600
12	1276800	1269000	1261500	1527600	1577700	1589800	1604800	1611400	1580500	1537200	1488200	1449500
13	1276100	1268700	1273400	1535200	1580000	1589600	1607100	1610800	1579400	1535400	1486900	1448200
14	1275400	1268500	1313000	1539000	1580900	1592500	1607900	1610000	1577900	1533600	1485600	1447300
15	1274500	1268200	1329700	1541800	1583400	1607900	1607300	1609400	1576900	1532100	1484300	1445800
16	1273800	1268200	1388100	1544300	1585300	1610400	1607500	1608700	1575800	1530400	1482800	1444700
17	1273100	1268000	1395200	1545800	1587300	1611000	1607500	1607500	1574600	1528900	1481500	1443100
18	1272400	1267600	1397500	1546900	1587800	1610600	1607100	1606900	1573100	1527000	1480200	1442100
19	1271800	1267100	1403900	1548500	1588200	1609800	1606700	1606300	1571700	1525900	1478900	1441000
20	1271100	1267100	1418400	1549200	1588200	1609600	1606700	1606000	1570200	1524200	1477400	1440100
21	1270800	1266900	1430000	1551300	1587800	1609000	1606100	1605800	1568500	1522700	1476300	1439200
22	1270300	1266800	1433800	1553800	1587500	1608700	1605800	1604800	1567100	1521000	1474800	1438500
23	1269700	1266400	1435900	1559100	1586900	1607700	1605600	1604200	1565600	1519100	1473900	1437300
24	1269000	1266100	1437300	1561600	1586500	1607100	1606500	1603400	1563700	1517600	1472800	1436400
25	1268900	1265900	1438500	1563500	1586100	1606700	1608300	1602300	1562600	1515900	1471800	1435500
26	1268500	1264800	1440700	1565200	1585700	1606300	1609200	1601500	1561200	1514400	1470500	1434400
27	1268200	1264300	1448600	1566800	1586100	1605800	1609400	1600700	1559900	1513000	1469400	1433500
28	1267600	1264700	1463100	1567900	1586500	1605200	1612700	1599800	1558200	1511200	1468100	1432500
29	1267300	1264300	1471100	1569100	---	1605000	1616600	1599400	1556800	1509700	1466800	1431300
30	1266900	1264000	1480800	1570000	---	1604800	1617800	1597300	1555500	1507800	1465900	1430900
31	1266200	---	1494800	1570800	---	1604400	---	1596300	---	1505900	1464600	---
MAX	1285500	1269200	1494800	1570800	1588200	1611000	1617800	1619900	1595400	1554200	1504400	1463600
MIN	1266200	1263800	1261500	1499700	1571900	1587100	1602100	1596300	1555500	1505900	1464600	1430900
a	421.74	421.61	434.35	483.36	439.18	440.11	440.80	439.69	437.56	434.94	432.73	430.91
b	-20600	-2200	+230800	+76000	+15700	+17900	+13400	-21500	-40800	-49600	-41300	-33700
c	4725	1498	603	986	1985	3832	3215	6641	8640	10148	8999	6930

CAL YR 2002 b +124500

WTR YR 2003 b +144100

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Total evaporation, in acre-feet, provided by U.S. Bureau of Reclamation, not reviewed by U.S. Geological Survey.

11454000 PUTAH CREEK NEAR WINTERS, CA

LOCATION.—Lat 38°30'55", long 122°04'51", in NE 1/4 NE 1/4 sec.28, T.8 N., R.2 W., [Yolo County](#), Hydrologic Unit 18020109, on left bank, 1 mi downstream from Cold Canyon, 1.3 mi downstream from Monticello Dam, and 6 mi west of Winters.

DRAINAGE AREA.—574 mi².

PERIOD OF RECORD.—July 1930 to current year.

CHEMICAL DATA: Water years 1951–66, 1973–81.

WATER TEMPERATURE: Water years 1966–81.

REVISED RECORDS.—WSP 901: 1937–38(M). WSP 1285: 1932(M), 1935–36(M), 1940(M), 1942–43(M), 1951, 1952(M). WSP 1565: 1957. WSP 1931: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 160.75 ft above NGVD of 1929 (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft higher.

REMARKS.—Records good. Flow completely regulated by Lake Berryessa (station 11453900) beginning January 1957. See schematic diagram of [lower Sacramento River Basin](#).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 81,000 ft³/s, Feb. 27, 1940, gage height, 30.5 ft, present datum, from rating curve extended above 30,000 ft³/s; no flow Sept. 6–15, 1950, July 26 to Sept. 1, Sept. 6–9, 1955. Since completion of Monticello Dam in 1957: Maximum discharge, 18,700 ft³/s, Mar. 2, 1983, gage height, 19.55 ft; minimum daily, 6.1 ft³/s, Dec. 19, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum stage known since at least 1905, Feb. 27, 1940, on basis of records for station at Winters.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312	158	82	84	69	88	371	1220	599	537	627	410
2	307	146	82	71	51	94	333	1210	604	566	566	456
3	307	134	82	63	51	94	324	1100	605	596	490	489
4	307	124	82	65	50	93	336	1320	585	631	516	476
5	313	83	74	70	58	104	373	1300	567	638	537	514
6	314	55	67	78	77	104	417	1260	568	638	e537	502
7	305	55	67	84	77	104	338	1200	591	625	e574	480
8	294	45	74	83	77	104	246	1160	590	590	604	480
9	299	98	78	84	77	104	252	1030	591	629	593	479
10	295	113	73	93	84	104	307	884	589	658	551	465
11	297	94	123	98	89	104	320	853	607	659	539	423
12	290	119	137	91	111	104	269	833	601	663	517	391
13	280	220	111	83	102	105	462	698	600	668	488	406
14	268	148	195	76	69	92	720	654	575	672	503	411
15	269	50	129	74	60	381	631	635	553	686	540	421
16	278	50	385	73	68	847	472	584	531	675	555	449
17	278	50	75	73	235	898	483	531	532	645	530	433
18	269	57	60	72	452	893	475	478	568	650	521	415
19	244	82	77	71	562	879	460	464	599	662	537	391
20	219	116	112	77	596	805	447	425	632	662	553	371
21	204	135	119	82	642	782	443	402	645	665	567	336
22	175	105	79	82	640	784	419	432	621	673	494	344
23	161	104	65	80	637	736	383	454	611	693	427	374
24	161	97	61	74	635	688	389	467	600	673	407	375
25	147	90	79	74	601	578	461	493	602	641	413	369
26	123	75	94	84	437	567	535	506	596	626	429	369
27	121	72	82	86	202	527	552	512	599	645	425	364
28	121	81	104	81	89	443	591	512	579	649	435	328
29	130	81	107	65	---	357	887	537	553	689	447	316
30	166	81	83	65	---	355	1190	565	539	665	435	314
31	163	---	107	75	---	400	---	588	---	652	420	---
TOTAL	7417	2918	3145	2411	6898	12318	13886	23307	17632	20021	15777	12351
MEAN	239	97.3	101	77.8	246	397	463	752	588	646	509	412
MAX	314	220	385	98	642	898	1190	1320	645	693	627	514
MIN	121	45	60	63	50	88	246	402	531	537	407	314
AC-FT	14710	5790	6240	4780	13680	24430	27540	46230	34970	39710	31290	24500

e Estimated.

SACRAMENTO RIVER BASIN

11454000 PUTAH CREEK NEAR WINTERS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1956, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.62	96.0	993	1284	1716	976	514	137	42.1	12.5	6.94	5.84
MAX	45.4	807	5110	3957	6468	3506	2729	452	156	63.7	31.7	20.8
(WY)	1951	1951	1956	1952	1938	1938	1941	1941	1942	1941	1941	1941
MIN	.89	3.17	7.16	44.6	66.7	118	40.8	12.3	6.72	2.39	.000	1.47
(WY)	1956	1956	1931	1947	1948	1932	1931	1931	1931	1955	1955	1931

SUMMARY STATISTICS

WATER YEARS 1931 - 1956

ANNUAL MEAN	477
HIGHEST ANNUAL MEAN	1387 1941
LOWEST ANNUAL MEAN	48.1 1931
HIGHEST DAILY MEAN	54500 Feb 27 1940
LOWEST DAILY MEAN	.00 Sep 6 1950
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 6 1950
MAXIMUM PEAK FLOW	81000 Feb 27 1940
MAXIMUM PEAK STAGE	30.5 Feb 27 1940
ANNUAL RUNOFF (AC-FT)	345500
10 PERCENT EXCEEDS	924
50 PERCENT EXCEEDS	38
90 PERCENT EXCEEDS	3.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2003, BY WATER YEAR (WY)

MEAN	224	88.9	107	467	658	734	629	550	600	628	546	400
MAX	476	263	1625	4406	6271	7791	5023	1018	773	802	681	610
(WY)	1972	1987	1984	1970	1998	1983	1982	1983	1981	1984	1975	1968
MIN	13.3	14.9	11.6	11.6	21.6	40.9	110	155	328	338	298	175
(WY)	1960	1963	1961	1960	1960	1962	1960	1960	1960	1960	1960	1960

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1960 - 2003

ANNUAL TOTAL	114737	138081	
ANNUAL MEAN	314	378	468
HIGHEST ANNUAL MEAN			1580 1983
LOWEST ANNUAL MEAN			132 1960
HIGHEST DAILY MEAN	749 Jun 21	1320 May 4	17700 Mar 2 1983
LOWEST DAILY MEAN	45 Nov 8	45 Nov 8	6.1 Dec 19 1967
ANNUAL SEVEN-DAY MINIMUM	56 Feb 9	60 Jan 30	8.3 Nov 7 1963
MAXIMUM PEAK FLOW		1380 Dec 16	18700 Mar 2 1983
MAXIMUM PEAK STAGE		10.01 May 4	19.55 Mar 2 1983
ANNUAL RUNOFF (AC-FT)	227600	273900	339300
10 PERCENT EXCEEDS	646	662	714
50 PERCENT EXCEEDS	280	389	353
90 PERCENT EXCEEDS	66	74	54

11454210 PUTAH SOUTH CANAL NEAR WINTERS, CA

LOCATION.—Lat 38°29'34", long 122°00'07", in Rio de Los Putos Grant, T.8 N., R.1 W., Solano County, Hydrologic Unit 18020109, on left bank, 500 ft downstream from diversion headgate structure on Lake Solano, and 2.7 mi southwest of Winters.

PERIOD OF RECORD.—October 1994 to September 1997, October 1998 to current year. Monthly and yearly totals were published during water years 1972–93.

GAGE.—Water-stage recorder. Elevation of gage is 160 ft above NGVD of 1929, from topographic map.

REMARKS.—Water from canal is diverted for irrigation, municipal, and industrial use. See schematic diagram of [lower Sacramento River Basin](#).

COOPERATION.—Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 784 ft³/s, June 21, 2000; no flow on some days during most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	116	43	62	57	76	133	136	587	511	575	397
2	265	92	38	62	31	76	146	105	586	541	524	438
3	268	81	41	61	0.04	70	142	110	575	572	468	473
4	264	64	31	61	0.03	70	129	117	559	597	477	464
5	275	45	31	61	24	76	119	119	545	609	499	507
6	266	40	31	61	79	77	129	119	539	601	511	488
7	253	14	38	65	92	77	143	119	562	587	519	471
8	254	0.54	40	67	81	75	162	119	556	569	558	472
9	254	11	40	70	72	72	180	118	564	602	545	456
10	251	19	34	72	72	72	197	119	564	605	510	430
11	264	0.02	77	72	83	72	248	130	587	624	497	379
12	249	14	100	67	92	72	254	139	571	629	465	370
13	230	82	72	62	87	90	197	173	583	627	448	386
14	229	66	51	61	77	81	128	204	557	628	460	381
15	241	60	51	65	51	72	114	231	534	640	506	396
16	238	56	67	66	40	73	121	258	513	631	513	426
17	234	20	51	66	39	72	124	290	514	613	489	434
18	220	1.8	43	63	36	68	125	320	537	613	495	405
19	200	1.5	48	61	35	61	132	325	578	624	502	376
20	179	28	51	62	55	61	137	345	608	611	522	360
21	153	73	51	62	71	69	154	388	622	620	538	326
22	132	51	62	62	71	72	181	411	595	633	478	330
23	127	47	67	61	71	90	203	442	581	645	411	349
24	120	40	55	61	71	95	211	459	570	624	382	360
25	101	33	65	61	51	92	194	483	574	601	389	348
26	80	30	72	59	41	100	185	478	560	587	391	351
27	76	54	72	56	58	103	184	482	567	601	399	347
28	83	41	72	46	76	104	176	481	551	597	417	309
29	96	41	72	43	---	106	166	511	520	629	423	315
30	120	48	72	62	---	107	162	546	504	631	412	298
31	121	---	64	62	---	115	---	574	---	614	398	---
TOTAL	6105	1269.86	1702	1922	1613.07	2516	4876	8851	16863	18816	14721	11842
MEAN	197	42.3	54.9	62.0	57.6	81.2	163	286	562	607	475	395
MAX	275	116	100	72	92	115	254	574	622	645	575	507
MIN	76	0.02	31	43	0.03	61	114	105	504	511	382	298
AC-FT	12110	2520	3380	3810	3200	4990	9670	17560	33450	37320	29200	23490

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999	2000	2001	2002	2003			
MEAN	190	54.4	47.4	47.2	48.9	81.1	252	436	582	599	521	376
MAX	219	79.0	55.5	62.0	57.6	182	450	573	666	640	575	410
(WY)	1996	1996	1999	2003	2003	1997	1997	1999	2000	1999	1995	1995
MIN	134	42.0	33.6	34.5	42.2	37.8	163	281	518	532	475	325
(WY)	2001	2002	2000	1995	1999	1996	2003	1995	1995	2001	2003	2000

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1995 - 2003

ANNUAL TOTAL	101047.86	91096.93	
ANNUAL MEAN	277	250	271
HIGHEST ANNUAL MEAN			299
LOWEST ANNUAL MEAN			246
HIGHEST DAILY MEAN	711	Jun 21	784
LOWEST DAILY MEAN	0.02	Nov 11	0.00
ANNUAL SEVEN-DAY MINIMUM	14	Nov 6	12
ANNUAL RUNOFF (AC-FT)	200400	180700	196100
10 PERCENT EXCEEDS	596	576	596
50 PERCENT EXCEEDS	249	137	204
90 PERCENT EXCEEDS	44	43	40

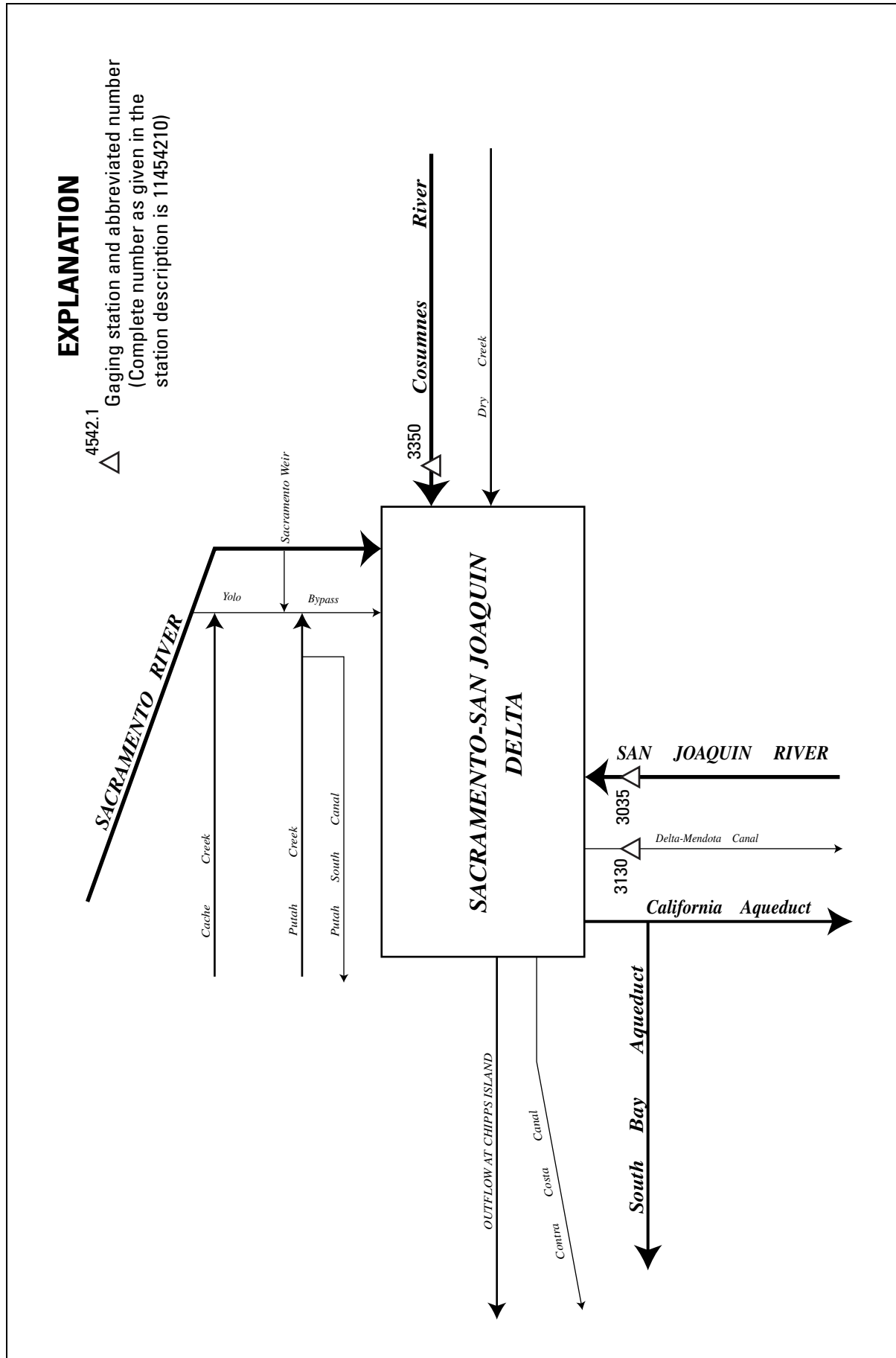


Figure 36. Principal inflows and diversions, Sacramento-San Joaquin Delta.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low- or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Special study and miscellaneous sites

Discharge measurements in the following table were made at special study and miscellaneous sites throughout the area covered by this volume.

Discharge measurements made at special study and miscellaneous sites during water year 2003

Station no.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
SACRAMENTO RIVER BASIN						
11341900	Dog Creek at Delta, CA	Lat 40°56'17", long 122°25'13", in SE 1/4 NE 1/4 sec.34, T.36 N., R.5 W., Shasta County , Hydrologic Unit 18020005, 0.1 mi upstream from mouth, 0.5 mi southwest of Delta, and 25 mi north of Redding.	17.3	a1975, 1976–84, 1986–2003	10-09-02	b2.52
					12-30-02	481
					04-01-03	46.2
					08-05-03	b12.1

Station No.	Station name	Location	Drainage area (mi ²)	Measured previously (water year)	Measurements		
					Date	Gage Height	Discharge (ft ³ /s)
SACRAMENTO RIVER BASIN							
38360112146 1601	Dry Slough near Davis, CA	Lat 38°36'01", long 121°46'16", in SE 1/4 NE 1/4 sec.29, T.9 N., R.2 E., Yolo County , Hydrologic Unit 18020109, 0.3 mi upstream of confluence of Willow and Dry Sloughs, and 3.4 mi north of Davis	—	2002–2003	10-04-02	—	13
					10-11-02	—	.74
					10-18-02	—	1.2
					05-01-03	—	.57
					05-08-03	—	.84
					05-22-03	—	1.9
					05-29-03	—	.06
					06-06-03	—	7.7
					06-13-03	—	6.2
					06-20-03	—	5.3
					06-26-03	—	14
					07-10-03	—	2.7
					07-15-03	—	5.3
					07-25-03	—	8.7
					07-31-03	—	5.3
					08-07-03	—	1.2
08-14-03	—	2.2					
08-20-03	—	8.0					
08-27-03	—	12					
09-05-03	—	16					
09-10-03	—	10					
09-17-03	—	6.4					
09-24-03	—	1.4					

a Published as a miscellaneous measurement.

b Base flow.

Discharge at Partial-Record Stations and Miscellaneous Sites

Station No.	Station name	Location	Drainage area (mi ²)	Measured previously (water year)	Measurements		
					Date	Gage Height	Discharge (ft ³ /s)
38374912143 3701	Willow Slough near Woodland, CA	Lat 38°37'49", long 121°43'37", in NW 1/4 NW 1/4 sec.14, T.9 N., R.2 E., Yolo County , Hydrologic Unit 18020109, 1,000 ft downstream of County Road 102, and 3.8 miles southeast of Woodland.	—	1999–2003	10-04-02	5.26	4.5
					10-11-02	4.10	.75
					10-18-02	3.96	.22
					10-25-02	4.06	.19
					05-08-03	—	19
					05-15-03	4.58	14
					05-22-03	4.86	10
					05-29-03	4.90	13
					06-06-03	4.60	12
					06-13-03	5.26	19
					06-20-03	5.10	17
					06-26-03	4.88	18
					07-01-03	4.58	4.9
					07-15-03	4.58	7.9
					07-25-03	4.84	12
					07-31-03	4.02	.78
					08-07-03	4.46	6.7
					08-14-03	4.26	5.4
					08-20-03	4.58	8.4
					08-27-03	5.88	14
09-05-03	5.20	15					
09-10-03	5.04	9.7					
09-17-03	5.04	7.5					
09-24-03	4.48	3.4					
38352512143 4601	Willow Slough Bypass near Davis, CA	Lat 38°35'25", long 121°43'46", in SE 1/4 SE 1/4 sec.27, T.9 N., R.2 E., Yolo County , Hydrologic Unit 18020109, at County Road 102, and 3.5 mi northeast of Davis.	—	1999–2003	10-04-02	1.79	1.7
					10-11-02	3.70	.35
					10-18-02	3.70	.24
					10-25-02	—	.19
					04-04-03	4.00	4.9
					04-09-03	3.96	4.9
					04-17-03	3.75	2.1
					04-24-03	3.60	1.2
					05-01-03	3.10	.85
					05-08-03	3.70	2.0
					05-15-03	3.69	.30
					05-22-03	3.71	.58
					05-29-03	4.10	3.2
					06-06-03	3.97	7.1
					06-13-03	3.97	6.9
					06-20-03	4.20	3.5
					06-26-03	3.95	4.4
					07-01-03	3.90	1.9
					07-10-03	3.80	.77
					07-15-03	3.95	1.2
07-25-03	3.98	2.8					
07-31-03	3.85	.77					
08-07-03	4.00	2.2					
08-14-03	3.95	3.5					
08-20-03	4.15	4.1					
08-27-03	4.37	5.4					
09-05-03	3.47	3.9					
09-10-03	—	3.0					
09-17-03	—	1.7					
09-24-03	3.99	1.5					

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD SITES

503

Water-quality partial-record stations are particular sites where chemical-quality, biological, and (or) sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly. Samples collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin are referred to as miscellaneous sites.

MIDDLE ALKALI LAKE BASIN

413220120102101 CEDAR CREEK NEAR CEDARVILLE, CA

LOCATION.—Lat 41°32'20", long 120°10'21", in SE 1/4 NW 1/4 sec.5, T.42 N., R.16 E., [Modoc County](#), Hydrologic Unit 18080001, 50 ft west of County Road 1 and 0.63 mi north of Cedarville.

PERIOD OF RECORD.—May to September 2003.

CHEMICAL DATA.—May to September 2003.

SEDIMENT DATA.—May to September 2003.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)
MAY									
07...	0930	12	6.0	637	6.7	65	8.2	167	6.0
SEP									
08...	1620	.30	26	638	8.7	105	8.3	245	15.5

Date	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, unfltrd mg/L as N (00625)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Fecal coliform, M-FC col/100 mL (31625)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
MAY								
07...	6.91	125	.16	<.06	.066	--	32	1.0
SEP								
08...	5.31	162	.14	.001	.128	K81	--	--

< Actual value is known to be less than the value shown.

K Results based on colony count outside the acceptance range.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD SITES

SACRAMENTO RIVER BASIN

400307122085401 ELDER CREEK AT HOLMES ROAD BRIDGE, NEAR GERBER, CA

LOCATION.—Lat 40°03'07", long 122°08'54", Las Flores Land Grant, Colusa County, Hydrologic Unit 18020008, Elder Creek at Holmes Road Bridge, south of Gerber.

DRAINAGE AREA.—92.4 mi² approximately.

PERIOD OF RECORD.—Water years 1963–70, January 2000.

SEDIMENT DATA: Water years 1963–70, January 2000.

REMARKS.—Discharge value obtained from Elder Creek at Paskenta (station 11379500) operated by U.S. Geological Survey.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
JAN 19...SS	1445	344	25	23	98

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

SACRAMENTO RIVER BASIN

401001122080601 ANTELOPE CREEK AT CONE GROVE ROAD, NEAR RED BLUFF, CA

LOCATION.—Lat 40°10'01", long 122°08'06", El Primer Canon or Rio de los Berrendos Land Grant, Colusa County, Hydrologic Unit 18020008, 1.0 mi east of Highway 99, at Cone Grove Road.

DRAINAGE AREA.—123 mi².

PERIOD OF RECORD.—January 2000 to February 2000.

SEDIMENT DATA: January 2000 to February 2000.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
JAN			
19...SS	0945	17	83
19...SS	1540	53	74
FEB			
21...SS	1100	13	73

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD SITES

SACRAMENTO RIVER BASIN

390107121102101 BEAR RIVER NEAR LUCAS HILL AT THE NEVADA-PLACER COUNTY LINE, CA

LOCATION.—Lat 39°01'07", long 121°10'21", in SE 1/4 NE 1/4 sec.34, T.10 N., R.2 W., Nevada County, Hydrologic Unit 18020108, 2 mi south of Wolf Creek and 0.75 mi southeast of Lucas Hill.

DRAINAGE AREA.— Not determined.

PERIOD OF RECORD.—August 2000 to September 2000.

CHEMICAL DATA: August 2000 to September 2000.

SEDIMENT DATA: August 2000 to September 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Baro- metric pres- sure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
AUG 17...	1230	--	--	--	24.0	--	.13	.14	<.02	<.05
SEP 26...	1030	760	7.5	42	--	17.0	e.08	<.10	<.02	<.05

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
AUG 17...	<.010	<.01	e.004	e.006	.2	1.9
SEP 26...	<.010	<.01	<.006	e.004	.3	1.1

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Temper- ature, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
AUG 17...SS	1230	24.0	4	86

e Estimated.

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

SACRAMENTO RIVER BASIN

383430121302001 SACRAMENTO RIVER AT TOWER BRIDGE, AT SACRAMENTO, CA

LOCATION.—Lat 38°34'30", long 121°30'20", T.9 N, R.4 E, [Sacramento County](#), Hydrologic Unit 18020109, at I Street Bridge, in city of Sacramento, 0.5 mi downstream from American River.

DRAINAGE AREA.—23,502 mi².

PERIOD OF RECORD.—February 2000 to February 2001.

CHEMICAL DATA: February 2000 to February 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	2,6-Di- ethyl- aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto- chlor, water, fltrd, ug/L (49260)	Ala- chlor, water, fltrd, ug/L (46342)	alpha- HCH, water, fltrd, ug/L (34253)	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	
FEB										
01...	1700	129	<.003	<.002	<.002	<.002	<.002	e.003	<.001	
02...	1710	120	<.003	<.002	<.002	<.002	<.002	<.004	<.001	
03...	1700	123	<.003	<.002	<.002	<.002	<.002	.004	<.001	
04...	1700	127	<.003	<.002	<.002	<.002	<.002	<.001	<.001	
05...	1700	122	<.003	<.002	<.002	<.002	<.002	e.003	<.001	
11...	1715	134	<.003	<.002	<.002	<.002	<.002	.005	<.001	
12...	1600	134	<.003	<.002	<.002	<.002	<.002	<.001	<.001	
13...	1900	--	<.003	<.002	<.002	<.002	<.002	e.003	<.001	
14...	1730	--	<.003	<.002	<.002	<.002	<.002	.004	<.001	
15...	1530	--	<.003	<.002	<.002	<.002	<.002	.005	<.001	
16...	1730	--	<.003	<.002	<.002	<.002	<.002	.004	<.001	
17...	1757	--	<.003	<.002	<.002	<.002	<.002	.005	<.001	
22...	1545	--	<.003	<.002	<.002	<.002	<.002	e.003	<.001	
23...	1735	--	<.003	<.002	<.002	<.002	<.002	e.003	<.001	
24...	1635	--	<.003	<.002	<.002	<.002	<.002	<.001	<.001	
25...	1150	--	<.003	<.002	<.002	<.002	<.002	e.003	<.001	
Date		Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water, fltrd 0.7u GF ug/L (82682)	Diazi- non, water, fltrd, ug/L (39572)
FEB										
01...		<.002	<.002	<.003	<.013	<.004	<.005	<.004	<.002	.029
02...		<.002	<.002	e.005	e.011	.004	<.005	<.004	<.002	.061
03...		<.002	<.002	e.004	e.011	e.003	<.005	<.004	<.002	.041
04...		<.002	<.002	e.005	e.011	<.004	<.005	<.004	<.002	.038
05...		<.002	<.002	<.003	e.008	<.004	<.005	<.004	e.002	.024
11...		<.002	<.002	e.007	e.010	<.004	<.005	<.004	e.002	.025
12...		<.002	<.002	e.005	<.010	<.004	<.005	<.004	<.002	.024
13...		<.002	<.002	e.005	<.003	e.003	<.005	<.004	e.001	.028
14...		<.002	<.002	e.006	<.003	.005	<.005	<.004	e.002	.029
15...		<.002	<.002	e.005	e.006	<.004	<.005	<.004	<.002	.032
16...		<.002	<.002	e.008	<.007	.004	<.005	<.004	e.002	.043
17...		<.002	<.002	<.003	<.003	e.003	<.005	<.004	e.002	.026
22...		<.002	<.002	<.003	e.004	<.004	<.005	<.004	<.002	.012
23...		<.002	<.002	e.005	e.006	<.004	<.005	<.004	e.002	.019
24...		<.002	<.002	<.003	e.007	<.004	<.005	<.004	<.002	.020
25...		<.002	<.002	e.004	e.007	<.004	<.005	<.004	<.002	.021

< Actual value is known to be less than value shown.

e Estimated.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD SITES

SACRAMENTO RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd, 0.7u GF (82677)	EPTC, water, fltrd, 0.7u GF (82668)	Ethal- flur- alin, water, fltrd, 0.7u GF (82663)	Etho- prop, water, fltrd, 0.7u GF (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water, fltrd, 0.7u GF (82666)	Mala- thion, water, fltrd, ug/L (39532)
FEB									
01...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
02...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
03...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
04...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
05...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
11...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
12...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
13...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
14...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
15...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
16...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
17...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
22...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
23...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	e.004
24...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005
25...	<.001	<.02	<.002	<.004	<.003	<.003	<.004	<.002	<.005

Date	Methyl para- thion, water, fltrd, 0.7u GF (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd, 0.7u GF (82671)	Naprop- amide, water, fltrd, ug/L (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd, 0.7u GF (82669)	Pendi- meth- alin, water, fltrd, 0.7u GF (82683)
FEB									
01...	<.006	.005	<.004	.012	<.003	<.006	<.004	<.004	<.004
02...	<.006	.006	<.004	.009	<.003	<.006	<.004	<.004	<.008
03...	<.006	.006	<.004	.010	<.003	<.006	<.004	<.004	<.004
04...	<.006	.006	<.004	.009	<.003	<.006	<.004	<.004	<.004
05...	<.006	e.004	<.004	.011	<.003	<.006	<.004	<.004	<.004
11...	<.006	.007	<.004	.009	<.003	<.006	<.004	<.004	.009
12...	<.006	.006	<.004	.011	<.003	<.006	<.004	<.004	<.004
13...	<.006	.006	<.004	.007	<.003	<.006	<.004	<.004	<.004
14...	<.006	.006	<.004	.006	<.003	<.006	<.004	<.004	.011
15...	<.006	.005	<.004	.009	<.003	<.006	<.004	<.004	<.004
16...	<.006	.011	<.004	.009	<.003	e.001	<.004	<.004	<.004
17...	<.006	.005	<.004	.008	<.003	<.006	<.004	<.004	<.004
22...	<.006	.004	e.003	.007	<.003	<.006	<.004	<.004	<.004
23...	<.006	.007	<.004	.011	<.003	<.006	<.004	<.004	<.004
24...	<.006	.005	<.004	.009	<.003	<.006	<.004	<.004	<.004
25...	<.006	.006	<.004	.009	<.003	<.006	<.004	<.004	<.004

Date	Phorate water, fltrd, 0.7u GF (82664)	Prome- ton, water, fltrd, ug/L (04037)	Pron- amide, water, fltrd, 0.7u GF (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd, ug/L (82679)	Propar- gite, water, fltrd, ug/L (82685)	Sima- zine, water, fltrd, ug/L (04035)	Tebu- thiuron water, fltrd, 0.7u GF (82670)	Terba- cil, water, fltrd, 0.7u GF (82665)
FEB									
01...	<.002	<.02	<.003	<.007	<.004	<.01	.013	<.01	<.007
02...	<.002	<.02	<.003	<.007	<.004	<.01	.023	<.01	<.007
03...	<.002	<.02	<.003	<.007	<.004	<.01	.019	<.01	<.007
04...	<.002	<.02	<.003	<.007	<.004	<.01	.012	<.01	<.007
05...	<.002	<.02	<.003	<.007	<.004	<.01	.014	<.01	<.007
11...	<.002	<.02	<.003	<.007	<.004	<.01	.013	e.01	<.007
12...	<.002	<.02	<.003	<.007	<.004	<.01	.019	.01	<.007
13...	<.002	<.02	<.003	<.007	<.004	<.01	.019	.01	<.007
14...	<.002	e.01	<.003	<.007	<.004	<.01	.023	.01	<.007
15...	<.002	M	<.003	<.007	.009	<.01	.028	e.01	<.007
16...	<.002	<.02	<.003	<.007	<.004	<.01	.030	<.01	<.007
17...	<.002	M	<.003	<.007	<.004	<.01	.040	M	<.007
22...	<.002	<.02	<.003	<.007	<.004	<.01	.010	e.01	<.007
23...	<.002	<.02	<.003	<.007	<.004	<.01	.011	e.01	<.007
24...	<.002	M	<.003	<.007	<.004	<.01	.024	e.01	<.007
25...	<.002	<.02	<.003	<.007	<.004	<.01	.027	<.01	<.007

< Actual value is known to be less than value shown.
e Estimated.

M Presence of material verified, but not quantified.

SACRAMENTO RIVER BASIN

383430121302001 SACRAMENTO RIVER AT TOWER BRIDGE, AT SACRAMENTO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Terbu-	Thio-	Tri-	Tri-
	fos,	bencarb	allate,	flur-
	water,	water	water,	alin,
	fltrd	fltrd	fltrd	water,
	0.7u GF	0.7u GF	0.7u GF	fltrd
	ug/L	ug/L	ug/L	ug/L
	(82675)	(82681)	(82678)	(82661)
FEB				
01...	<.01	.007	<.001	e.002
02...	<.01	.007	<.001	.006
03...	<.01	.007	<.001	.006
04...	<.01	.008	<.001	.006
05...	<.01	.006	<.001	e.002
11...	<.01	.005	<.001	.006
12...	<.01	.006	<.001	e.001
13...	<.01	.004	<.001	e.001
14...	<.01	<.002	<.001	e.001
15...	<.01	.007	<.001	e.001
16...	<.01	.007	<.001	e.003
17...	<.01	.006	<.001	e.002
22...	<.01	.005	<.001	e.002
23...	<.01	.007	<.001	e.003
24...	<.01	.006	<.001	<.002
25...	<.01	.006	<.001	<.002

< Actual value is known to be less than value shown.

e Estimated.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD SITES

SACRAMENTO RIVER BASIN

384340121434401 CACHE CREEK INFLOW TO SETTLING BASIN, CA

LOCATION.—Lat 38°43'40", long 121°43'44", unsurveyed, in Rio Jesus Maria Land Grant, [Yolo County](#), Hydrologic Unit 18020108, 2.5 mi west of Knights Landing Ridge Cut and 2 mi north of wastewater disposal area at Cache Creek at bridge crossing.

DRAINAGE AREA.— Not determined.

PERIOD OF RECORD.—March 2000.

CHEMICAL DATA: March 2000.

SEDIMENT DATA: March 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
------	------	---------------------------------------------------------------	------------------------------------------------------------------------	---------------------------------------	-------------------------------------------------------------------------------	-----------------------------------------------------------------------	------------------------------------------------------------------------	--------------------------------------------------------

MAR

01...	0930	8.2	266	--	95.0	.11	1.0	<.02
18...	0830	8.2	477	13.5	172	.11	.26	<.02

Date	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
------	------------------------------------------------------------------------	--------------------------------------------------------	--------------------------------------------------------------------------	---------------------------------------------------------	----------------------------------------------------------	----------------------------------------------------------------------	-----------------------------------------------------------

MAR

01...	.10	<.010	.02	.023	.63	2.8	2.7
18...	.48	<.010	.01	.008	.066	.3	1.8

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
------	------	-------------------------------------------------	--------------------------------------------------------------------------	--------------------------------------------------------------------------------

MAR

01...SS	0930	--	851	75
18...SS	0830	13.5	62	87

< Actual value is known to be less than value shown.

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

SACRAMENTO RIVER BASIN

384040121402301 CACHE CREEK OUTFLOW FROM SETTLING BASIN, NEAR WOODLAND, CA

LOCATION.—Lat 38°40'40", long 121°40'23", in SE 1/4 SE 1/4 sec.30, T.10 N., R.3 W., Yolo County, Hydrologic Unit 18020108, 0.05 mi north of Conaway at River Road, and 2 mi west of Sacramento River at Yolo Bypass.

DRAINAGE AREA.— Not determined.

PERIOD OF RECORD.— March 2000.

CHEMICAL DATA: March 2000.

SEDIMENT DATA: March 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
------	------	---------------------------------------------------------------	------------------------------------------------------------------------	---------------------------------------	-------------------------------------------------------------------------------	-----------------------------------------------------------------------	------------------------------------------------------------------------	--------------------------------------------------------

MAR

01...	1140	8.4	278	11.0	98.0	.17	.80	<.02
18...	1050	8.5	411	--	155	.14	.30	<.02

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
------	-----------------------------------------------------------------------	--------------------------------------------------------	--------------------------------------------------------------------------	---------------------------------------------------------	----------------------------------------------------------	----------------------------------------------------------------------	-----------------------------------------------------------

MAR

01...	.10	<.010	.02	.022	.48	1.8	2.7
18...	.18	<.010	<.01	e.005	.038	.2	2.3

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
------	------	-------------------------------------------------	--------------------------------------------------------------------------	--------------------------------------------------------------------------------

MAR

01...SS	1140	11.0	565	99
18...SS	1050	--	24	94

< Actual value is known to be less than value shown.

e Estimated

SS Suspended-sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

SACRAMENTO RIVER BASIN

381427121404901 LOWER YOLO BYPASS NEAR RIO VISTA, CA

LOCATION.—Lat 38°14'27", long 121°40'49", unsurveyed area at Liberty Island Ferry, Solano County, Hydrologic Unit 18020109, south end of Prospect Slough inflow to Cache Creek, at Yolo Bypass, and near Liberty Island Ferry.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—March 2000.

CHEMICAL DATA: March 2000.

SEDIMENT DATA: March 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Baro- metric pres- sure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	Specif. conduc- tance, wat unfltrd uS/cm 25 degC (00095)	Temper- ature, deg C (00010)	Alka- linity, wat flt Gran, field, mg/L as CaCO3 (29802)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	
MAR									
03...	1350	--	7.7	122	11.0	50.0	e.07	.22	
22...	1110	763	8.0	426	13.0	138	.27	.77	
Date	Time	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
MAR									
03...	<.02	.13	<.010	.03	.035	.090	.2	2.1	
22...	.03	.15	<.010	.05	.063	.190	.6	4.1	

PARTICLE-SIZE DISTRIBUTION, OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

(NOT PREVIOUSLY PUBLISHED)

Date	Time	Temper- ature, water, deg C (00010)	Sus- pended sedi- ment concen- tration mg/L (80154)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
MAR				
03...SS	1350	11.0	58	97
22...SS	1110	13.0	144	96

e Estimated.

< Actual value is known to be less than value shown.

SS Suspended sediment data determined from a sample collected and processed according to National Water Quality Assessment (NAWQA) protocol.

	Page		Page
A			
ACCESS TO USGS WATER DATA	14	BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON	334
Accuracy of Field Data and Computed Results	8	BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT	335
Accuracy of the Records	10	BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX	340
Acid neutralizing capacity, definition of	15	BEAR RIVER CANAL INTAKE NEAR COLFAX	338
Acre-foot, definition of	15	BEAR RIVER FISH RELEASE BELOW NEW CAMP FAR WEST RESERVOIR, NEAR WHEATLAND	342
Adenosine triphosphate, definition of	15	BEAR RIVER NEAR EMIGRANT GAP	333
Adjusted discharge, definition of	15	BEAR RIVER NEAR LUCAS HILL, AT THE NEVADA-PLACER COUNTY LINE	506
Algae, Blue-green, definition of	16	BEAR RIVER NEAR WHEATLAND	343
Fire, definition of	19	Bed material, definition of	16
Green, definition of	20	Bedload, definition of	16
Algal growth potential, definition of	15	Bedload discharge, definition of	16
Alkalinity, definition of	15	Belden Powerplant	197
Almanor-Butt Creek Tunnel at Outlet	194	Benthic organisms, definition of	16
Alpine County, location of discharge and water-quality stations in	35	BIDWELL CREEK BELOW MILL CREEK, NEAR FORT BIDWELL	62
Alta Powerplant	275	Biochemical oxygen demand, definition of	16
Amador County, location of discharge stations in	36	Biomass, definition of	16
AMERICAN RIVER AT FAIR OAKS	429	Biomass pigment ratio, definition of	16
AMERICAN RIVER AT WILLIAM B. POND PARK, AT CARMICHAEL	433	Blank Samples	13
American River Basin, Middle Fork, diversions and storage in	361	BLUE LAKE NEAR EMIGRANT GAP	280
American River Basin, South Fork, diversions and storage in	396	Blue-green algae, definition of	16
AMERICAN RIVER BELOW FOLSOM DAM, NEAR FOLSOM	427	Bottom material, definition of	16
AMERICAN RIVER BELOW WATT AVENUE BRIDGE, NEAR CARMICHAEL	435	BOWMAN LAKE NEAR GRANITEVILLE	296
ANDERSON-COTTONWOOD IRRIGATION DISTRICT CANAL AT SHARON STREET, AT REDDING	107	Bowman-Spaulding Canal	299
Annual runoff, definition of	15	BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP	297
Annual 7-day minimum, definition of	15	Brophy South Canal	320
ANTELOPE CREEK AT CONE GROVE ROAD, NEAR RED BLUFF	505	Browns Valley Irrigation Ditch	320
Aquifer Confined, definition of	17	BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES	417
Unconfined, definition of	29	BRUSH CREEK RESERVOIR NEAR POLLOCK PINES	416
Water-table, definition of	29	BUCK-LOON TUNNEL NEAR MEEKS BAY	373
Arbuckle Mountain Powerplant	120	BUCKS CREEK BELOW DIVERSION DAM, NEAR BUCKS LODGE	207
ARCADE CREEK NEAR DEL PASO HEIGHTS	439	Bucks Creek Powerplant	210
Aroclor, definition of	15	BUCKS LAKE NEAR BUCKS LODGE	205
Arrangement of Records	10	Bulk electrical conductivity, definition of	16
Artificial substrate, definition of	15	BURNEY CREEK AT BURNEY FALLS, NEAR BURNEY	78
Ash mass, definition of	15	BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE	194
Aspect, definition of	15	Butt Valley Powerplant	192
B		BUTT VALLEY RESERVOIR NEAR CARIBOU	196
Bacteria, definition of	15	Butte County, location of discharge and water-quality stations	37
Enterococcus, definition of	18	BUTTE CREEK BELOW CENTERVILLE DIVERSION DAM, NEAR PARADISE	159
Escherichia coli, definition of	19	BUTTE CREEK BELOW DIVERSION DAM, NEAR STIRLING CITY	157
Fecal coliform, definition of	19	BUTTE CREEK BELOW FORKS OF BUTTE DIVERSION DAM, NEAR DE SABL A	158
Fecal streptococcal, definition of	19	BUTTE CREEK NEAR CHICO	161
Total coliform, definition of	28	Butte Powerplant	158
BAILEY CREEK BELOW DIVERSION TO PONDEROSA-BAILEY CREEK POWERPLANT, NEAR MANTON	127	C	
BANGOR CANAL BELOW MINERS RANCH RESERVOIR, NEAR OROVILLE	188	CACHE CREEK AT RUMSEY	488
Bankfull stage, definition of	16	CACHE CREEK AT YOLO	489
Base discharge, definition of	16	CACHE CREEK INFLOW TO SETTLING BASIN	510
Base flow, definition of	16	CACHE CREEK NEAR LOWER LAKE	466
Battle Creek and Cow Creek Basins, diversions and storage in	113	CACHE CREEK OUTFLOW FROM SETTLING BASIN, NEAR WOODLAND	511
BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD	134	Camino Powerplant	414
BEAR CREEK ABOVE HOLSTEN CHIMNEY CANYON, NEAR RUMSEY	485	CAMINO RESERVOIR NEAR POLLOCK PINES	413
Bear River Basin, diversions and storage in	273	CAMP CREEK NEAR PULGA	215

Page	Page		
CAMPTONVILLE TUNNEL AT INTAKE, NEAR CAMPTONVILLE	244	DAVIS CREEK AT DAM, NEAR KNOXVILLE	479
Canadian Geodetic Vertical Datum 1928, definition of	16	De Sabla Powerplant	160
CANYON CREEK BELOW BOWMAN LAKE	299	DEADWOOD CREEK NEAR STRAWBERRY VALLEY	258
CANYON CREEK BELOW FAUCHERIE LAKE, NEAR CISCO	291	Deadwood Creek Powerplant	258
CANYON CREEK BELOW FRENCH LAKE, NEAR CISCO	289	DEER CREEK NEAR SMARTVILLE	327
CANYON CREEK BELOW SAWMILL LAKE, NEAR GRANITEVILLE	293	DEER CREEK NEAR VINA	144
CANYON CREEK BELOW TOWLE DIVERSION DAM, NEAR BLUE CANYON	358	Deer Creek Powerplant	277
CANYON CREEK NEAR BLUE CANYON	357	Diatoms, definition of	18
CAPLES CREEK RELEASE BELOW CAPLES DAM, NEAR KIRKWOOD	403	Diel, definition of	18
CAPLES LAKE NEAR KIRKWOOD	402	Discharge at partial-record stations and miscellaneous sites	501
Caribou Powerplants	196	Discharge measurements made at special study and miscellaneous sites	501
CARR LAKE NEAR GRANITEVILLE	286	Discharge, definition of	18
CEDAR CREEK NEAR CEDARVILLE	503	DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS	xx
Cell volume, definition of	16	DISCONTINUED LAKES AND RESERVOIRS	xx
Cells/volume, definition of	16	Dissolved, definition of	18
Centerville Powerplant	159	Dissolved oxygen, definition of	18
Cfs-day, definition of	17	Dissolved solids concentration, definition of	18
Channel bars, definition of	17	Dissolved Trace-Element Concentrations	57
Chemical oxygen demand, definition of	17	Diversions and storage	
Chicago Park Flume	335	American River Basin, Middle Fork	361
Classification of Records	10	American River Basin, South Fork	396
CLEAR CREEK NEAR IGO	111	Battle Creek and Cow Creek Basins	113
CLEAR LAKE AT LAKEPORT	465	Bear River Basin	273
Clostridium perfringens, definition of	17	Cow Creek and Battle Creek Basins	113
COLEMAN POWERPLANT NEAR COTTONWOOD	125	Feather River at Lake Oroville	221
Coliphages, definition of	17	Feather River Basin, North Fork	190
Collection and Examination of Data	9	Feather River Basin, South Fork	174
COLLETT RESERVOIR NEAR LITTLE VALLEY	69	Lower Sacramento River Basin	152
Color unit, definition of	17	Middle and North Yuba River Basins	235
Colusa County, location of discharge and water-quality stations	38	Middle Fork American and Rubicon River Basins	361
Conductivity, definition of	26	North and Middle Yuba River Basins	235
Confined aquifer, definition of	17	North Fork Feather River Basin	190
Contents, definition of	17	Pit and McCloud River Basins	63
Continuous-record station, definition of	17	Rubicon River Basin	361
Control, definition of	17	Sacramento River Basin, lower	152
Control structure, definition of	17	Sacramento River Basin, upper	104
COOPERATION	1	South Fork American River Basin	396
COTTONWOOD CREEK NEAR COTTONWOOD	121	South Fork Feather River Basin	174
Cow Creek and Battle Creek Basins, diversions and storage in	113	South Yuba River Basin	267
COW CREEK NEAR MILLVILLE	118	Upper Sacramento River Basin	104
Cresta Powerplant	213	Yuba River Basin, south	267
Cubic foot per second, definition of	17	Yuba River Basins, north and middle	235
Cubic foot per second-day, definition of	17	Diversity index, definition of	18
Cubic foot per second per square mile, definition of	17	Dog Creek at Delta	501
CULBERTSON LAKE NEAR GRANITEVILLE	305	DOWNSTREAM ORDER AND STATION NUMBER	2
D		Drainage area, definition of	18
Daily mean suspended-sediment concentration, definition of	17	Drainage basin, definition of	18
Daily record station, definition of	17	DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP	275
Data Collection and Computation		Drum No. 1 and 2 Powerplants	275
Precipitation Records	9	DRY CREEK AT VERNON STREET BRIDGE, AT ROSEVILLE	437
Stage- and Water-Discharge Records	4	Dry mass, definition of	18
Data collection platform, definition of	17	Dry Slough near Davis	501
Data logger, definition of	17	Dry weight, definition of	18
Data Precision	57	DUNCAN CANYON CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS	367
Data Presentation		DUNCAN CANYON CREEK NEAR FRENCH MEADOWS	365
Precipitation Records	9	Dutch Flat No. 1 Powerplant	334
Stage- and Water-Discharge Records	5	Dutch Flat No. 2 Flume	334
Surface-Water-Quality Records	12	E	
Data Table of Daily Mean Values	6	EAST FORK NELSON CREEK BELOW DIVERSION TO NELSON CREEK, NEAR BIG BEND	84
Datum, definition of	17	EAST PARK RESERVOIR NEAR STONYFORD	151
		Edward Hyatt Powerplant	222

	Page
EL DORADO CANAL AND SOUTH FORK AMERICAN RIVER	
NEAR KYBURZ (combined)	406
ELDER CREEK NEAR PASKENTA	138
Embeddedness, definition of	18
Enterococcus bacteria, definition of	18
EPT Index, definition of	19
Escherichia coli (E. coli), definition of	19
Estimated (E) value, definition of	19
Euglenoids, definition of	19
EXPLANATION OF PRECIPITATION RECORDS	9
EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS ..	4
EXPLANATION OF WATER-QUALITY RECORDS	9
Extractable organic halides, definition of	19

F

FAUCHERIE LAKE NEAR CISCO	290
Feather River at Lake Oroville, diversions and storage from	221
FEATHER RIVER AT OROVILLE	232
Feather River Basin, North Fork, diversions and storage in	190
Feather River Basin, South Fork, diversions and storage in	174
Feather River Fish Hatchery	232
FEATHER RIVER NEAR NICOLAUS	347
Fecal coliform bacteria, definition of	19
Fecal streptococcal bacteria, definition of	19
FEELEY LAKE NEAR GRANITEVILLE	284
Fire algae, definition of	19
Flow, definition of	18
Flow-duration percentiles, definition of	19
FOLSOM LAKE NEAR FOLSOM	426
Forbestown Powerplant	185
FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO	272
FORDYCE LAKE NEAR CISCO	271
FRENCH LAKE NEAR CISCO	288
French Meadows Powerplant	363
FRENCH MEADOWS RESERVOIR NEAR FORESTHILL	362

G

Gage datum, definition of	19
Gage height, definition of	19
Gage values, definition of	19
Gaging station, definition of	19
GAGING STATIONS, DISCONTINUED	xv
Gas chromatography/flame ionization detector, definition of	20
Geomorphic channel units, definition of	20
GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY ..	379
GERLE RESERVOIR NEAR MEEKS BAY	381
Glenn County, location of discharge stations in	40
Green algae, definition of	20
GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE	210
GRIZZLY FOREBAY NEAR STORRIE	209
Grizzly Powerplant	207

H

Habitat, definition of	20
Habitat quality index, definition of	20
Hallwood-Cordua Irrigation Ditch	320
Hardness, definition of	20
HARLEY GULCH NEAR WILBUR SPRINGS	476
HARRY L. ENGLEBRIGHT LAKE NEAR SMARTVILLE	318
HAT CREEK BELOW HAT NO. 1 DIVERSION DAM,	
NEAR BURNEY	75
HAT CREEK NO. 1 POWERPLANT NEAR BURNEY	76

	Page
Hat Creek No. 2 Powerplant	76
HAT NO. 2 POWER CANAL DIVERSION TO HAT CREEK,	
NEAR BURNEY	77
HATCHET CREEK BELOW DIVERSION TO HATCHET CREEK	
POWERPLANT, NEAR MONTGOMERY CREEK	91
Hatchet Creek Powerplant	91
HELL HOLE RESERVOIR NEAR MEEKS BAY	375
High tide, definition of	20
Hilsenhoff's Biotic Index, definition of	20
Horizontal datum, definition of	20
Hydrologic Benchmark Network	3
Hydrologic index stations, definition of	20
Hydrologic unit, definition of	20

I

ICE HOUSE RESERVOIR NEAR KYBURZ	408
Identifying Estimated Daily Discharge	8
Inch, definition of	20
INDIAN VALLEY RESERVOIR NEAR CLEARLAKE OAKS	470
INSKIP POWERPLANT NEAR MANTON	125
Instantaneous discharge, definition of	20
International Boundary Commission Survey Datum, definition of	20
INTRODUCTION	1
IRON CANYON CREEK BELOW IRON CANYON DAM,	
NEAR BIG BEND	88
IRON CANYON RESERVOIR NEAR BIG BEND	79
Island, definition of	20

J

JACKSON CREEK BELOW JACKSON LAKE, NEAR SIERRA CITY	295
JACKSON LAKE NEAR SIERRA CITY	294
JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY	236
JAMES B. BLACK POWERPLANT NEAR BIG BEND	87
Jaybird Powerplant	412
Jones Fork Powerplant	409
JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH ..	108
JUNCTION RESERVOIR NEAR POLLOCK PINES	411

K

KELLY LAKE NEAR CISCO	356
Kelly Ridge Powerplant	187
KELSEY CREEK NEAR KELSEYVILLE	463
KIDD LAKE NEAR SODA SPRINGS	264
KILARC CANAL DIVERSION TO OLD COW CREEK,	
NEAR WHITMORE	115

L

Laboratory Measurements	12
Laboratory reporting level, definition of	20
LAKE ALMANOR AT PRATTVILLE	191
LAKE ALOHA NEAR PHILLIPS	397
LAKE BERRYESSA NEAR WINTERS	496
LAKE BRITTON NEAR BURNEY	79
Lake County, location of discharge and water-quality stations	41
LAKE CREEK BELOW CARR LAKE, NEAR GRANITEVILLE	287
LAKE CREEK BELOW FEELEY LAKE, NEAR GRANITEVILLE ..	285
LAKE McCLOUD NEAR McCLOUD	79
LAKE OROVILLE NEAR OROVILLE	222
LAKE SPAULDING NEAR EMIGRANT GAP	274
LAKE STERLING NEAR CISCO	270
Lake Valley Canal	355
LAKE VALLEY RESERVOIR NEAR CISCO	355

Page	Page
Lakes and reservoirs	
BLUE LAKE NEAR EMIGRANT GAP	280
BOWMAN LAKE NEAR GRANITEVILLE	296
BRUSH CREEK RESERVOIR NEAR POLLOCK PINES	416
BUCKS LAKE NEAR BUCKS LODGE	205
BUTT VALLEY RESERVOIR NEAR CARIBOU	196
CAMINO RESERVOIR NEAR POLLOCK PINES	413
CAPLES LAKE NEAR KIRKWOOD	402
CARR LAKE NEAR GRANITEVILLE	286
CLEAR LAKE AT LAKEPORT	465
COLLETT RESERVOIR NEAR LITTLE VALLEY	69
CULBERTSON LAKE NEAR GRANITEVILLE	305
EAST PARK RESERVOIR NEAR STONYFORD	151
FAUCHERIE LAKE NEAR CISCO	290
FEELEY LAKE NEAR GRANITEVILLE	284
FOLSOM LAKE NEAR FOLSOM	426
FORDYCE LAKE NEAR CISCO	271
FRENCH LAKE NEAR CISCO	288
FRENCH MEADOWS RESERVOIR NEAR FORESTHILL	362
GERLE RESERVOIR NEAR MEEKS BAY	381
GRIZZLY FOREBAY NEAR STORRIE	209
Harry L. Englebright Lake	318
HELL HOLE RESERVOIR NEAR MEEKS BAY	375
ICE HOUSE RESERVOIR NEAR KYBURZ	408
INDIAN VALLEY RESERVOIR NEAR CLEARLAKE OAKS ...	470
JACKSON LAKE NEAR SIERRA CITY	294
JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY	236
JUNCTION RESERVOIR NEAR POLLOCK PINES	411
KELLY LAKE NEAR CISCO	356
KIDD LAKE NEAR SODA SPRINGS	264
LAKE ALMANOR AT PRATTVILLE	191
LAKE ALOHA NEAR PHILLIPS	397
LAKE BERRYESSA NEAR WINTERS	496
LAKE OROVILLE NEAR OROVILLE	222
LAKE SPAULDING NEAR EMIGRANT GAP	274
LAKE STERLING NEAR CISCO	270
LAKE VALLEY RESERVOIR NEAR CISCO	355
LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE	175
LOON LAKE NEAR MEEKS BAY	378
LOWER BUCKS LAKE NEAR BUCKS LODGE	206
LOWER CASCADE LAKE NEAR SODA SPRINGS	266
LOWER LINDSEY LAKE NEAR GRANITEVILLE	309
LOWER ROCK LAKE NEAR GRANITEVILLE	303
MEADOW LAKE NEAR CISCO	269
MIDDLE LINDSEY LAKE NEAR GRANITEVILLE	307
NEW BULLARDS BAR RESERVOIR	
NEAR NORTH SAN JUAN	261
ROCK LAKE NEAR GRANITEVILLE	301
ROLLINS RESERVOIR NEAR COLFAX	337
RUCKER LAKE NEAR EMIGRANT GAP	282
SAWMILL LAKE NEAR GRANITEVILLE	292
SHASTA LAKE NEAR REDDING	103
SILVER LAKE NEAR KIRKWOOD	399
SLAB CREEK RESERVOIR NEAR CAMINO	418
SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY	181
STONY GORGE RESERVOIR NEAR ELK CREEK	151
THERMALITO AFTERBAY NEAR OROVILLE	225
UNION VALLEY RESERVOIR NEAR RIVERTON	407
UPPER CASCADE LAKE NEAR SODA SPRINGS	265
WHISKEYTOWN LAKE NEAR IGO	110
WHITE ROCK LAKE NEAR SODA SPRINGS	268
Land-surface datum, definition of	20
Lassen County, location of discharge and water-quality stations	42
Latent heat flux, definition of	21
Light-attenuation coefficient, definition of	21
LINDSEY CREEK BELOW LOWER LINDSEY LAKE, NEAR GRANITEVILLE	310
LINDSEY CREEK BELOW MIDDLE LINDSEY LAKE	308
Lipid, definition of	21
LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE	175
LITTLE RUBICON RIVER BELOW BUCK ISLAND DAM, NEAR MEEKS BAY	374
LOHMAN RIDGE TUNNEL AT INTAKE, NEAR CAMPTONVILLE	242
Long-term method detection level, definition of	21
LOON LAKE NEAR MEEKS BAY	378
Loon Lake Powerplant	379
LOST CREEK BELOW DIVERSION TO LOST CREEK POWERPLANT NO. 1, NEAR OLD STATION	74
LOST CREEK NEAR CLIPPER MILLS	183
Lost Creek Powerplant No. 1	74
Low flow, 7-day, 10-year, definition of	25
Low tide, definition of	21
LOWER BUCKS LAKE NEAR BUCKS LODGE	206
LOWER CASCADE LAKE NEAR SODA SPRINGS	266
LOWER LINDSEY LAKE NEAR GRANITEVILLE	309
LOWER ROCK LAKE NEAR GRANITEVILLE	303
Lower Sacramento River Basin, diversions and storage in	152
LOWER YOLO BYPASS NEAR RIO VISTA	512
M	
Macrophytes, definition of	21
McCLOUD RIVER ABOVE SHASTA LAKE	101
McCloud River and Pit Basins, diversions and storage in	63
McCLOUD RIVER AT AH-DI-NA, NEAR McCLOUD	99
McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD	98
McCLOUD RIVER NEAR McCLOUD	95
McCLOUD-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD	97
McCumber Dam	124
MEADOW LAKE NEAR CISCO	269
Mean concentration of suspended sediment, definition of	21
Mean discharge, definition of	21
Mean high tide, definition of	21
Mean low tide, definition of	21
Mean sea level, definition of	21
Measuring point, definition of	21
Megahertz, definition of	21
Membrane filter, definition of	21
Metamorphic stage, definition of	21
Method detection limit, definition of	21
Method of Cubatures, definition of	21
Methylene blue active substances, definition of	21
Micrograms per gram, definition of	22
Micrograms per kilogram, definition of	22
Micrograms per liter, definition of	22
Microsiemens per centimeter, definition of	22
Middle and North Yuba River Basins, diversions and storage in	235
Middle Fork American and Rubicon River Basins, diversions and storage in	361
MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL	368
MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS	363
MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL	369
MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL	391
MIDDLE FORK COTTONWOOD CREEK BELOW DIVERSION TO ARBUCKLE MOUNTAIN POWERPLANT, NEAR PLATINA ...	120
Middle Fork Powerplant	376
MIDDLE LINDSEY LAKE NEAR GRANITEVILLE	307

	Page
MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY	240
MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE	243
MIDDLE YUBA RIVER CONTROLLED RELEASE AT JACKSON MEADOWS DAM, NEAR SIERRA CITY	237
MIDDLE YUBA RIVER NEAR NORTH SAN JUAN	247
MILK RANCH CONDUIT AT OUTLET, NEAR BUCKS LODGE	204
MILL CREEK AT UPPER LAKE, NEAR LAKE CITY	61
MILL CREEK NEAR LOS MOLINOS	140
Milligrams per liter, definition of	22
MILTON–BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE ...	238
MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN	187
Minimum reporting level, definition of	22
Miscellaneous and special study sites	501
Miscellaneous site, definition of	22
Miscellaneous Sites	501
Miscellaneous sites and partial-record stations, discharge at	501
Modoc County, location of discharge and water-quality stations	43
MORMON RAVINE NEAR NEWCASTLE	351
Most probable number, definition of	22
Muck Valley Powerplant	69
Multiple-plate samplers, definition of	22

N

Nanograms per liter, definition of	22
Napa County, location of discharge and water-quality stations	44
National Atmospheric Deposition Program/National Trends Network	3
National Geodetic Vertical Datum of 1929, definition of	22
National Streamflow Information Program	4
National Stream-Quality Accounting Network	3
National Water-Quality Assessment (NAWQA) Program	4
Natural substrate, definition of	22
Nekton, definition of	22
NELSON CREEK BELOW DIVERSION TO NELSON CREEK POWERPLANT, NEAR BIG BEND	83
Nelson Creek Powerplant	83
Nephelometric turbidity unit, definition of	22
Nevada County, location of discharge and water-quality stations	45
NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN	261
NEW COLGATE POWERPLANT NEAR FRENCH CORRAL	260
Newcastle Powerplant	351
North American Datum of 1927, definition of	22
North American Datum of 1983, definition of	22
North American Vertical Datum of 1988, definition of	22
North and Middle Yuba River Basins, diversions and storage in	235
NORTH FORK AMERICAN RIVER AT AUBURN DAM SITE, NEAR AUBURN	393
NORTH FORK AMERICAN RIVER AT NORTH FORK DAM	359
NORTH FORK BATTLE CREEK BELOW DIVERSION TO CROSS COUNTRY CANAL, NEAR MANTON	128
NORTH FORK BATTLE CREEK BELOW DIVERSION TO EAGLE CANYON CANAL, NEAR MANTON	129
NORTH FORK BATTLE CREEK BELOW DIVERSION TO KESWICK CANAL, NEAR MANTON	126
NORTH FORK BATTLE CREEK BELOW DIVERSION TO WILDCAT CANAL, NEAR MANTON	130
NORTH FORK BATTLE CREEK BELOW McCUMBER DAM, NEAR MANZANITA LAKE	124
NORTH FORK BATTLE CREEK BELOW NORTH BATTLE CREEK DAM, NEAR MANZANITA LAKE	123
North Fork Battle Creek Reservoir	123

NORTH FORK CACHE CREEK AT HIGHWAY 20, NEAR LOWER LAKE	475
NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS	468
NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS	472
NORTH FORK FEATHER RIVER AT PULGA	217
North Fork Feather River Basin, diversions and storage in	190
NORTH FORK FEATHER RIVER BELOW BELDEN DAM	197
NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK	213
NORTH FORK FEATHER RIVER BELOW POE DAM	216
NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM	202
NORTH FORK FEATHER RIVER NEAR PRATTVILLE	192
NORTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE	390
NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE	389
NORTH YUBA RIVER BELOW GOODYEARS BAR	254
NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN	262
NUMBERING SYSTEM FOR MISCELLANEOUS SITES AND WELLS 2	
NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES 2	

O

OLD COW CREEK BELOW DIVERSION TO OLSEN POWERPLANT, NEAR WHITMORE	116
Olsen Powerplant	116
On-Site Measurements and Sample Collection	11
Open interval, definition of	22
OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE	245
Organic carbon, definition of	23
Organic mass, definition of	23
Organism count, Area, definition of	23
Total, definition of	28
Volume, definition of	23
Organochlorine compounds, definition of	23
OROVILLE–WYANDOTTE CANAL NEAR CLIPPER MILLS	182
Other Data Records Available	8
OWL GULCH NEAR STRAWBERRY VALLEY	259
Oxbow Powerplant	391

P

PACIFIC GAS & ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE	229
PALERMO CANAL NEAR OROVILLE	224
Parameter code, definition of	23
Partial-record station, definition of	23
Partial-record stations and miscellaneous sites, discharge at	501
Particle size, definition of	23
Particle-size classification, definition of	23
Peak Discharge Greater than Base Discharge	6
Peak flow, definition of	23
Peak stage, definition of	23
Percent composition, definition of	23
Percent of total, definition of	23
Percent shading, definition of	23
Periodic-record station, definition of	23
Periphyton, definition of	24
Pesticides, definition of	24
pH, definition of	24

	Page		Page
PHILBROOK CREEK BELOW PHILBROOK DAM, NEAR BUTTE MEADOWS	219	ROCK LAKE NEAR GRANITEVILLE	301
Phytoplankton, definition of	24	Rollins Powerplant	337
Picocurie, definition of	24	ROLLINS RESERVOIR NEAR COLFAX	337
PILOT CREEK ABOVE STUMPY MEADOWS LAKE	384	Rubicon River Basin, diversions and storage in	361
PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN	386	RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY	376
Pit and McCloud River Basins, diversions and storage in	63	RUBICON RIVER BELOW RUBICON DAM, NEAR MEEKS BAY	372
PIT NO. 1 POWERPLANT NEAR FALL RIVER MILLS	71	RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY	371
Pit No. 3 Powerplant	81	RUCKER CREEK BELOW BLUE LAKE, NEAR EMIGRANT GAP	281
Pit No. 4 Powerplant	81	RUCKER CREEK BELOW RUCKER LAKE, NEAR EMIGRANT GAP	283
Pit No. 5 Powerplant	87	RUCKER LAKE NEAR EMIGRANT GAP	282
Pit No. 6 Powerplant	93	Run, definition of	25
Pit No. 6 Reservoir	93	Runoff, definition of	25
Pit No. 7 Reservoir	93		
PIT RIVER AT BIG BEND	85	S	
PIT RIVER BELOW DIVERSION TO MUCK VALLEY POWERPLANT, NEAR BIEBER	70	Sacramento County, location of discharge and water-quality stations	48
PIT RIVER BELOW PIT NO. 1 POWERPLANT, NEAR FALL RIVER MILLS	72	SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF	136
PIT RIVER BELOW PIT NO. 4 DAM	81	SACRAMENTO RIVER AT COLUSA	153
PIT RIVER NEAR CANBY	67	SACRAMENTO RIVER AT DELTA	64
PIT RIVER NEAR MONTGOMERY CREEK	93	SACRAMENTO RIVER AT FREEPORT	447
Pit River Tunnel Flow	69	SACRAMENTO RIVER AT KESWICK	105
Placer County, location of discharge and water-quality stations	46	SACRAMENTO RIVER AT SACRAMENTO	445
Plankton, definition of	24	SACRAMENTO RIVER AT TOWER BRIDGE, AT SACRAMENTO	507
Plumas County, location of discharge stations	47	SACRAMENTO RIVER AT VERONA	352
Poe Powerplant	217	SACRAMENTO RIVER AT VINA BRIDGE, NEAR CORNING	150
Polychlorinated biphenyls, definition of	24	Sacramento River Basin, lower, diversions and storage in	152
Polychlorinated naphthalenes, definition of	24	Sacramento River Basin, upper, diversions and storage in	104
PONDEROSA-BAILEY CREEK POWERPLANT	127	SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES	167
Pool, definition of	24	SACRAMENTO SLOUGH NEAR KNIGHTS LANDING	170
POWERPLANTS IN BATTLE CREEK AND COW CREEK BASINS	125	SACRAMENTO WEIR SPILL TO YOLO BYPASS, NEAR SACRAMENTO	354
Primary productivity, definition of	24	Sacramento-San Joaquin Delta, principal inflows and diversions	500
Carbon method, definition of	24	SAWMILL LAKE NEAR GRANITEVILLE	292
Oxygen method, definition of	24	Screened interval, definition of	22
Principal inflows and diversions, Sacramento-San Joaquin Delta	500	Sea level, definition of	25
PUTAH CREEK NEAR GUENOC	494	Sediment	11
PUTAH CREEK NEAR WINTERS	497	Sediment, definition of	25
PUTAH SOUTH CANAL NEAR WINTERS	499	Sensible heat flux, definition of	25
PYRAMID CREEK AT TWIN BRIDGES	398	Seven-day, 10-year low flow, definition of	25
		Shasta County, location of discharge and water-quality stations	49
R		SHASTA LAKE NEAR REDDING	103
Radioisotopes, definition of	24	Shelves, definition of	25
Ralston Powerplant	369	Sierra County, location of discharge stations	50
Reach, definition of	24	SILVER CREEK BELOW CAMINO DIVERSION DAM	414
Recoverable from bed (bottom) material, definition of	25	SILVER CREEK BELOW JUNCTION DAM, NEAR POLLOCK PINES	412
Recurrence interval, definition of	25	Silver Lake Leakage	400
Reference Samples	13	SILVER LAKE NEAR KIRKWOOD	399
Remarks Codes	57	SILVER LAKE OUTLET NEAR KIRKWOOD	400
Replicate Samples	13	Siskiyou County, location of discharge and water-quality stations	51
Replicate samples, definition of	25	SLAB CREEK RESERVOIR NEAR CAMINO	418
RESERVOIRS IN PIT AND McCLOUD RIVER BASINS	79	SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY	257
RESERVOIRS IN STONY CREEK BASIN	151	SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY	256
Return period, definition of	25	SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY	181
RICHVALE CANAL AT INTAKE, NEAR OROVILLE	228	Sodium adsorption ratio, definition of	25
Riffle, definition of	25	Soil heat flux, definition of	26
River mileage, definition of	25	Soil-water content, definition of	26
ROARING CREEK BELOW DIVERSION TO ROARING CREEK POWERPLANT, NEAR MONTGOMERY CREEK	89	Solano County, location of discharge and water-quality stations in	52
Roaring Creek Powerplant	89	SOUTH BRANCH WARD CREEK BELOW DIVERSION DAM, NEAR GENESEE	199
Robbs Peak Powerplant	382		
ROCK CREEK NEAR PLACERVILLE	421		
Rock Creek Powerplant	202, 421		

Page	Page		
SOUTH COW CREEK CANAL DIVERSION TO SOUTH COW CREEK, NEAR WHITMORE	114	SUSAN RIVER NEAR LITCHFIELD	60
SOUTH FORK AMERICAN RIVER AND EL DORADO CANAL NEAR KYBURZ (combined)	406	Suspended, definition of	26
South Fork American River Basin, diversions and storage in	396	Recoverable, definition of	26
SOUTH FORK AMERICAN RIVER NEAR CAMINO	419	Total, definition of	27
SOUTH FORK AMERICAN RIVER NEAR KYBURZ	404	Suspended sediment, definition of	26
SOUTH FORK AMERICAN RIVER NEAR PILOT HILL	424	Suspended-sediment concentration, definition of	27
SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE	423	Suspended-sediment discharge, definition of	27
SOUTH FORK BATTLE CREEK BELOW DIVERSION TO COLEMAN CANAL, NEAR MANTON	133	Suspended-sediment load, definition of	27
SOUTH FORK BATTLE CREEK BELOW DIVERSION TO INSKIP CANAL, NEAR MANTON	132	Suspended solids, total residue at 105 °C concentration, definition of	27
SOUTH FORK BATTLE CREEK BELOW DIVERSION TO SOUTH BATTLE CREEK CANAL, NEAR MANTON	131	Sutter County, location of discharge and water -quality stations	53
South Fork Feather River Basin, diversions and storage in	174	SUTTER–BUTTE CANAL AT INTAKE, NEAR OROVILLE	230
SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY	179	Synoptic studies, definition of	27
SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM	185		
SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM	176	T	
SOUTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE	388	Taxa (Species) richness, definition of	27
SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE	387	Taxonomy, definition of	27
SOUTH FORK PIT RIVER NEAR LIKELY	66	Tehama County, location of discharge and water-quality stations	54
SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN	382	TEXAS CREEK BELOW LOWER ROCK LAKE, NEAR GRANITEVILLE	304
SOUTH FORK SILVER CREEK NEAR ICE HOUSE	409	TEXAS CREEK BELOW ROCK LAKE	302
SOUTH FORK TUNNEL NEAR STRAWBERRY VALLEY	178	TEXAS CREEK TRIBUTARY BELOW CULBERTSON LAKE, NEAR GRANITEVILLE	306
SOUTH POWERPLANT NEAR MANTON	125	Thalweg, definition of	27
SOUTH YUBA CANAL NEAR EMIGRANT GAP	277	THERMALITO AFTERBAY NEAR OROVILLE	225
SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY	311	THERMALITO AFTERBAY RELEASE TO FEATHER RIVER, NEAR OROVILLE	231
SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP	279	Thermalito Powerplant	225
South Yuba River Basin, diversions and storage in	267	Thermograph, definition of	27
SOUTH YUBA RIVER CONTROLLED RELEASE AT LAKE SPAULDING, NEAR EMIGRANT GAP	278	Time-weighted average, definition of	27
SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE	200	TOADTOWN CANAL ABOVE BUTTE CANAL, NEAR STIRLING CITY	160
Spaulding No. 3 Powerplant	297	Tons per acre-foot, definition of	27
Spaulding Powerplants Nos. 1 and 2	274	Tons per day, definition of	27
SPECIAL NETWORKS AND PROGRAMS	3	Total, definition of	27
Special study and miscellaneous sites	501	Total coliform bacteria, definition of	28
Specific electrical conductance (conductivity), definition of	26	Total discharge, definition of	28
Spike Samples	14	Total in bottom material, definition of	28
SPRING CREEK POWERPLANT AT KESWICK	109	Total length, definition of	28
Stable isotope ratio, definition of	26	Total load, definition of	28
Stage, definition of	26	Total organism count, definition of	28
Stage-discharge relation, definition of	26	Total recoverable, definition of	28
Station Manuscript	5	Total sediment discharge, definition of	28
Statistics of Monthly Mean Data	6	Total sediment load, definition of	28
STONY GORGE RESERVOIR NEAR ELK CREEK	151	Transect, definition of	28
Streamflow, definition of	26	Turbidity, definition of	28
Substrate, definition of	26		
Artificial, definition of	15	U	
Natural, definition of	22	Ultraviolet (UV) absorbance (absorption), definition of	29
Substrate embeddedness class, definition of	26	Unconfined aquifer, definition of	29
SUCKER RUN AT KANAKA DIVERSION, NEAR FEATHER FALLS	189	Union Valley Powerplant	407
SULPHUR CREEK AT WILBUR SPRINGS	482	UNION VALLEY RESERVOIR NEAR RIVERTON	407
Summary Statistics	7	UPPER CASCADE LAKE NEAR SODA SPRINGS	265
Surface area of a lake, definition of	26	Upper Sacramento River Basin, diversions and storage in	104
SURFACE-WATER-QUALITY RECORDS	10		
Surficial bed material, definition of	26	V	
Surrogate, definition of	26	Vertical datum, definition of	29
SUSAN RIVER ABOVE WILLARD CREEK, NEAR SUSANVILLE ...	59	Volatile mass, definition of	23
		Volatile organic compounds, definition of	29
		VOLTA NO. 1 POWERPLANT NEAR MANTON	125
		VOLTA NO. 2 POWERPLANT NEAR MANTON	125

W	Page		Page
Water Analysis	9	Willow Slough near Woodland	502
Water table, definition of	29	Woodleaf Powerhouse	183
Water-table aquifer, definition of	29	WSP, definition of	29
Water Temperature	11	Y	
Water year, definition of	29	YOLO BYPASS AT INTERSTATE HIGHWAY 80, NEAR WEST SACRAMENTO	492
Water-Quality Control Data	12	YOLO BYPASS NEAR WOODLAND	491
Watershed, definition of	29	Yolo County, location of discharge and water-quality stations	55
WDR, definition of	29	Yuba County, location of discharge stations	56
Weighted average, definition of	29	Yuba River Basin, South, diversions and storage in	267
WEST BRANCH FEATHER RIVER BELOW HENDRICKS DIVERSION DAM, NEAR STIRLING CITY	220	Yuba River Basins, North and Middle, diversions and storage in	235
WESTERN CANAL AT INTAKE, NEAR OROVILLE	227	YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE	320
Wet mass, definition of	29	YUBA RIVER NEAR MARYSVILLE	329
Wet weight, definition of	29	Z	
WHISKEYTOWN LAKE NEAR IGO	110	Zooplankton, definition of	29
WHITE ROCK LAKE NEAR SODA SPRINGS	268		
White Rock Powerplant	419		
Willow Slough Bypass near Davis	502		

Conversion Factors

Multiply	By	To obtain
Length		
inch (in.)	2.54×10^1	millimeter (mm)
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter (m)
mile (mi)	1.609×10^0	kilometer (km)
Area		
acre	4.047×10^3	square meter (m ²)
	4.047×10^{-1}	square hectometer (hm ²)
	4.047×10^{-3}	square kilometer (km ²)
square mile (mi ²)	2.590×10^0	square kilometer (km ²)
Volume		
gallon (gal)	3.785×10^0	liter (L)
	3.785×10^{-3}	cubic meter (m ³)
	3.785×10^0	cubic decimeter (dm ³)
million gallons (Mgal)	3.785×10^3	cubic meter (m ³)
	3.785×10^{-3}	cubic hectometer (hm ³)
cubic foot (ft ³)	2.832×10^{-2}	cubic meter (m ³)
	2.832×10^1	cubic decimeter (dm ³)
cubic-foot-per-second-per-day [(ft ³ /s/d)]	2.447×10^3	cubic meter (m ³)
	2.447×10^{-3}	cubic hectometer (hm ³)
acre-foot (acre-ft)	1.223×10^3	cubic meter (m ³)
	1.223×10^{-3}	cubic hectometer (hm ³)
	1.223×10^{-6}	cubic kilometer (km ³)
Flow rate		
cubic foot per second (ft ³ /s)	2.832×10^1	liter (L/s)
	2.832×10^{-2}	cubic meter per second (m ³ /s)
	2.832×10^1	cubic decimeter per second (dm ³ /s)
gallon per minute (gal/min)	6.309×10^{-2}	liter per second (L/s)
	6.309×10^{-5}	cubic meter per second (m ³ /s)
	6.309×10^{-2}	cubic decimeter per second (dm ³ /s)
million gallons per day (Mgal/d)	4.381×10^{-2}	cubic meter per second
	4.381×10^1	cubic decimeter per second (dm ³ /s)
Mass		
ton, short (2,000 lb)	9.072×10^{-1}	megagram (Mg) or metric ton

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$



1879–2004